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SUBFAMILY MACRAULACINAE FLEUTIAUX, 1922

Diagnosis. Form oblong, elongate or obtuse; antennomeres usually sexually dimorphic; mandibles either stout with a basal tooth or slender without teeth; simple lateral pronotal ridge present; hypomer on either simple, with basally closed lateral antennal grooves or with basally open lateral antennal grooves; legs slender; prothoracic tibiae with one apical spur; lateral surfaces of mesothoracic and metathoracic tibiae usually with transverse rows of spines; tarsomere IV often bilobed; tarsal claws either simple or basally toothed; prothoracic tarsomere I usually with basal sex combs in males; male aedeagus with dorsally open basal piece; median lobe simple, with solidly fused slender basal struts; fused to lateral lobes; lateral lobes entire, either with notched or apically deeply and narrowly bifurcate; bursa either simple or divided; spermatheca tripartite, sclerotized, divided.

Key to the tribes within the subfamily Macraulacinae

- 1 Antennomeres IX–XI enlarged. 2
- Antennomeres IX–XI simple, some usually with elongated rami. 3
- 2 Lateral surfaces of mesothoracic and metathoracic tibiae with setae and transverse rows of spine combs. **Euryptychini Mamaev, 1976**
- Lateral surfaces of mesothoracic and metathoracic tibiae with setae and irregularly places spines. **Orodotini Muona, 1993**
- 3 Mandible stout, with basal tooth. 4
- Mandibles slender, without basal tooth. **Echthrogasterini Cobos, 1964**
- 4 Antennomeres VI–X equal, rounded in cross section. **Macraulacini Fleutiaux, 1922**
- Antennomeres VI–X enlarged, slightly flattened in cross section. **Nematodini Leiler, 1976**

Tribe Echthrogasterini Cobos, 1964

Diagnosis. Mandibles originally slender, without teeth and expanded lateral margins; prothoracic tibiae with one apical spur; male prothoracic tarsomere I without sex combs; tarsomere IV simple; lateral sides of mesothoracic and metathoracic tibiae either with setae only or with setae and irregularly placed spines; hypomer on without antennal grooves; prothoracic sternal peg with simple apex; median lobe without dorsal basal struts, fused with lateral lobes, distinct, with notched apex; bursa divided, originally bifurcate; spermatheca divided, sclerotized, reduced.

***Henecocerus* Bonvouloir, 1871**

Diagnosis. Echthrogasterini, with apical margin of frontoclypeal region feebly trilobed and more than twice as wide as the distance between antennal sockets; lateral sides of mesothoracic and metathoracic tibiae with setae and irregularly placed spines;

metathoracic coxal plates either medially 1.20–2.50 or 3.00–6.00 times wider than laterally; last visible ventrite strongly produced in males, bispinose in females; simple tarsal claws; male aedeagus dorsoventrally compressed, without secondary lateral lobes; median lobe simple, apically notched; lateral lobes simple, entire; flagellum simple.

***Henecoceris angusticollis* Bonvouloir, 1871**

(Fig. 107)

(= *Henecoceris abdominalis* Fleutiaux, 1922: 115–116)

Material examined. One specimen was available for study: “Xieng Khouang, LAOS, VII 1996, native collector” (WSC).

Redescription. Length, 8.00–13.00 mm. Width, 2.00–2.75 mm. Body cylindrical, elongate and tapering towards the elytral apex; uniformly reddish-brown to dark brown; antennae and legs reddish-brown to dark brown; head, pronotum and elytra clothed with sparse, very short, yellow recumbent setae (Fig. 107).

Head: Granulose, subspherical; frons convex, frontoclypeal region distinctly ridged; surfaces dull; apical margin of frontoclypeal region feebly trilobed, 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly moniliform, short, reaching as far back near hind angles of pronotum; antennomeres III as long as IV and V combined; antennomere IV subequal to II; antennomeres V–X gradually wider; antennomere XI slightly longer than X.

Pronotum: Surface dull, granulose; longer than wide, with short, sharp hind angles; parallel-sided; disc convex, with pair of circular fovea and delicate median groove extending from base to middle of pronotum; base sinuous.

Scutellum: Dull, granulose, oblong, sub-triangular and distally rounded.

Elytra: Striate; interstices elevated with very closely punctate to rugose surfaces.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–IV simple; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate and rugose, with very short, yellowish recumbent setae; hypomeron simple, without lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 1.20–2.50 times wider than laterally.

Differential diagnosis. See Diagnosis of the monotypic genus.

Distribution. A very rare, widespread eucnemid species has been taken in Indonesia, Laos, Malaysia and Vietnam. In Laos, *H. angusticollis* was taken from “Haut-Mékong”, Tong-King; Sala-Quang-Pa (FLEUTIAUX 1922) and recently in north central Laos.

Ecoregion(s). Luang Prabang montane rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown.

Tribe Euryptychini Mamaev, 1976

Diagnosis. Mandibles slender, without teeth; prothoracic tibiae with one apical spur; male prothoracic tarsomere I with complete or apical sex combs; tarsomere IV simple;

lateral sides of mesothoracic and metathoracic tibiae with setae and transverse rows of spine combs; antennomeres IX–XI enlarged, sexually dimorphic; hypomeron without antennal grooves; prothoracic sternal peg with simple apex; median lobe without dorsal basal struts, fused with lateral lobes, distinct, with notched apex; bursa divided, simple; spermatheca divided, sclerotized.

Euryptychus LeConte, 1852

(=*Dyscolocerus* Bonvouloir, 1871: 73)

Diagnosis. Euryptychini, with apical margin of frontoclypeal region evenly rounded and more than twice as wide as the distance between antennal sockets; male prothoracic tarsomere I simple, with basal sex combs; metathoracic coxal plates medially 3.00–6.00 times wider than laterally; last visible ventrite rounded; tarsal claws simple; male aedeagus dorsoventrally compressed, without secondary lateral lobes; median lobe simple, notched apically; lateral lobes simple, entire; flagellum simple.

Note. Identification was made possible through comparisons of all specimens against translated, interpreted information from FLEUTIAUX (1896c).

Euryptychus pasteuri (Fleutiaux, 1896)

(Fig. 108)

Dyscolocerus pasteuri Fleutiaux, 1896: 295

Material examined. Eight specimens were available for study: 2, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12'N, 104°01'E, leg. C. Holzschuh” / “BMNH{E}, 2012–14, C. Holzschuh” (BMNH); 6, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12' E104°01', 1300–1900 m, 11.iv.–15.v.2012” / “BMNH{E}, 2012–14, C. Holzschuh” (BMNH; GERP).

Redescription. Length, 7.00–9.50 mm. Width, 2.00–2.75 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except for apices of antennomere XI reddish; legs black, tarsi dark brown; head, pronotum and elytra clothed with sparse, very short, white recumbent setae (Fig. 108).

Head: Punctate, subspherical; frons convex, with circular fovea; surface shiny; apical margin of frontoclypeal region evenly rounded, 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Capitate, antennomere III as long as the combined lengths of IV and V; antennomeres IV–VIII subequal, slightly longer than wide; antennomere IX subequal to III; antennomere X shorter than IX, subequal to XI.

Pronotum: Surface shiny, with widely spaced punctations; slightly longer than wide, with moderate, sharp hind angles; sides gradually narrowed, arcuate; disc convex, with median groove extending through length of pronotum; base sinuous.

Scutellum: Shiny, oblong, sub-trapezoid, with median groove and distally truncate.

Elytra: Strongly striate; interstices elevated with dense punctations.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–IV simple; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate and rugose, with very short, white recumbent setae; hypomeron simple, without antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Dark black coloration will distinguish *E. pasteuri* from any known *Euryptychus* species in Southeast Asia. All other known *Euryptychus* species in Southeast Asia outside the Australian continent are either unicolored dark brown or reddish-orange.

Distribution. A rare eucnemid species is distributed in Indonesia, Laos and Myanmar. In Laos, *E. pasteuri* were previously taken at “Haut-Mékong” (FLEUTIAUX 1947) and most recently taken in northeastern Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. All adults were taken from a tropical montane deciduous forest.

Tribe Orodotini Muona, 1993

Diagnosis. Mandible originally slender with expanded lateral margins, without teeth; prothoracic tibiae with one apical spur; male sex combs lost on prothoracic tarsomere I; tarsomere IV simple; lateral surfaces of mesothoracic and metathoracic tibiae variable; antennomeres IX–XI originally enlarged; hypomeron without antennal grooves; prothoracic sternal peg with simple apex; median lobe without dorsal basal struts, fused with lateral lobes, distinct, with notched apex; bursa divided, simple; spermatheca divided, U-shaped, sclerotized.

Eudorus Laporte, 1835

Diagnosis. Orodotini, with apical margin of frontoclypeal region evenly rounded and more than twice as wide as the distance between antennal sockets; metathoracic coxal plates medially 3.00–6.00 times wider than laterally; last visible ventrite either rounded or truncated; antennomeres IX and X enlarged; simple tarsal claws; lateral surfaces of mesothoracic and metathoracic tibiae with setae and irregularly placed spines; male aedeagus dorsoventrally compressed, without secondary lateral lobes; median lobe simple, apically notched; lateral lobes simple, entire; flagellum simple.

Eudorus javanicus Laporte, 1835

(Fig. 109)

Material examined. One specimen was available for study: 1, “DUTCH NEW GUINEA:, Cyclops mts., Sabron., 930 ft. v.1936, L.E. Cheesman, B.M. 1936-271” (yellow line through label) / “*Eudorus, javanicus*, Laporte, det. R.L. Otto, 2014” (BMNH). No specimens from Laos were available for study during the course of this research.

Redescription. Length, 8.00 mm. Width, 2.25 mm. Body subcylindrical, elongate; entirely reddish-brown to dark brown; head, pronotum and elytra clothed with short, yellowish recumbent setae (Fig. 109).

Head: Deeply and closely punctate to rugose, subspherical; frons convex; surface shiny; apical margin of frontoclypeal region rounded, about 2.50 times wider than base; mandibles stout, bidentate, densely punctate.

Antennae: Capitate, short, reaching about 1/4 the length of the body, not quite reaching the hind angles of the pronotum. Antennomere III slightly longer than IV; antennomeres IV about as long as II; antennomeres IV–VIII each subequal, quadrate; antennomeres IX–XI enlarged; antennomere XI longer than X.

Pronotum: Shallowly punctate, widely spaced; surface shiny; as long as wide, with moderate hind angles; parallel-sided; disc simple; base sinuous, with short groove above scutellum.

Scutellum: Surface shiny; shallowly punctate, sub-triangular and distally rounded.

Elytra: Faintly indicated striae near sutural area present; interstices flattened, shallowly punctate; surface shiny.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–IV simple; metathoracic tarsomere V elongate with simple claws.

Venter: Shallowly punctate, surface shiny; hypomeron simple, without antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Smaller size, along with elongate setae will distinguish *E. javanicus* from another species, *Eudorus irianensis* Lucht, 1999; also present in the Southeast Asian region.

Distribution. A very rare, widespread eucnemid species has been taken in Indonesia, Laos, Malaysia, New Caledonia and Vietnam (FLEUTIAUX 1947). In Laos, *E. javanicus* have been taken in Nam-Nham (Luang-Prabang prov.) and Ban-Na-Houa (Haut-Mékong prov.) (FLEUTIAUX 1923).

Ecoregion(s). Northern Annamites rain forests.

Biology. Developmental stages remain unknown.

Tribe Macraulacini Fleutiaux, 1922

Diagnosis. Mandibles short, with a ventral tooth; legs slender; prothoracic tibiae with one apical spur; mesothoracic and metathoracic tibiae with apical spines; lateral surfaces of mesothoracic and metathoracic tibiae variable, either with hairs and simple spines or with hairs and transverse rows of spine combs; tarsomere IV usually wide, bilobed; tarsal claws either simple or basally toothed; male prothoracic tarsomere I with basal sex combs; antennomeres IV–X variable, about equal in length; hypomeron variable, either simple, with basally closed lateral antennal grooves or with basally open lateral antennal grooves; prothoracic sternal peg high, variably elongate, excavated or truncated; median lobe without dorsal basal struts, fused with lateral lobes, with narrowly, deeply bifurcate apex; bursa divided, simple; spermatheca sclerotized, divided, U-shaped.

Key to the genera within the tribe Macraulacini

- 1 Antennomeres II and III subequal. 2
- Antennomeres II shorter than III. 5
- 2 Antennomeres II and III together shorter than IV. 3
- Antennomeres II and III together longer than IV (Fig. 160). 4
- 3 Tarsal claws basally toothed. *Hodocerus* Bonvouloir, 1871
- Tarsal claws simple. *Ceratus* Bonvouloir, 1871
- 4 Antennomeres IV–X wider than long (Fig. 111).
- *Heterotaxis* Bonvouloir, 1871
- Antennomeres IV–X longer than wide (Fig. 160).
- *Xylofornax* gen.nov.
- 5 Antennomeres III–X serrate, pectinate, flabellate, filiform or moniliform. 6
- Antennomeres III–X bipectinate or biserrate (Fig. 112).
- *Procladidus* Fleutiaux, 1902
- 6 Pronotum without enlarged basal keel. 7
- Pronotum with enlarged basal keel (Fig. 158).
- *Dorsifornax* Fleutiaux, 1926
- 7 Elytral apices dehiscent (Fig. 133). 8
- Elytral apices meeting tightly together. 9
- 8 Antennomeres III–X pectinate (Fig. 157). *Raapia* Fleutiaux, 1899
- Antennomeres III–X serrate or filiform.
- *Spinifornax* Fleutiaux, 1926
- 9 Metathoracic coxal plates parallel-sided. 10
- Metathoracic coxal plates medially more than 1.25 times wider than laterally. 11
- 10 Antennomeres III–X moniliform (Fig. 110).
- *Chapianus* Fleutiaux, 1921
- Antennomeres III–X pectinate (Fig. 113).
- *Semnodema* Bonvouloir, 1871
- 11 Metathoracic coxal plates medially 1.25–2.50 times wider than laterally. 12
- Metathoracic coxal plates medially at least 3.00 times wider than laterally. 13
- 12 Hypomeron with medially vaguely defined, basally open lateral antennal grooves. *Scython* Bonvouloir, 1871
- Hypomeron with well defined, narrow, basally open or basally closed lateral antennal grooves. *Dromaeolus* Kiesenwetter, 1858
- 13 Metathoracic coxal plates medially 3.00–6.00 times wider than laterally. 14

- Metathoracic coxal plates medially more than 6.00 times wider than laterally. 16
- 14 Tarsal claws basally toothed. 15
- Tarsal claws simple. *Melanoscython* Fleutiaux, 1902
- 15 Antennomeres III–X pectinate. *Macroscython* Fleutiaux, 1902
- Antennomeres III–X serrate. *Serrifornax* Fleutiaux, 1926
- 16 Hypomeron with medially vaguely defined basally open lateral antennal grooves. *Pseudoisarthrus* gen.nov.
- Hypomeron with well defined, narrow, basally open lateral antennal grooves. *Fornax* Laporte, 1835

Chapianus Fleutiaux, 1921

Diagnosis. Macraulacini, with apical margin of frontoclypeal region evenly rounded and more than twice as wide as the distance between antennal sockets; well defined, basally open lateral antennal grooves present; male prothoracic tarsomere I simple, with basal sex combs; metathoracic coxal plates parallel-sided; last visible ventrite evenly rounded; simple tarsal claws; lateral surfaces of mesothoracic and metathoracic tibiae either with setae or setae and irregularly placed spines.

Note. Identification of two specimens was based on the comparison against a specimen from the collection of the Global Eucnemid Research Project.

Chapianus monilicornis Fleutiaux, 1921

(Fig. 110)

Material examined. Two specimens were available for study: 2, “LAO-NE, Hua Phan prov., 20°12' N 104°01'E, PHU PHAN Mt., ~1750 m, 17.v.–3.vi.2007, Vit. Kubán leg” / “NHMB Basel, expedition to Laos, 2007” (NHMB).

Redescription. Length, 4.00–5.00 mm. Width, 1.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly dark brown to black; antennae dark brown; legs medium-brown; head, pronotum and elytra clothed with short, yellowish recumbent setae (Fig. 110).

Head: Very closely punctate, subspherical; frons with deep, circular fovea above frontoclypeal region; interantennal carina complete; surface dull; apical margin of frontoclypeal region evenly rounded, more than 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Moniliform from antennomeres III–XI; short, extends up to the hind angles of pronotum; antennomere III longer than II.

Pronotum: Surface dull, very closely punctate to rugose; longer than wide, with moderate, sharp hind angles; lateral sides arcuate; disc convex; base sinuous, with delicate median groove above scutellum.

Scutellum: Dull, oblong, sub-triangular and distally rounded.

Elytra: Strongly striate; interstices elevated; surfaces densely punctate to rugose.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic

tarsomeres I–III; metathoracic tarsomere IV narrow, excavate; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with very short, yellowish recumbent setae; hypomeron with basally open, lateral antennal grooves; metathoracic episternum apically widened; metathoracic coxal plates medially 2.00–2.50 times wider than laterally.

Differential diagnosis. Single lateral pronotal margin will distinguish *C. monilicornis* from another species, *Chapianus bimarginatus* Lucht, 1987, currently distributed in Malaysia.

Distribution. A very rare eucnemid species previously found in Papua New Guinea and Vietnam. The species was taken for the first time in Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. A single adult was taken from a tropical montane deciduous forest.

Heterotaxis Bonvouloir, 1871

Diagnosis. Macraulacini with apical margin of frontoclypeal region feebly trilobed and more than twice as wide as the distance between antennal sockets; well defined, basally open lateral antennal grooves present; male prothoracic tarsomere I simple, with basal sex combs; metathoracic coxal plate parallel-sided; last visible ventrite either rounded, acute or slightly emarginated; simple tarsal claws; lateral surfaces of mesothoracic and metathoracic tibiae either with setae only or with setae and irregularly placed spines.

Heterotaxis elongata sp.nov.

(Fig. 111)

Type material. Female holotype: “LAOS central, Sasombun zone, PHOU KHAO KHOUAY Nat. Park, TAD LEUK 18°23'N, 103°04'E, 15.–21.V.2001, alt. 150–200 m, E. Jendek & O. Šauša leg.” / “HOLOTYPE, *Heterotaxis, elongata*, Otto, det. R.L. Otto, 2014” (♀ handwritten behind species name on label) [red printed label]. Holotype is deposited in JMC.

Description. Female holotype: Length, 3.75 mm. Width, 1.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; dark brown; antennomere I brown; antennomeres II–XI reddish-brown; femur and tibiae brown; tarsi reddish-brown; head, pronotum and elytra clothed with short, yellowish recumbent setae (Fig. 111).

Head: Closely punctate, subspherical; frons convex, slightly impressed above base of frontoclypeal region; interantennal carina complete; surface dull; apical margin of frontoclypeal region evenly rounded, more than two times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Moniliform from antennomeres III–X; antennomeres III–X subequal, wider than long; antennomere XI longer than wide, apically produced.

Pronotum: Closely punctate; surface dull; as long as wide, with short, sharp hind angles; basal 2/3 parallel-sided, apical 1/3 arcuate; disc convex, simple; base sinuous, with pair of small round fovea above scutellum.

Scutellum: Rugose, dull, oblong, sub-triangular and distally rounded.

Elytra: Striae present; interstices elevated; surfaces transversely rugose.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–IV simple; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with short, yellow recumbent setae; hypomeron with basally open, deep lateral antennal grooves; metathoracic episternum apically wide; metathoracic coxal plates parallel-sided.

Etymology. The specific epithet is derived by its elongate body form of the species.

Differential diagnosis. Parallel-sided pronotum will distinguish *H. elongata* from another Southeast Asian species, *Heterotaxis myrimidon* Bonvouloir, 1871. Pronotum is cranially wider in *H. myrimidon*.

Distribution. A very rare, endemic eucnemid species known from a holotype collected in Borikhamxay province of central Laos.

Ecoregion(s). Luang Prabang montane rain forests.

Biology. Developmental stages remain unknown. A single adult was taken from a lowland semi-evergreen forest.

Procladidus Fleutiaux, 1902

(=*Dicladus* Fleutiaux, 1912: 320; not Bonvouloir, 1872)

Diagnosis. Macraulacini, with apical margin of frontoclypeal region feebly trilobed and more than twice as wide as the distance between antennal sockets; deep, wide, well-developed basally open lateral antennal grooves present; male prothoracic tarsomere I simple, with sex combs; metathoracic coxal plates medially 1.25–2.50 times wider than laterally; last visible ventrite either rounded, acute or slightly emarginated; basally toothed tarsal claws; lateral surfaces of mesothoracic and metathoracic tibiae with setae and transverse rows of spine combs; male aedeagus dorsoventrally compressed, without secondary lateral lobes; median lobe simple, moderately and narrowly bifurcate apically; lateral lobes simple, apices directed laterad; flagellum simple.

Note. Identification was based on the translated, interpreted identification key from LUCHT (1984) and compared against a specimen from the collection of the Global Eucnemid Research Project.

Procladidus coomani Fleutiaux, 1927

(Fig. 112)

Material examined. Five specimens were available for study: LAOS: 2, “Laos-NE, Xieng Khouang prov., 19°37–8′N 103°20–1′E, 30 km NE Phonsavan; Ban Na Lam → Phou Sane Mt., 1300–1500 m, 10.–30.v.2009, M. Geiser leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB); 2, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12′ E104°01′, 1300–1900 m, 11.iv.–15.v.2012” / “BMNH{E}, 2012–14, C. Holzschuh” (BMNH); THAILAND: 1, “THAILAND, 1000–1600m, CHAING MAI prov., 20 km NW from FANG, 2.–5.v.1996, lgt. S. & E. Becvar” (GERP).

Redescription. Length, 12.00–15.00 mm. Width, 3.00–3.50 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black with metallic blue and violet reflections on elytra; antennae and legs black, except tarsomeres IV and V dark

brown; head, pronotum and elytra clothed with very short, white recumbent setae (Fig. 112).

Head: Closely punctate, subspherical; frons convex; surface shiny; apical margin of frontoclypeal region evenly rounded, more than 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Bipectinate from antennomeres III–XI, extends about 1/3 the length of its body in both sexes.

Pronotum: Surface shiny, sparsely and shallowly punctate; longer than wide, with moderate, sharp hind angles; lateral sides gradually narrowed cranially; disc with median groove; base sinuous.

Scutellum: Shiny, oblong, quadrate and distally rounded.

Elytra: Striate absent; interstices flattened with sparse punctations.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III; metathoracic tarsomere IV excavate-emarginate; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Punctate, with very short, brownish recumbent setae; hypomeron with basally open, deep, wide, lateral antennal grooves; metathoracic episternum apically wide; metathoracic coxal plates medially 1.25 times wider than laterally.

Differential diagnosis. Shiny, smooth pronotal surfaces will distinguish *P. coomani* from another species, *Procladidus favrei* (Fleutiaux, 1912), also present on mainland Southeast Asia.

Distribution. A very rare eucnemid species previously found in Thailand and Vietnam. The species was taken for the first time in Laos.

Ecoregion(s). Luang Prabang montane rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. All adults were taken from a tropical montane deciduous forest.

Semnodema Bonvouloir, 1871

Diagnosis. Macraulacini, with apical margin of frontoclypeal region feebly trilobed and more than twice as wide as the distance between antennal sockets; basally open, deep, lateral antennal grooves well developed, usually with smooth surfaces; male prothoracic tarsomere I simple, with basal sex combs; metathoracic coxal plates parallel-sided; last visible ventrite strongly produced; basally toothed tarsal claws; pectinate antennae in both sexes; lateral surfaces of mesothoracic and metathoracic tibiae with setae and irregularly placed spines; male aedeagus dorsoventrally compressed, without secondary lateral lobes; median lobe simple, moderately and narrowly bifurcate apically; flagellum simple.

Note. Both species are similar to a Southeast Asian *Semnodema flabellicorne* (Castelanu, 1835). *Semnodema flabellicorne* can be distinguished from both species based on a couple of features. These features include sinuous lateral sides of the pronotum present in *S. flabellicorne*; parallel-sided lateral sides of the pronotum for the

other two species. Secondly, the median groove on the pronotum is deeper in *S. flabellicornis*, shallower in the other two species.

Key to the species of *Semnodema*

- 1 Surfaces of pronotum shallowly punctate. *Semnodema punctata* sp.nov.
- Surfaces of pronotum rugose. *Semnodema harmandi* Fleutiaux, 1896

Semnodema harmandi Fleutiaux, 1896

(Figs 113–115)

Material examined. Seventeen specimens were available for study: 1, “LAOS, Umg. Vientiane, III.–VI.1963” / “*Semnodema harmandi*, Fleut., A. Cobos det. 1965” (genus, species, author and year handwritten) (ZSM); 1, “LAOS Centr., Bolikhamsai prov., BAN NAPE – Kaew Nua Pass, 18.4.–1.5.1998, alt. 600 ±100m., N18° 22.3, E 105° 09.1 (GPS), M. Strba & R. Hergovits leg.” (JMC); 1, “LAOS c., Khammouan prov., NAKAI env., 4–8.V.1998, Route no. 8, alt. 560 m, N17°42.8' E105°09.1' GPS, E. Jendek, O. Sausa lgt.” (GERP); 1, “LAOS, Louangnamtha pr., 21° 09'N 101° 19'E, Namtha → Muang Sing, 5–31.v.1997, 900–1200 m, Vít Kubáň leg.” (NHMB); 1, “LAOS, 1–18.v.2001, Boli Kham Xai prov., 18°21'N 105°08'E, BAN NAPE (8 km NE), ~600 m, Vít Kubáň leg.” (NHMB); 1, “LAOS, 1–18.v.2001, Bolikhamxai prov., 18°21'N 105°08'E, BAN NAPE (8 km NE), ~600 m, Vít Kubáň leg.” (NHMB); 1, “Collection naturhistorisches Museum Basel” / “LAO, Phongsaly prov., 21°41'–2' N 102°06'–8'E, 28.v.–20.vi.2003, PHONGSALY env., ~1500 m, Vít Kubáň leg.” (NHMB); 1, “LAOS, Phongsaly prov., PHONGSALY env., 6.–17.v.2004, ~1500 m, 21°41'N 102°6'E, P. Pacholátka leg.” (NHMB); 1, “Laos-NE, Xieng Khouang prov., ~19°37'–8'N 103°20'E, Phonsavan (30 km NE): Phou Sane Mt., ~1400–1500 m, 10.–30.v.2009, Z. Kraus leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB); 1, “LAOS-NE, Houa Phan prov., 20°13'09'–19'N 103°59'54'–104°00'03'E, 1480–1550 m, PHOU PANE Mts., 9–16.vi.2009, David Hauck leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB); 1, “LAOS-NE, Houa Phan prov., 20°12'–13.5'N 103°59.5'–104°01'E, Ban Saluei → Phou Pane Mts., 1340–1870 m, 10.v.–16.vi.2009, M. Brancucci & local coll. leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (FSCA); 1, “N.E. LAOS, MT PHU PHAN, ii 2010, 2060 m, LEG: STEVE POLLARD” (AAC); 5, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12'N, 104°01'E, leg. C. Holzschuh” / “BMNH{E}, 2012–14, C. Holzschuh” (BMNH).

Redescription. Length, 9.00–16.00 mm. Width, 2.00–4.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black; legs dark brown to black; head, pronotum and elytra clothed with very short, white recumbent setae (Fig. 113).

Head: Very closely punctate, rugose, subspherical; frons convex, with short median carina; surface dull; apical margin of frontoclypeal region rounded, about 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose; pair of small horns present between antennal sockets above clypeus.

Antennae: Pectinate from antennomeres III–X, reaching to hind angles of pronotum.

Pronotum: Very closely punctate to rugose; surface somewhat shiny; longer than wide, with short hind angles; basal 3/4 parallel-sided, slightly arcuate anteriorly; disc with pair of horizontal foveae and a median groove; base sinuous, with large sub-triangular median keel above scutellum.

Scutellum: Slightly rugose, oblong, sub-trapezoid and distally truncated.

Elytra: Humeri with striae; striae absent on remaining areas of disc; interstices slightly elevated at humeri with dense punctations, absent in remaining areas.

Legs: First tarsomere longer than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; lateral surfaces of mesothoracic and metathoracic tibiae with single spines; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Punctate and rugose, with white recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum partially concealed, parallel-sided; metathoracic coxal plates parallel-sided.

Aedeagus (Fig. 115): Elongate, dorsoventrally flattened, caudally widened and laterally compressed; median lobe free with deeply notched, narrowed apex; lateral lobes apically rounded, laterally toothed and as long as the median lobe; basal piece elongate, dorsally open, quadrate and apically rounded.

Differential diagnosis. Closely punctate, rugose surfaces will distinguish *S. harmandi* from *S. punctata*. Males are best identified by presence of a pair of small horns between antennal insertions (Fig. 114), as well as aedeagus. Variability among female specimens in the species seems to overlap with *S. punctata*.

Distribution. An uncommon, widespread eucnemid species have been taken in India, Laos, Papua New Guinea, Philippines, Thailand and Vietnam. In Laos, *S. harmandi* were previously taken at Huat-Mékong (FLEUTIAUX, 1947) and most recently in many locations throughout much of northern and central Laos.

Ecoregion(s). Luang Prabang montane rain forests, Northern Annamites rain forests, Northern Indochina subtropical forests, Northern Khorat Plateau moist deciduous forests.

Biology. Developmental stages remain unknown. All adults were taken from a dry evergreen forest, lowland semi-evergreen forest, tropical montane deciduous forest and tropical montane evergreen forest.

Semnodema punctata sp.nov.

(Figs 116–118)

Type material. Male holotype: “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12'N, 104°01'E, leg. C. Holzschuh” / “BMNH{E}, 2012-14, C. Holzschuh” / “HOLOTYPE, *Semnodema, punctata*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Female allotype: with same label data as holotype: / “ALLOTYPE, *Semnodema, punctata*, Otto, det. R.L. Otto, 2014” (♀ handwritten behind species name on label) [yellow printed label]. Holotype and allotype are deposited in BMNH.

Paratypes: 37, from the following localities: 1, “LAOS, Umg. Vientiane, III.–VI.1963” (ZSM); 2, “LAOS-NE, Houa Phan prov., 20°12'–13.5'N 103°59.5'–104°01'E, Ban Saleui → Phou Pane Mts., 1340–1870 m, 10.v.–16.vi.2009, M. Brancucci & local coll. leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB); 19, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12'N, 104°01'E, leg. C. Holzschuh” / “BMNH{E}, 2012-14, C. Holzschuh” (BMNH; GERP); 15, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12' E104°01', 1300–1900 m, 11.iv.–15.v.2012” / “BMNH{E}, 2012-14, C. Holzschuh” (BMNH; GERP).

Each specimen labeled: “PARATYPE, *Semnodema, punctata*, Otto, det. R.L. Otto, 2014” (either ♂ or ♀ handwritten behind species name on each label) [yellow printed label]. All paratypes are deposited in BMNH, GERP, JMC, NHMB and ZSM.

Description. Holotype male: Length, 11.50 mm. Width, 3.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black, except lateral sides of elytra below humeri variably brownish; antennae black; legs dark brown to black; head, pronotum and elytra clothed with very short, white recumbent setae (Fig. 116).

Head: Very closely punctate, rugose, subspherical; frons convex, with short median carina at vertex; surface dullish; apical margin of frontoclypeal region feebly trilobed, about 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Pectinate from antennomeres III–X, reaching to hind angles of pronotum.

Pronotum: Very closely punctate to rugose near base; surface somewhat shiny; longer than wide, with short hind angles; basal 1/2 parallel-sided, slightly arcuate anteriorly; disc with pair of horizontal depressions along with a pair of large gibbosities near base and median groove extending from base to center of disc; base sinuous.

Scutellum: Closely punctate, oblong, sub-triangular and distally rounded.

Elytra: Humeri with striae; striae indicated on remaining areas of disc; interstices elevated at humeri, slightly elevated in remaining areas; with dense punctations.

Legs: First tarsomere longer than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; lateral surfaces of mesothoracic and metathoracic tibiae with single spines; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum partially concealed, parallel-sided; metathoracic coxal plates parallel-sided.

Aedeagus (Fig. 118): Elongate, dorsoventrally flattened and caudally widened; median lobe free with deeply notched, wider apex; lateral lobes apically rounded, laterally toothed and as long as the median lobe; basal piece elongate, dorsally open and apically rounded.

Allotype: 14.00 mm long; pair of small horns absent between antennal sockets; shallower punctations present on pronotum. Pair of horizontal impressions deeper than male specimens. Striae more indicated, with slightly elevated interstices; elytron with smaller lateral orange spot.

Variation. Thirty-seven adult paratypes were examined. Twenty male paratypes varied in length from 10.00–12.00 mm. Seventeen female paratypes varied in length from 12.00–15.00 mm. Females are on average larger than males. Presence of lateral orange spot on each elytron exhibits some variability. Only one male paratype lack an orange spot on each elytron. Orange spot is more diffused and less apparent in females. Median impressed line along with horizontal depressions and size of pronotal gibbosities exhibits some variability. Some specimens exhibit shallower depressions and small gibbosities.

Etymology. The name of the new species is derived its punctate sculpture on the dorsum of the pronotum.

Differential diagnosis. Shallowly punctate surfaces of the pronotum will distinguish *S. punctata* from *S. harmandi*. Males are best identified by the lack of small horns between

antennal insertions (Fig. 117) and aedeagus. Exoskeletal structure of the pronotum will distinguish females from *S. harmandi*.

Distribution. An uncommon eucnemid is a precinctive species found in two localities in northeastern and east central areas of Laos.

Ecoregion(s). Northern Annamites rain forests, Northern Indochina subtropical forests, Northern Khorat Plateau moist deciduous forests.

Biology. Developmental stages remain unknown. All adults were taken from a lowland semi-evergreen forest and tropical montane deciduous forest.

Hodocerus Bonvouloir, 1871

Diagnosis. Macraulacini, with apical margin of frontoclypeal region evenly rounded and more than twice as wide as the distance between antennal sockets; well developed, wide, basally open lateral antennal grooves present; antennomeres II and III short, subequal, together shorter than IV; male prothoracic tarsomere I simple with sex combs; metathoracic coxal plates medially 3.00–6.00 times wider than laterally; last visible ventrite either rounded or truncated; basally toothed tarsal claws; lateral surfaces of mesothoracic and metathoracic tibiae with setae and transverse rows of spine combs.

Note. Identification of the new species was based on a single generic character state, which being the presence of basally toothed tarsal claws; a feature not present in *Ceratus* Bonvouloir, 1871.

Key to the species of *Hodocerus*

- 1 Antennae serrate; size smaller. *Hodocerus ceratoides* sp.nov.
- Antennae pectinate; size larger.
 *Hodocerus malaisiensis* Bonvouloir, 1875

Hodocerus ceratoides sp.nov.

(Fig. 119)

Type material. Male holotype: “C. LAOS, Boli Kham Xai prov., Ban Nape (8 km NE), 1–18.5.2001, P. Pacholátko leg.” / “HOLOTYPE, *Hodocerus, ceratoides*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Holotype was transferred from GERP to BMNH.

Paratype: 1, from the following locality: “LAOS c., Bolikhamsai pr., BAN NAPI – Kaew Nua Pass, 18.4.–1.5.1998, alt. 600 m, N18°22.3' E105°09.1' GPS, E. Jendek, O. Šauša lgt.” / “PARATYPE, *Hodocerus, ceratoides*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [yellow printed label]. Paratype is retained in GERP.

Description. Male holotype: Length, 7.00 mm. Width, 2.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; dark brown-black; antennae dark reddish-brown, except basal segment dark brown-black; legs dark reddish-brown; head, pronotum and elytra clothed with short, yellowish recumbent setae (Fig. 119).

Head: Very closely punctate, almost rugose, subspherical; frons convex; interantennal carina incomplete; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, more than two times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Serrate from antennomeres IV–X (left antenna missing antennomeres X–XI; right antenna missing XI); antennomere III as long as II, combined shorter than IV; antennomere IV longer than V; antennomeres V–X subequal, longer than wide.

Pronotum: Closely and shallowly punctate; surface shiny; as long as wide, with moderate, sharp hind angles; lateral sides gradually narrowed cranially, arcuate; disc convex; base sinuous.

Scutellum: Punctate, shiny, oblong, sub-triangular and distally rounded.

Elytra: Striae shallowly indicated; interstices slightly elevated; surfaces shallowly punctate.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavate-emarginate; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Punctate, with short, yellow recumbent setae; hypomeron with basally open, deep lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Variations. One male paratype was examined. The paratype is subequal in length and width compared with the holotype. The paratype exhibits a much darker coloration on the femur and tibiae. Tarsi remain to be the same in coloration. Antennomere IV is as long as V in the paratype; whereas the holotype exhibits a much longer antennomere IV in relation to V.

Etymology. The specific epithet, *ceratoides* is derived from its similar appearance to the macraulacine eucnemid genus, *Ceratus*.

Differential diagnosis. Smaller size, along with serrate antennae will distinguish *H. ceratoides* from *H. malasiensis*.

Distribution. A very rare, endemic eucnemid species known from two localities in Borikhamxay province in central Laos.

Ecoregion(s). Northern Annamites rain forests.

Biology. Developmental stages remain unknown. Both adults were taken from a lowland semi-evergreen forest.

Hodocerus malasiensis Bonvouloir, 1871

(Fig. 120)

Material examined. Sixteen specimens were available for study: 1, “♀” / “LAOS, Umg. Vientiane, III.–VI.1963” / “*Hodocerus malasiensis*, Bonv., A. Cobos det. 1967 (genus, species, author and year handwritten) (ZSM); 1, “LAOS north, 24–30.V.1997, 20 km NW Louang Namtha, N21°09.2', E101°18.7', alt. 900 ±100 m, E. Jendek & O. Šauša leg.” (GERP); 2, LAOS, 24–29.iv.2001, Khammouan prov., 18°07'N 104°29'E, Ban Khoun Ngeun, ~200 m, Vít Kubán leg.” (FSCA, NHMB); 1, “Collection Naturhistorisches Museum Basel” / “LAO, 26–27.v.2003, Bolikhamxai prov., PAKKADING, ~300 m, 18°20'N 104°00'E, Vít Kubán leg.” (NHMB); 2, “LAOS, BOLIKHAMSAI PR., BAN NAPE ENV., 100–400 m, 18°20'N 105°08'E, 7–16 v 2004, LEG: E. JENDEK/ O. SAUDA” (AAC); 1, “LAO, Phongsaly prov., 21°41'N 102°6'E, PHONGSALY env., 6.–17.v.2004, ~1500 m, M. Brancucci leg.” (NHMB); 3, “Laos-NE, Xieng Khouang prov., ~19°37'–8'N 103°20'E, Phonsavan (30 km NE): Phou Sane Mt., ~1400–1500 m, 10.–30.v.2009, Z. Kraus leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (NHMB); 2, “Laos-NE, Xieng Khouang prov., 19°37'–8'N 103°20'E, 30 km NE Phonsavan; Ban

Na Lam → Phou Sane Mt., 1300–1500 m, 10.–30.v.2009, M. Brancucci leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (NHMB); 1, “Laos-NE, Xieng Khouang prov., 19°37–8’N 103°20–1’E, Phonsavan (30 km NE): Phou Sane Mt., 1400–1500 m, 10.–30.v.2009, D. Hauck leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (NHMB); 1, “Laos-NE, Xieng Khouang prov., 19°37–8’N 103°20–1’E, 30 km NE Phonsavan; Ban Na Lam → Phou Sane Mt., 1300–1500 m, 10.–30.v.2009, M. Geiser leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (NHMB); 1, “LAOS-NE, Houa Phan prov., 20°13’09–19”N 103°59’54”–104°00’03”E, 1480–1550 m, PHOU PANE Mts., 1–16.vi.2009, Zdeněk Kraus leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (NHMB).

Redescription. Length, 9.00–14.00 mm. Width, 3.00–4.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly dark reddish-brown; antennae and legs dark reddish-brown; head, pronotum and elytra clothed with short, yellowish recumbent setae (Fig. 120).

Head: Very closely punctate, rugose, subspherical; frons convex, with circular fovea above frontoclypeal region; surface dull; apical margin of frontoclypeal region evenly rounded, 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Pectinate from antennomeres IV–X; extends as long as 1/2 the length of its body.

Pronotum: Surface dull, rugose to granulose; slightly longer than wide, with moderate, sharp hind angles; basal 1/2 parallel-sided, apical 1/2 arcuate; disc convex, with median impression; base sinuous, with pair of oblong fovea above scutellum.

Scutellum: Shiny, oblong, sub-triangular and distally rounded.

Elytra: Strongly striate; interstices elevated with sparse punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III; metathoracic tarsomere IV excavate-emarginate; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Punctate and rugose, with very short, yellowish recumbent setae; hypomeron with basally open, deep, wide lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially more than 6.00 times wider than laterally.

Differential diagnosis. Larger size, along with pectinate antennae will distinguish *H. malaisiensis* from *H. ceratoides*.

Distribution. An uncommon, widespread eucnemid species have been taken in Japan, Laos, Malaysia, Philippines and Vietnam. In Laos, *H. malaisiensis* was taken at Vientiane (FLEUTIAUX 1918), Xieng-Khouang (FLEUTIAUX 1923) and Phong-Salay (FLEUTIAUX 1947) and most recently in northern and central areas of the country.

Ecoregion(s). Luang Prabang montane rain forests, Northern Annamites rain forests, Northern Indochina subtropical forests, Northern Khorat Plateau moist deciduous forests.

Biology. BEESON (1941) reported the species bores in the wood of *Pentacme suavis* de Candolle (Dipterocarpaceae). All adults were taken from a lowland semi-evergreen forest, tropical montane deciduous forest and tropical montane evergreen forest.

***Melanoscython* Fleutiaux, 1926**

Diagnosis. Macraulacini, with apical margin of frontoclypeal region evenly rounded and more than twice as wide as the distance between antennal sockets; medially vaguely defined, basally open lateral antennal grooves present; male prothoracic tarsomere I simple, with basal sex combs; metathoracic coxal plates medially 3.00–6.00 times wider than laterally; last visible ventrite either rounded or truncated; simple tarsal claws; lateral surfaces of mesothoracic and metathoracic tibiae either with setae and transverse rows of spine combs or setae and irregularly placed spines; male aedeagus dorsoventrally compressed, with laterally attached secondary lateral lobes; median lobe simple, moderately and narrowly bifurcate apically; lateral lobes simple, entire; flagellum simple.

Note. Identification of both species was based on the diagnostic key provided by MUONA (1988).

Key to the species of *Melanoscython*

- 1 Antennomere IV about 1/2 the size of antennomere III.
..... ***Melanoscython monilicornis* Fleutiaux, 1931**
- Antennomere IV slightly shorter than antennomere III.
..... ***Melanoscython ohmomo* Muona, 1988**

***Melanoscython monilicornis* Fleutiaux, 1931**

(Fig. 121)

Material examined. Holotype was available for study: “Neme-Tiene, Haut-Mekong” / “LAOS, Luang-Prabang (Environs), VITALIS DE SALVAZA” / “Type” / “*Melanoscython monilicornis* Fleut. type, Collection FLEUTIAUX” (MNHN).

Redescription. Length, 7.50 mm. Width, 2.00 mm. Body subcylindrical, elongate; dorsum uniformly black; antennae and legs dark brown; head, pronotum and elytra clothed with short, yellowish recumbent setae (Fig. 121).

Head: Rugose to granulose; frons convex, with a very faint indication of median carina above frontoclypeal region; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, more than 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Moniliform from antennomeres IV–X, reaching up to the hind angles of the pronotum; rounded in cross section; antennomere III almost as long as IV and V together; antennomeres IV–X each quadrate, subequal; antennomere XI slightly longer than X.

Pronotum: Rugose to granulose; surface somewhat shiny; slightly longer than wide, with moderate, sharp hind angles; basal 3/4 parallel-sided, apical 1/4 arcuate; disc simple, convex; base slightly wider, sinuous, with short median impression above scutellum.

Scutellum: Shiny, sparsely punctate, sub-triangular and distally rounded.

Elytra: Striate; interstices elevated; surfaces transversely rugose, sparsely setose.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic

tarsomeres I–III simple; metathoracic tarsomere IV excavate-emarginate; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with short, yellowish recumbent setae; hypomeron with medially undefined basally opened lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Antennomere III is being twice as long as IV will distinguish *M. monilicornis* from *M. ohmomi*.

Distribution. A very rare eucnemid is a precintive species in Laos.

Ecoregion(s). Northern Thailand-Laos moist deciduous forests.

Biology. Developmental stages remain unknown. A single adult was taken from a tropical montane deciduous forest.

Melanoscython ohmomi Muona, 1988

(Fig. 122)

Material examined. Three specimens were available for study: 2, “LAOS c., Bolikhamsai prov., BAN NAPE – Kaew Nua Pass, 18.4–1.5.1998, alt. 600 m, N 18°22.3' E 105°09.1' GPS, E. Jendek & O. Šauša leg.” (GERP, JMC); 1, “LAOS central, Saisombun zone, PHOU KHAO KHOUAY Nat. Park, TAD LEUK, 18°23'N 103°04'E, 15–21.V.2001, alt. 150–200 m, E. Jendek & O. Šauša leg.” (GERP).

Redescription. Length, 6.00–7.00 mm. Width, 1.00–2.00 mm. Body subcylindrical, elongate; dorsum uniformly brownish-black; antennae dark reddish-brown; legs reddish-brown; abdominal sternites reddish-brown; head, pronotum and elytra clothed with short, yellowish recumbent setae (Fig. 122).

Head: Densely punctate; frons convex; surface dull; apical margin of frontoclypeal region evenly rounded, less than 2.00 times wider than base; mandibles stout, bidentate, densely punctate to rugose.

Antennae: Filiform from antennomeres III–XI, reaching up to 1/2 the length of its body; flattened in cross section; lateral keels present on antennomeres I, III–X; antennomere III slightly longer than IV; antennomeres IV–XI each longer than wide, subequal.

Pronotum: Closely punctate; surface dull; slightly longer than wide, with moderate, sharp hind angles; lateral sides arcuate toward apex; disc simple, convex with shallow, delicate median groove; base sinuous, slightly depressed.

Scutellum: Dull, closely punctate, short, sub-triangular and distally rounded.

Elytra: Feebly striate; interstices flattened; surfaces densely punctate to rugose, sparsely setose.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavate-emarginate; metathoracic tarsomere V elongate with basally swollen claws.

Venter: Densely punctate, with short, yellowish recumbent setae; hypomeron with medially undefined basally opened lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Slightly longer antennomere III in relation to IV will distinguish *M. ohmomi* from *M. monilicornis*.

Distribution. A very rare eucnemid species previously known from Japan. The species was taken for the first time in Laos.

Ecoregion(s). Luang Prabang montane rain forests, Northern Annamites rain forests.

Biology. Developmental stages remain unknown. All adults were taken from a lowland semi-evergreen forest.

Scython Bonvouloir, 1872

Diagnosis. Macraulacini, with apical margin of frontoclypeal region either evenly rounded or feebly trilobed and more than twice as wide as the distance between antennal sockets; medially vaguely defined, basally open lateral antennal grooves present; male prothoracic tarsomere I simple, with basal sex combs; metathoracic coxal plates medially 1.25–2.50 times wider than laterally; last visible ventrite strongly produced; basally toothed tarsal claws; lateral surfaces of mesothoracic and metathoracic tibiae with setae and irregularly placed spines; male aedeagus dorsoventrally compressed, with laterally attached secondary lateral lobes; median lobe simple, moderately and narrowly bifurcate apically; lateral lobes simple, entire, apices directed laterad; flagellum simple.

Note. Identification of the species was based on the translated, interpreted diagnostic key from BONVOULOIR (1872).

Scython apicalis Bonvouloir, 1872

(Fig. 123)

Material examined. Two specimens were available for study: 1, “LAOS, 1–18.v.2001, Boli Kham Xai prov., 18°21'N 105°08'E, BAN NAPE (8 km NE), ~600 m, Vít Kubáň leg.” (NHMB); 1, “C. LAOS, Boli Khan Xai prov., Ban Nape (8 km NE), 1–18.5.2001, P. Pacholátko leg.” (GERP).

Redescription. Length, 12.00 mm. Width, 3.25 mm. Body subcylindrical, elongate; dorsum uniformly reddish-orange, with scutellum and elytral apices black; venter black, except hypomera reddish-orange; antennae black; femur, tibiae black; tarsi dark reddish-brown; head, pronotum and elytra clothed with short, orange recumbent setae (Fig. 123).

Head: Very closely, deeply punctate; frons convex, with elliptical fovea above frontoclypeal region; surface somewhat shiny; apical margin of frontoclypeal region feebly trilobed, more than 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Asymmetrically serrate from antennomeres IV–X, reaching about 1/2 the length of its body; flattened; antennomere III slightly longer than IV; antennomeres IV–X each slightly longer than wide, subequal; antennomere XI slightly longer than X.

Pronotum: Rugose; surface somewhat shiny; longer than wide, with moderate, sharp hind angles; basal 1/3 parallel-sided, apical 2/3 arcuate; disc simple, convex; base sinuous, with elongate ridge above scutellum.

Scutellum: Shiny, sparsely punctate, oblong, quadrate and distally rounded.

Elytra: Striate; interstices elevated, surfaces rugose.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavate-emarginate; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Punctate, with short, yellowish recumbent setae; hypomerion with medially undefined basally opened lateral antennal grooves; metathoracic episternum slightly widened apically; metathoracic coxal plates medially 1.50 times wider than laterally.

Differential diagnosis. Largely reddish-orange unicolored dorsum will distinguish *S. apicalis* from another species, *Scython florentini* Fleutiaux, 1918, also present on mainland Southeast Asia.

Distribution. A very rare, widespread eucnemid species previously found in Indonesia, Malaysia and Vietnam. The species was taken for the first time in Laos.

Ecoregion(s). Northern Annamites rain forests.

Biology. Developmental stages remain unknown. Both adults were taken from a lowland semi-evergreen forest.

Macroscytho Fleutiaux, 1902

(=*Galbocerus* Lea, 1916: 320)

Diagnosis. Macraulacini, with apical margin of frontoclypeal region feebly trilobed and less than twice as wide as the distance between antennal sockets; either deep or shallow medially vaguely defined, basally open lateral antennal grooves present; male prothoracic tarsomere I simple, with sex combs; metathoracic coxal plates medially 3.00–6.00 times wider than laterally; last visible ventrite strongly produced; basally toothed tarsal claws; lateral surfaces of mesothoracic and metathoracic tibiae either with setae and transverse rows of spine combs or setae and irregularly placed spines.

Note. Identifications of both species were based on personal correspondences with Jyrki Muona.

Key to the species of *Macroscytho*

- 1 Dorsum lighter; rami shorter.
..... *Macroscytho coomani* Fleutiaux, 1933
- Dorsum darker; rami elongate. *Macroscytho granulatus* sp.nov.

Macroscytho coomani Fleutiaux, 1933

(Fig. 124)

Material examined. One specimen was available for study: “LAOS centr, 27.IV.1997, 70 km NE Vientiane, BAN PHABAT env., 150m, N 18° 16.1 E 103° 10.9, M. Strba & R. Hegovits leg.” / “*Macroscytho coomani*, Fleutiaux 1933, J. Muona Det. 2014” (underlined) (JMC).

Redescription. Length, 8.00 mm. Width, 2.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; head and pronotum dark brown; elytra, venter, antennae and legs medium reddish-brown; head, pronotum and elytra clothed with short, yellowish recumbent setae (Fig. 124).

Head: Very closely punctate to rugose, subspherical; frons convex; surface dull; apical margin of frontoclypeal region evenly rounded, less than 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Pectinate from antennomeres III–X, extends as long as 2/3 the length of its body. Rami shorter, arising apically from each antennomere.

Pronotum: Surface dull, rugose to granulose; wider than long, with moderate, sharp hind angles; parallel-sided; disc convex; base sinuous; short carina present above scutellum.

Scutellum: Shiny, short, sub-triangular and distally rounded.

Elytra: Strongly striate; interstices flattened to slightly elevated with dense punctations.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III; metathoracic tarsomere IV excavate; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Punctate, with very short, yellowish recumbent setae; hypomeron with shallow medially vaguely defined, basally open lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Shorter antennal rami and lighter coloration will distinguish *M. coomani* from *M. granulosus*.

Distribution. A very rare eucnemid species previously taken in Vietnam. The species was found for the first time in Laos.

Ecoregion(s). Luang Prabang montane rain forests.

Biology. Developmental stages remain unknown. A single adult was taken from a lowland semi-evergreen forest.

Macroscytho granulosus sp.nov.

(Fig. 125)

Type material. Male holotype: “LAOS, Louangnamtha pr., 21°09'N 101°19'E, Namtha → Muang Sing, 5–31.v.1997, 900–1200 m, Vít Kubáň leg.” / “HOLOTYPE, *Macroscytho granulosus*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Holotype is deposited in NHMB.

Paratypes: 8, from the following localities: LAOS: 1, “LAOS c., Bolikhamsai prov., BAN NAPE-Kaew Nua Pass, 18.4.–1.5.1998, alt. 600 m, N18°22.3', E105°09.1' GPS, E. Jendek & O. Šauša lgt.” (GERP); 1, “Laos south, Chamasak prov., Bolaven Plateau, 10–18.IV.1999, Route (no. 23) Pakse – Paksong, BAN ITOU env., (km.35), alt. 800 m, N15°10.4', E106°05.8' (GPS), E. Jendek & O. Šauša leg.” (GERP); 1, “LAOS-N (Oudomxai), 1–9.v.2002, ~1100m, 20°45'N 102°09'E, OUDOM XAI (17 km NEE), Vít Kubáň leg.” (GERP); 1, “LAOS-N (Louangphrabang), 11–21.v.2002, 19°35'N 101°58'E, THONG KHAN, ~750m, Vít Kubáň leg.” / (male aedeagus glued on mounting board) (JMC); 1, “LAOS, BOLIKHAMSAI PR., BAN NAPE ENV., 100–400 m, 18°20'N 105°08'E, 7–16 v 2004, LEG: E. JENDEK/ O. SAUDA” (AAC); THAILAND: 1, “Thai 17–24/6.1991, DCI CHIANG DAO mts., 19°25'N 98°52' E, lgt. D. Král 1000 m” (GERP); 1, “NV THAI, Cheng Dao, Ban San Pakia, 5–10.v.2004, 1000 m, S. Bílý leg.” (AAC); 1, “Phu Ru NP (900m alt.), Loei P., NE, Thai. 26–30.IV.2006, Takakuwa, M. leg.” / “Wataru Suzuki collection, Tokyo 12.VIII.2013” (green label) (WSC).

Each specimen labeled: “PARATYPE, *Macroscytho granulosus*, Otto, det. R.L. Otto, 2014” (either ♂ or ♀ handwritten behind species name on each label) [yellow printed label]. Paratypes are deposited in AAC, GERP, JMC and WSC.

Description. Male holotype: Length, 10.00 mm. Width, 3.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly dark reddish-brown to dark brown; antennae and legs dark reddish-brown; head, pronotum and elytra clothed with short, yellowish recumbent setae (Fig. 125).

Head: Surfaces granulose, subspherical; frons convex; surface dull; apical margin of frontoclypeal region evenly rounded, less than 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Pectinate from antennomeres III–X, extends as long as 2/3 the length of its body; each ramus elongate, 3/4 the length compared to the next ramus; antennomere XI elongate.

Pronotum: Surface dull, granulose; wider than long, with moderate, sharp hind angles; basal 3/4 parallel-sided, apical 1/4 arcuate; disc convex; base sinuous.

Scutellum: Somewhat shiny, closely punctate oblong, sub-triangular and distally rounded.

Elytra: Strongly striate; interstices elevated with close, dense punctations.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III; metathoracic tarsomere IV excavate-emarginate; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Sparsely punctate, with very short, yellowish recumbent setae; hypomeron with shallow medially vaguely defined, basally open lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Variation. Seven male and one female paratypes were examined. The paratypes measured 7.00–11.25 mm long. Four males were slightly shorter than the holotype. The other two are slightly larger than the holotype. Length of one male is subequal to that of the holotype. The female is much larger and more robust compared to the holotype, measuring 12.00 mm long and 3.25 mm wide. Female antennae are strongly serrate. Coloration varied a little. One specimen have a medium reddish-brown colored elytra, while all others have a more darker coloration, similar to the pronotum. There are no variations in exoskeletal structures among these paratypes in relation to the holotype.

Etymology. The specific epithet, *granulosus* is derived from the Latin word ‘*granulos*’ for its granulose surfaces of the pronotum.

Differential diagnosis. Darker coloration along with elongate rami of the antennae will distinguish *M. granulosus* from *M. coomani*.

Distribution. A rare new eucnemid species have been taken in both Laos and Thailand.

Ecoregion(s). Northern Annamites rain forests, Northern Indochina subtropical forests, Southern Annamites montane rain forests.

Biology. Developmental stages remain unknown. All adults were taken from a dry evergreen forest and lowland semi-evergreen forest.

***Pseudoisarthus* gen.nov.**

Type species. *Pseudoisarthus annamensis* sp.nov., designated here.

Diagnosis. Adult *Pseudoisarthus* superficially resemble the Nearctic genus *Isarthus*, but differ in the structure of the antennae, that being short and quadrate in the new group and longer than wide in *Isarthus*. The antennal grooves are medially undefined in

Pseudoisarthus and well defined in *Isarthus*. Metathoracic coxal plates are medially more than 6.00 times wider than laterally in *Pseudoisarthus* and medially 3.00–6.00 times wider than laterally in *Isarthus*. Tarsal claws are basally toothed in *Pseudoisarthus*, simple in *Isarthus*. The combinations of these features will also distinguish the new group from any other previously described groups within this large and speciose tribe.

Description. Male. Body elongate, approximately four times longer than wide, dorsally convex and ventrally well sclerotized.

Head: Hypognathus with elongate setae. Antennae tubular, filiform with 11 antennomeres, setose; scape four times longer than pedicel; pedicel globular, shorter than antennomere III; antennomere III longer than antennomere IV; antennomeres IV–X subequal in lengths, quadrate and rounded in cross sectional view; antennomere XI slightly longer than X. Compound eye round, well developed, small. Antennal groove present in geni region between base of mandible and compound eye. Frontoclypeal region subtriangular, apically trilobed, less than 2.50 times wider apically than the distance between antennal sockets. Mandibles well developed, stout, setose; left mandibles bidentate; right mandible unidentate. Maxillary and labial palpus concealed behind mandibles. Labrum concealed.

Pronotum: Subparallel, convex and setose. Basal 2/3 subparallel-sided, apical 1/3 arcuate. About as long as wide. Lateral pronotal ridge entire, slightly sinuate near apical 1/3. Disc convex; base sinuous.

Scutellum: Longer than wide, sub-triangular, distally rounded.

Elytron: Elongate, convex, laterally marginate, setose. Disc with slight indications of striae. Humeral region strongly striate. Interstices slightly elevated.

Legs: Prothoracic legs shortest, metathoracic legs longest. Prothoracic tibia apically rounded, flattened, setose with one apical spur. First prothoracic tarsi partially concealed by prothoracic tibia, with straight sex combs covering nearly entire length of segment. Lateral side of mesothoracic and metathoracic tibiae with setae and transverse rows of tiny spines. Metathoracic tarsi, including claws as long as the tibia. First metathoracic tarsi shorter than combined lengths of remaining four. Metathoracic tarsi I–III simple. Metathoracic tarsi IV excavated-emarginated, wider than III. Metathoracic tarsi V elongate with basally toothed claws. Tarsal formula 5-5-5.

Venter: With elongate setae. Prothoracic sternal peg basally broad, short. Notosternal suture about as long as the hypomeral base. Hypomeron with medially undefined basally open, shallow lateral antennal grooves. Epipleura not grooved. Metathoracic episterna parallel-sided. Metathoracic coxal plate medially more than 6.00 times wider than laterally, caudally angulated. Tarsal grooves absent on mesothoracic and metathoracic sterna. Abdomen with five visible ventrites, medially convex. Last visible ventrite caudally rounded.

Aedeagus (Fig. 128): Elongate, dorsoventrally flattened and laterally compressed; median lobe free, unsclerotized with shallowly notched apex; lateral lobes apically rounded and unsclerotized; lateral lobes laterally toothed, internally hollowed and longer than median lobe; basal piece elongate, dorsally open, apically narrowed and rounded.

Etymology. The generic name is a combination of the stem ‘*pseudo*’ for resembling and the root ‘*isarthurus*’ for a eucnemid genus, in which the new group superficially resembles the Nearctic eucnemid group in form. Gender: masculine.

***Pseudoisarthurus annamensis* sp.nov.**

(Figs 126–128)

Type material. Male holotype: “LAOS C., Bolikhamsai pr., BAN NAPI env., 7–16.V.2004, alt. 400 ±100m, 18°20’N, 105°08’E, E. Jendek & O. Sausa leg.” / “HOLOTYPE, *Pseudoisarthurus, annamensis*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Female allotype, with same label data as holotype: / “ALLOTYPE, *Pseudoisarthurus, annamensis*, Otto, det. R.L. Otto, 2014” (♀ handwritten behind species name on label) [yellow printed label]. Holotype and allotype were transferred from GERP to BMNH.

Paratypes: 43, from the following localities: 2, “LAOS, 1–18.v.2001, Bolikhamxai prov., 18°21’N 105°08’E, Ban Nape (8 km NE), ~600 m, Vít Kubán leg.” (NHMB); 38, “LAOS C., Bolikhamsai pr., BAN NAPI env., 7–16.V.2004, alt. 400 ±100m, 18°20’N, 105°08’E, E. Jendek & O. Sausa leg.” (BMNH, FSCA, GERP, JMC, WSC and ZSM); 3, “LAOS, BOLIKHAMSAI PROV., BAN NAPE ENV., 7–16 v 2004, 400 m, 18°20’N 105°08’E, LEG: E. JENDEK/ O. SAUSA” (AAC).

Each specimen labeled: “PARATYPE, *Pseudoisarthurus, annamensis*, Otto, det. R.L. Otto, 2014” (either ♂ or ♀ handwritten behind species name on each label) [yellow printed label]. All paratypes are deposited in AAC, BMNH, FSCA, GERP, JMC, NHMB, WSC and ZSM.

Description. Male holotype: Length, 4.00 mm. Width, 1.50 mm. Body color dark brown-black (Fig. 126).

Head: Very closely punctate, almost rugose; surface dull; eyes slightly protuberant; frons with slight depression above antennal insertions.

Antennae: Tubular, filiform, reaching about 1/3 the length of the body, just beyond the hind angles; reddish-brown.

Pronotum: Dark brown-black, dull with short, yellow recumbent setae; surface with closely spaced punctations; slightly rugose; about as long as wide, with moderate hind angles; basal 2/3 subparallel-sided, apical 1/3 arcuate; disc convex.

Elytron: Convex, shiny with short, yellow recumbent setae, dark brown-black. Length 3.25 mm. Width 0.75 mm at humeri. Humeri striate. Disc slightly striate. Interstices slightly elevated, punctate.

Legs: Femur, tibiae and tarsi reddish-brown and somewhat shiny. Surfaces shallowly punctate; with short, yellow recumbent setae.

Venter (Fig. 127): Dull to somewhat shiny, dark brown-black, surface with short, yellow recumbent setae; closely, shallowly punctate.

Allotype: Length 4.75 mm, width 1.50 mm; same as male except antennae are shorter, barely reaching the hind angles of the pronotum. Antennomeres IV–X each wider than long.

Variation. Forty-three adult paratypes were examined. Thirty-five male paratypes varied in length from 3.25–5.00 mm. Eight female paratypes varied in length from 3.75–5.00 mm. Females are slightly larger than males. Very little to no variations were observed while examining these paratypes. All specimens are structurally consistent. Some male specimens exhibit some reddish coloration on the elytra and have surmised these specimens were not quite sclerotized as compared to other specimens were in the series.

Etymology. The specific epithet is derived from a geological feature in Laos, the Annamite Highlands in which the species was collected.

Differential diagnosis. See Diagnosis of the monotypic genus.

Distribution. An uncommon, endemic eucnemid species known from a single locality within the Borikhamxay province near Ban Nape in central Laos.

Ecoregion(s). Northern Annamites rain forests.

Biology. Developmental stages remain unknown. All adults were taken from a lowland semi-evergreen forest.

Spinifornax Fleutiaux, 1926

Diagnosis. Macraulacini, with apical margin of frontoclypeal region evenly rounded and more than twice as wide as the distance between antennal sockets; basally open, deep, lateral antennal grooves well developed, usually with smooth surfaces; male prothoracic tarsomere I simple, with basal sex combs; metathoracic coxal plates narrowing laterad; evenly rounded apex of last ventrite; dehiscent elytral apex; basally toothed tarsal claws; lateral surfaces of mesothoracic and metathoracic tibiae with setae and transverse rows of spine combs; male aedeagus dorsoventrally compressed, with laterally attached secondary lobes; median lobe simple, moderately and narrowly bifurcate apically; flagellum simple.

Note. Loaned types of *Fornax carissae* Fleutiaux, 1930 and *Fornax vitalisi* Fleutiaux, 1918 were examined from the MNHN. Identification of several species was based on the translated, interpreted descriptions from BONVOULOIR (1872) and FLEUTIAUX (1899, 1918). New species determinations were based on failure to match these species against any translated, interpreted description of other “*Fornax*” species in the region.

Key to the species of *Spinifornax*

- | | | |
|---|---|--|
| 1 | Elytral striae shallowly and weakly indicated. | 2 |
| – | Elytral striae strongly indicated. | <i>Spinifornax striatus</i> sp.nov. |
| 2 | Pronotum gradually narrowing craniad. | 3 |
| – | Basal 3/4 of pronotum parallel-sided. | |
|  | ..... | <i>Spinifornax salvazai</i> (Fleutiaux, 1918) |
| 3 | Species usually unicolored. | 4 |
| – | Species bicolored. | 6 |
| 4 | Species unicolored black. | 5 |
| – | Species mostly unicolored orange. | |
|  | ..... | <i>Spinifornax superbus</i> (Bonvouloir, 1872) |
| 5 | Antennomere III shorter than IV. | |
|  | ..... | <i>Spinifornax carissae</i> (Fleutiaux, 1930), comb.nov. |
| – | Antennomere III slightly longer than IV. | |
|  | ..... | <i>Spinifornax dubius</i> (Fleutiaux, 1899), comb.nov. |

- 6 Venter bicolored. 7
- Venter entirely unicolored orange. ... *Spinifornax nigradorsus* sp.nov.
- 7 Ventral areas of head and pronotum black, abdominal sterna orange. ...
- *Spinifornax pacholatkoi* sp.nov.
- Ventral areas of head and pronotum orange, abdominal sterna blackish.
- *Spinifornax vitalisi* (Fleutiaux, 1918)

***Spinifornax carissae* (Fleutiaux, 1930) comb.nov.**

(Fig. 129)

Fornax carissae Fleutiaux, 1930: 153–154. Presence of dehiscent elytral apices places the species in *Spinifornax*, rather than maintaining its current placement in *Fornax*.

Material examined. Five specimens were available for study: 1, “LAOS Bolikhamsai pro., 1998–4–18...1–5 600 asl, BAN NAPE Kaew Nua pass, Jendek & Sausa leg.” (JMC); 3, “LAOS, 1–18.v.2001, Bolikhamxai prov., 18°21′N 105°08′E, BAN NAPE (8 km NE), ~ 600 m, V. Kubáň leg.” (NHMB); 1, “LAOS-CE, 1–18.v.2001, Boli Kham Xai prov., 18°21′N 105°08′E, BAN NAPE (8 km NE), ~ 600 m, V. Kubáň leg.” (GERP).

Redescription. Length, 8.00–12.00 mm. Width, 2.00–3.50 mm. Body subcylindrical, elongate and tapering towards the elytral apex; black; antennae black, except basal two segments reddish; Femur and tibiae black; tarsi infuscate reddish; head, pronotum and elytra clothed with short, brownish recumbent setae (Fig. 129).

Head: Closely punctate, subspherical; frons convex; interantennal carina interrupted in middle; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to elytral humeri; antennomeres III shorter than IV; antennomere IV longer than both II and V; antennomere V–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface shiny; slightly longer than wide, with moderate hind angles; lateral sides arcuate, gradually narrowed craniad; disc convex, with short median groove above scutellum; base sinuous.

Scutellum: Punctate, oblong, quadrate and distally rounded.

Elytra: Shallowly striate; interstices slightly elevated, with sparse and shallow punctations; dehiscent.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Punctate, with whitish recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Unicolored black coloration, along with shorter antennomere III in relation to antennomere IV will distinguish *S. carissae* from all other known *Spinifornax* species in Laos.

Distribution. A very rare eucnemid species previously found in India. The species was taken for the first time in Laos.

Ecoregion(s). Northern Annamites rain forests.

Biology. BEESON (1941) reported the species bores in the decaying wood of *Carissa spinarum* L. (Apocynaceae). All adults were taken from a lowland semi-evergreen forest.

***Spinifornax dubius* (Fleutiaux, 1899) comb.nov.**

(Fig. 130)

Fornax dubius Fleutiaux, 1899: 229–230. Presence of dehiscent elytral apices places the species in *Spinifornax*, rather than maintaining its current placement in *Fornax*.

Material examined. Six specimens were available for study: 1, “LAOS, Louangnamtha pr., NAMTHA → Muang Sing, 21°09′N 101°19′E, 5–31.v.1997, 900–1200 m, Vít Kubáň leg.” (JMC); 1, “Laos, Louangnamtha pr., 21°09′N 101°19′E, Namtha → Muang Sing, 5–31.v.1997, 900–1200 m, Vít Kubáň leg.” (GERP); 1, “LAOS, 1–18.v.2001, Boli Kham Xai prov., 18°21′N 105°08′E, BAN NAPE (8 km NE), ~ 600 m, V. Kubáň leg.” (NHMB); 2, “Collection Naturhistorisches Museum Basel” / “LAO, Phongsaly prov., 21°41′–2′N 102°06′–8′E, 28.v.–20.vi.2003, PHONGSALY env., ~ 1500 m, Vít Kubáň leg.” (NHMB); 1, “LAOS, Phongsaly prov., PHONGSALY env., 6.–17.v.2004, ~1500 m, 21°41′N 102°06′E, P. Pacholátko leg.” (NHMB).

Description. Length, 6.50–9.50 mm. Width, 1.50–2.00 mm. Body subcylindrical, elongate, slightly attenuated and tapering towards the elytral apex; uniformly black; antennae dark brownish-black, except basal two segment infusate reddish; legs dark brown; tibiae dark reddish-brown; head, pronotum and elytra clothed with brownish recumbent setae (Fig. 130).

Head: Closely and shallowly punctate, subspherical; frons convex; interantennal carina interrupted in middle; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III slightly longer than IV; antennomere IV longer than II; antennomeres IV–XI each subequal, longer than wide.

Pronotum: Closely and shallowly punctate, laterally rugose; surface shiny; as long as wide, with moderate hind angles; lateral sides gradually narrowing craniad; disc convex; base sinuous.

Scutellum: Slightly rugose, narrow, oblong, sub-triangular and distally rounded.

Elytra: Weakly striate; interstices flattened, with sparse and shallow punctations; dehiscent.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Length of antennomere III in relation to IV will distinguish *S. dubius* from *S. carissae*, that being shorter in *S. carissae* and subequal in *S. dubius*. Unicolored black coloration of the dorsum and venter will distinguish *S. dubius* from all other *Spiniformax* species in Laos.

Distribution. A rare eucnemid species previously found in India. The species was taken for the first time in Laos.

Ecoregion(s). Northern Annamites rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest, lowland semi-evergreen forest and tropical montane deciduous forest.

***Spiniformax nigridorsus* sp.nov.**

(Fig. 131)

Type material. Male holotype: “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12’N, 104°01’E, leg. C. Holzschuh” / “BMNH{E}, 2012-14, C. Holzschuh” / “HOLOTYPE, *Spiniformax nigridorsus*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Holotype is deposited in BMNH.

Paratype. 1, from the following locality: “N. Vietnam, vii.1999, Vinh Phu prov., Mt. Tam Dao, local collector” / “Wataru Suzuki Collection, Tokyo 12.VIII.2013 (green label)” (WSC).

Specimen labeled: “PARATYPE, *Spiniformax nigridorsus*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on each label) [yellow printed label]. Paratype is deposited in WSC.

Description. Male holotype: Length, 10.50 mm. Width, 3.00 mm. Body elongate and tapering towards the elytral apex; dorsum and head unicolored black; venter and legs unicolored orange; antennomeres I, II and apical half of XI infuscate orange; remaining antennal segments black; head, pronotum and elytra clothed with short, black decumbent setae; venter and legs clothed with short, orange recumbent setae (Fig. 131).

Head: Shallowly punctate, subspherical; frons convex; surface shiny; apical margin of frontoclypeal region rounded, about 2.50 times wider than base; mandibles stout, bidentate, densely punctate.

Antennae: Weakly serrate, nearly filiform, reaching about 1/3 the length of the body, close to the hind angles of the pronotum; antennomere III slightly longer than IV; antennomeres IV longer than II; antennomeres IV–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Shallowly punctate, widely spaced; surface shiny; slightly longer than wide, with short hind angles; sides gradually arcuate towards apex; disc simple; base sinuous with a pair of circular foveae above scutellum.

Scutellum: Surface shiny; shallowly punctate, sub-trapezoid and distally truncated.

Elytra: Faintly indicated striae present; interstices slightly elevated, shallowly punctate; surface shiny.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; lateral surfaces of mesothoracic and metathoracic tibiae with transverse rows of spines; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV bilobed and excavated; metathoracic tarsomere V short with basally toothed claws.

Venter: Shallowly punctate, surface shiny; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Variation. One male paratype was examined. The paratype measured 12.00 mm long, a little longer than the holotype. The paratype is slightly wider than the holotype, measuring 3.25 mm wide. The paratype differs from the holotype based on the coloration of the pronotum. The orange coloration is present along the lateral side and at the base of the pronotum, but black on the rest of the surface. The pronotum is unicolored black at the dorsum on the holotype. There are no color variations among these two specimens on the venter. Antennae are slightly longer on the paratype compared to the holotype.

Etymology. The specific epithet, *nigridorsus* is derived from the combination of two words ‘*nigri*’ for black and ‘*dorsus*’ for the dorsum of the beetle.

Differential diagnosis. Gradually arcuate pronotum will distinguish *S. nigridorsus* from *S. salvazai*. Unicolored black dorsum will further separate this species from both *S. superbus* and *S. vitalisi*. Orange colored venter will distinguish *S. nigridorsus* from *S. carissae* and *S. dubius*. Faintly indicated elytral striae will distinguish the species from *S. striatus*. Orange colored ventral areas of head and pronotum will distinguish *S. nigridorsus* from *S. pacholatokoi*.

Distribution. A very rare eucnemid species known from a single locality within the Houaphanh province of Northeastern Laos and also a single locality in Vietnam.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. A single adult was taken from a tropical montane deciduous forest.

Spinifornax pacholatkoii sp.nov.

(Fig. 132)

Type material. Male holotype: “LAOS, Phongsaly prov., PHONGSALY env., 6.–17.v.2004, ~1500 m, 21°41’N, 102°06’E, P. Pacholátko leg.” / “HOLOTYPE, *Spinifornax pacholatkoii*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Holotype is deposited in NHMB.

Description. Male holotype: Length, 6.50 mm. Width, 1.50 mm. Body subcylindrical, elongate and tapering towards the elytral apex; black, except abdominal sterna orange; antennomeres I and II dark infusate reddish, remaining antennal segments black; legs dark brown; head, pronotum and elytra clothed with short, brown recumbent setae (Fig. 132).

Head: Punctate, subspherical; frons convex; surface shiny; apical margin of frontoclypeal region evenly rounded, less than 2.00 times wider than base; mandibles stout, bidentate, densely punctate.

Antennae: Filiform, reaching just beyond the hind angles of the pronotum; antennomeres III–XI each subequal, longer than wide.

Pronotum: Closely punctate; laterally rugose; surface shiny; wider than long, with moderate hind angles; lateral side narrowing cranially; disc simple; base sinuous, slightly depressed above scutellum.

Scutellum: Surface shiny; shallowly punctate, sub-triangular and distally rounded.

Elytra: Faintly indicated striae present; interstices slightly elevated, shallowly punctate; surface shiny; dehiscent.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV bilobed and excavated; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Shallowly punctate, surface shiny, sparsely setose; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum caudally widened; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Etymology. The specific epithet, *pacholatko*, is named after P. Pacholátko, collector of the new species.

Differential diagnosis. Gradually narrowing pronotum will distinguish *S. pacholatko* from *S. salvazai*. Unicolored black dorsum will further separate this species from both *S. superbus* and *S. vitalisi*. Orange colored abdominal sterna will distinguish *S. pacholatko* from *S. carissae* and *S. dubius*. Faintly indicated elytral striae will distinguish the species from *S. striatus*. Black colored ventral areas of head and pronotum will distinguish *S. pacholatko* from *S. nigradorsus*.

Distribution. A very rare, endemic eucnemid species known from a holotype collected in the Phongsaly province of Northern Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. A single adult was taken from a tropical montane deciduous forest.

Spiniformax salvazai (Fleutiaux, 1918)

(Fig. 133)

Fornax salvazai Fleutiaux, 1918: 178–179

Material examined. 5 exx. Five specimens were available for study: 1, “LAOS N. 13–24.5.1997, 15 km NW Louang Namtha, N21°07.5′ E101°21.0′, alt. 750 ±100 m, O. Šauša leg.” (GERP); 2, “Laos-NE, Xieng Khouang prov., 19°37–8′N 103°20–1′E, 30 km NE Phonsavan; Ban Na Lam → Phou Sane Mt., 1300–1500 m, 10.–30.v.2009, M. Geiser leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (NHMB); 1, “LAOS-NE, Houa Phan prov., 20°12–13.5′N 103°59.5′–104°01′E, Ban Saleui → Phou Pane Mts., 1340–1870 m, 10.v.–16.vi.2009, M. Brancucci & local coll. leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (NHMB); 1, “NE LAOS, Houa Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12′N, 104°01′E, leg. C. Holzschuh” / “BMNH{E}, 2012–14, C. Holzschuh” (BMNH).

Redescription. Length, 10.00–13.00 mm. Width, 3.00–4.00 mm. Body subcylindrical, elongate; head, antennae, parts of pronotum and elytra variably unicolored black; lateral and basal area of pronotum, elytral disc, venter and legs variably unicolored reddish-orange; head, pronotum and elytra clothed with short, black and orange recumbent setae (Fig. 133).

Head: Shallowly punctate, subspherical; frons convex; surface shiny; apical margin of frontoclypeal region rounded, about 2.50 times wider than base; mandibles stout, bidentate, densely punctate.

Antennae: Filiform, reaching about 1/3 the length of the body, beyond the hind angles of the pronotum; antennomere III slightly longer than IV; antennomeres IV longer than II; antennomeres IV–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Shallowly punctate, widely spaced; surface shiny; slightly longer than wide, with short hind angles; basal 3/4 parallel-sided, apical 1/4 arcuate; disc simple; base sinuous.

Scutellum: Surface shiny; shallowly punctate, sub-trapezoid and distally truncated.

Elytra: Faintly indicated striae near sutural area present; interstices flattened, shallowly punctate; surface shiny.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV bilobed and excavated; metathoracic tarsomere V short with basally toothed claws.

Venter: Shallowly punctate, surface shiny; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 1.20–2.50 times wider than laterally.

Differential diagnosis. Shape of the pronotum will distinguish *S. salvazai* from all other *Spinifornax* species in Laos.

Distribution. A rare eucnemid species previously found in Vietnam. The species was taken for the first time in Laos.

Ecoregion(s). Luang Prabang montane rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest and tropical montane deciduous forest.

Spinifornax striatus sp.nov.

(Fig. 134)

Type material. Female holotype: “LAOS-CE, 1–18.v.2001, Boli Kham Xai prov., 18°21'N 105°08'E, BAN NAPE (8 km NE), ~ 600 m, V. Kubáň leg.” / “HOLOTYPE, *Spinifornax, striatus*, Otto, det. R.L. Otto, 2014” (♀ handwritten behind species name on label) [red printed label]. Holotype is deposited in NHMB.

Description. Female holotype: Length, 12.50 mm. Width, 3.50 mm. Body subcylindrical, elongate and tapering towards the elytral apex; dark reddish-brown; antennae, legs and tibiae dark reddish-brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 134).

Head: Closely punctate to rugose, subspherical; frons convex, with median fovea above frontoclypeal region; interantennal carina interrupted in middle; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, at least 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to elytral humeri; antennomeres III as long as the combined lengths of IV and V; antennomere IV longer than II; antennomere V slightly shorter than IV and VI; VI–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely and deeply punctate, laterally rugose; surface somewhat shiny; as long as wide, with moderate hind angles; basal 2/3 parallel-sided, apical 1/3 arcuate; disc convex; base sinuous.

Scutellum: Punctate, oblong, sub-triangular and distally rounded.

Elytra: With striae; interstices elevated, with closely spaced and shallow punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Etymology. The specific epithet, *striatus* is derived from strongly indicated striae present on the elytra.

Differential diagnosis. Strongly indicated elytral striae will distinguish *S. striatus* from all *Spinifornax* species in Laos.

Distribution. A very rare, endemic eucnemid species known from a holotype collected in Borikhamxay province of central Laos.

Ecoregion(s). Northern Annamites rain forests.

Biology. Developmental stages remain unknown. A single adult was taken from a lowland semi-evergreen forest.

Spinifornax superbis (Bonvouloir, 1871)

(Fig. 135)

Fornax superbis Bonvouloir, 1871: 350–352; plate 16, Fig. 5

Material examined. One specimen was available for study: “LAOS, 1–18.v.2001, Boli Kham Xai prov., 18°21′N 105°08′E, BAN NAPE (8 km NE), ~600 m, Vít Kubáň leg.” (NHMB).

Redescription. Length, 15.50 mm. Width, 4.00 mm. Body subcylindrical, elongate; entirely reddish-orange; antennomeres I–II reddish-orange, antennomeres III–XI black; head, pronotum and elytra clothed with short, orange recumbent setae (Fig. 135).

Head: Shallowly punctate, subspherical; frons convex; surface shiny; apical margin of frontoclypeal region rounded, less than 2.50 times wider than base; mandibles stout, bidentate, densely punctate.

Antennae: Filiform, reaching about 1/3 the length of the body, to the hind angles of the pronotum; antennomere III slightly longer than IV; antennomeres IV longer than II; antennomeres IV–X each subequal, longer than wide; antennomere XI as long as X.

Pronotum: Shallowly punctate, widely spaced; surface shiny; longer than wide, with short hind angles; lateral sides gradually arcuate; disc simple; base sinuous.

Scutellum: Surface shiny; shallowly punctate, sub-triangular and distally rounded.

Elytra: Faintly indicated striae present; interstices slightly elevated, shallowly punctate; surface shiny.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV bilobed and excavated; metathoracic tarsomere V short with basally toothed claws.

Venter: Shallowly punctate, surface shiny; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Largely orange coloration of the species will distinguish *S. superbus* from all other *Spinifornax* species in Laos.

Distribution. A very rare, widespread eucnemid species have been found in Indonesia, Laos, Malaysia and Vietnam. In Laos, *S. superbus* has been taken at Sen-Kam (“Haut-Mékong”) (FLEUTIAUX 1923), currently in Phongsaly province and most recently in central part of the country.

Ecoregion(s). Northern Annamites rain forests, Northern Indochina subtropical forests.

Biology. BEESON (1941) reported the species bores in the wood of *Macaranga denticulata* (Blume) (Euphorbiaceae). A single adult was taken from a lowland semi-evergreen forest.

Spinifornax vitalisi (Fleutiaux, 1918)

(Fig. 136)

Fornax vitalisi Fleutiaux, 1918: 178

Material examined. One holotype was available for study: “Laos, Nape, 11 Oct. 15” / “Type” / “*Fornax vitalisi* Fleut., type, Collection FLEUTIAUX” (MNHN).

Redescription. Length, 8.00 mm. Width, 2.25 mm. Body subcylindrical, elongate; head, pronotum and scutellum orange; elytra black; venter dark brownish-black; antennomeres I–III orange, antennomeres IV–XI black; legs dark brown; head, pronotum and elytra clothed with short, yellowish recumbent setae (Fig. 136).

Head: Shallowly and densely punctate; frons subspherical, convex; surface shiny; apical margin of frontoclypeal region rounded, less than 2.50 times wider than base; mandibles stout, bidentate, densely punctate.

Antennae: Filiform, reaching about 1/3 the length of the body, just beyond the hind angles of the pronotum; antennomere III shorter than IV; antennomeres IV longer than II; antennomeres IV–X each subequal, longer than wide; antennomere XI as long as X.

Pronotum: Shallowly and densely punctate; surface shiny; slightly longer than wide, with short hind angles; lateral sides gradually narrow apically; disc simple; base sinuous.

Scutellum: Surface shiny; shallowly punctate, sub-triangular and distally rounded.

Elytra: Faintly indicated striae present; interstices slightly elevated, shallowly and densely punctate; surface shiny.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV bilobed and excavated; metathoracic tarsomere V short with basally toothed claws.

Venter: Shallowly punctate, surface shiny; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Gradually arcuate pronotum will distinguish *S. vitalisi* from *S. salvazai*. Bicolored dorsum will further separate *S. vitalisi* from *S. carissae*, *S. dubius*, *S. nigradorsus*, *S. pacholatko*i and *S. superbus*. Faintly indicated elytral striae will distinguish the species from *S. striatus*.

Distribution. A very rare eucnemid is a precinctive species in Laos.

Ecoregion(s). Northern Annamites rain forests.

Biology. Developmental stages remain unknown. A single adult was taken from a lowland semi-evergreen forest.

Serrifornax Fleutiaux, 1926

Diagnosis. Macraulacini, with apical margin of frontoclypeal region feebly trilobed and more or less than twice as wide as the distance between antennal sockets; well developed, often wide basally open lateral antennal grooves present; male prothoracic tarsomere I simple, with basal sex combs; metathoracic coxal plates medially 3.00–6.00 times wider than laterally; last visible ventrite either produced or rounded; basally toothed tarsal claws; lateral surfaces of mesothoracic and metathoracic tibiae with hairs and transverse rows of spine combs; male aedeagus dorsoventrally compressed, with laterally attached secondary lateral lobes; median lobe simple, moderately and narrowly bifurcate apically; lateral lobes simple, entire; flagellum simple.

Note. Identification of both species were based on the translated, interpreted diagnostic key from FLEUTIAUX (1947).

Key to the species of *Serrifornax*

- 1 Dorsum with sparse vestitures; basally open lateral antennal grooves with well defined medial ridge. *Serrifornax brevicollis* Fleutiaux, 1947
- Dorsum with dense vestitures; basally open lateral antennal grooves with medially undefined ridge. *Serrifornax tumidicollis* (Redtenbacher, 1867)

Serrifornax brevicollis Fleutiaux, 1947

(Fig. 137)

Material examined. One specimen was available for study: “LAOS: S-Udomxai prov., Pak Beng, 450m, N 19°53'37”, E 101°07'51”, 18–27.v.2001, Jiří Kolibáč leg.” (NHMB).

Redescription. Length, 7.50 mm. Width, 2.00 mm. Body subcylindrical, elongate; entirely medium reddish-brown, including antennae and legs; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 137).

Head: Deeply and closely punctate, subspherical; frons with circular fovea above frontoclypeal region; surface dullish; apical margin of frontoclypeal region rounded, about 2.50 times wider than base; mandibles stout, bidentate, densely punctate.

Antennae: Serrate, short, reaching about 1/3 the length of the body; antennomere III as long as IV; antennomeres IV longer than II; antennomeres IV–X, gradually shorter, longer than wide; antennomere XI as long as X.

Pronotum: Granulose; surface dull; wider than long, with moderate hind angles; basal 3/4 parallel-sided, apical 1/4 arcuate; disc simple, with very shallow, delicate groove; base sinuous, with pair of deep circular foveae at either side of scutellum.

Scutellum: Surface shiny; shallowly punctate, sub-triangular and distally rounded.

Elytra: Striae present; interstices elevated, shallowly punctate; surface shiny.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV bilobed and excavated; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Shallowly punctate, surface shiny; hypomeron with basally open, wide, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially more than 6.00 times wider than laterally.

Differential diagnosis. Presence of medially well defined basally opened lateral antennal grooves, along with sparse vestitures on dorsum will distinguish *S. brevicollis* from *S. tumidicollis*.

Distribution. A very rare eucnemid species previously found in Vietnam. The species was taken for the first time in Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. A single adult was taken from a dry evergreen forest.

***Serrifornax tumidicollis* (Redtenbacher, 1867)**

(Fig. 138)

Fornax tumidicollis Redtenbacher, 1867: 91

Material examined. Three specimens were available for study: 1, “LAOS, Umg. Vientiane, III.–VI.1963” / “Fornax, (Serrifornax), tumidicollis, Redt., A. Cobos det. 1,965” (genus, subgenus, species, author and year handwritten) (ZSM); 1, “Laos, 24–29.iv.2001, Khammouan prov., 18°07'N 104°29'E, Ban Khoun Ngeun, ~ 200 m, V. Kubán leg.” (NHMB); 1, “LAOS-NE, Houa Phan prov., 20°13'09–19°N 103°59'54”–104°00'03”E, 1480–1550 m, PHOU PANE Mts., 9–16.vi.2009, David Hauck leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (NHMB).

Redescription. Length, 11.00–17.00 mm. Width, 3.00–4.00 mm. Body subcylindrical, elongate; entirely dark brown, including antennae and legs; some specimens exhibits a metallic blue reflection on elytra; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 138).

Head: Deeply and closely punctate, often rugose, subspherical; frons often with delicate median groove extending down to frontoclypeal region; surface shiny; apical margin of frontoclypeal region rounded, about 2.50 times wider than base; mandibles stout, bidentate, densely punctate.

Antennae: Strongly serriform, reaching about 1/2 the length of the body in females, 3/4 the length of the body in males; antennomere III as long as IV; antennomeres IV longer than II; antennomeres IV–VI each subequal, longer than wide; antennomere VII–XI each slightly longer VI.

Pronotum: Shallowly punctate, widely spaced; surface shiny; lateral sides more granulose; slightly wider than long, with moderate hind angles; basal 1/2 parallel-sided, apical 1/2 arcuate; disc simple, with delicate groove extending from base to near middle; base sinuous, with pair of deep circular foveae.

Scutellum: Surface shiny; shallowly punctate, sub-trapezoid and distally rounded.

Elytra: Striae present; interstices elevated, shallowly punctate; surface shiny.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV bilobed and excavated; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Shallowly punctate, surface shiny; hypomeron with medially undefined, basally open, shallow, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially more than 6.00 times wider than laterally.

Differential diagnosis. Presence of medially vaguely defined basally opened lateral antennal grooves, along with dense vestitures on dorsum will distinguish *S. tumidicollis* from *S. brevicollis*.

Distribution. A rare, widespread eucnemid species has been found in Indonesia, Laos, Malaysia, Philippines, Thailand and Vietnam. In Laos, *S. tumidicollis* have been taken at Pak-Lay (currently Xayabury prov.) (FLEUTIAUX 1923) and most recently in several northern Laotian provinces.

Ecoregion(s). Luang Prabang montane rain forests, Northern Annamites rain forests, Northern Indochina subtropical forests, Northern Khorat Plateau moist deciduous forests.

Biology. Developmental stages remain unknown. Adults were taken from a lowland semi-evergreen forest, tropical montane deciduous forest and tropical montane evergreen forest.

Ceratus Bonvouloir, 1871

Diagnosis. Macraulacini, apical margin of frontoclypeal region evenly rounded and more than twice as wide as the distance between antennal sockets; well developed basally open lateral antennal grooves present; antennomeres II and III short, subequal, together shorter than IV; male prothoracic tarsomere I simple, with hidden curved basal sex combs; metathoracic coxal plates medially 3.00–6.00 times wider than laterally; last visible ventrite rounded; tarsal claws simple; lateral surfaces of mesothoracic and metathoracic tibiae with setae and transverse rows of spine combs.

Note. The only known published identification key for the group covers species known from the Philippines FLEUTIAUX (1926). Both species failed to key out from the diagnostic key in the publication. Nearly all *Ceratus* species are present in the Indonesia, Bornean Malaysia and Papua New Guinea, with a single species present in Seychelles. New species identification was made when each specimen failed to match with any interpreted published descriptions of other species from the region. These two species are the first to be recorded in mainland Asia.

Key to the species of *Ceratus*

- 1 Antennae strongly, assymmetrically serrate; pronotum parallel-sided.
 *Ceratus antennatus* Otto, 2015
- Antennae weakly serrate; pronotum laterally arcuate.
 *Ceratus phoupaniensis* sp.nov.

Ceratus antennatus Otto, 2015

(Fig. 139)

Material examined. One specimen was available for study.: “LAOS South, Attapu prov., Bolaven Plateau, 18–30.IV.1999, 15 km SE of Ban Houaykong, NONG LOM (lake) env., N 15°02' E 106°35', alt. 800 m, E. Jendek & O. Šauša leg.” (JMC).

Description. Length, 5.00–5.50 mm. Width, 1.50–1.75 mm. Body subcylindrical, moderately elongate, tapering towards the elytral apex; uniformly black; antennae dark brown, except antennomeres II and III infuscate reddish; legs dark reddish-brown; head, pronotum and elytra clothed with short, white recumbent setae (Fig. 139).

Head: Very closely punctate, subspherical; frons convex, with very delicate median carina; surface shiny; frontoclypeal region with interantennal carina at base; apical margin of frontoclypeal region feebly trilobed, more than 2.50 times wider than base; mandibles stout.

Antennae: Strongly, asymmetrically serrate; nearly as long as the length of the body; setose; antennomere II and III short, combined shorter than IV; antennomeres IV weakly serrate, slightly shorter than V; antennomere V serrate, slightly shorter than VI; antennomeres VI–X each strongly and asymmetrically serrate, subequal and longer than wide; antennomere XI elongate, slightly longer than X.

Pronotum: Very closely punctate, almost rugose; surface shiny; slightly longer than wide, with short, sharp hind angles; laterally parallel-sided, rounded anteriorly; disc simple, convex; base sinuate, with short, median groove above scutellum.

Scutellum: Shallowly punctate, shining, oblong, sub-triangular and distally rounded.

Elytra: Very shallowly striate; interstices flattened; surfaces very closely punctate.

Legs: First tarsomere shorter than the combined lengths of the remaining 4 on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomeres IV excavate-emarginate; metathoracic tarsomere V elongate with simple claws.

Venter: Closely punctate, with short, recumbent white setae; hypomeron with well-developed basally opened lateral antennal grooves, widest near middle; hypomeral pit present near anterior end of antennal groove; metathoracic episternum caudally widened; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Strongly, asymmetrically serrate antennae and parallel-sided pronotum will distinguish *C. antennatus* from *C. phoupaniensis*.

Distribution. A recently described, very rare eucnemid species was previously taken in Thailand (OTTO 2015). The species was found for the first time in Laos.

Ecoregion(s). Southern Annamites montane rain forests.

Biology. Developmental stages remain unknown. A single adult was taken from a lowland semi-evergreen forest.

***Ceratus phoupaniensis* sp.nov.**

(Fig. 140)

Type material. Male holotype: “LAOS-NE, Houa Phan prov., 20°12–13.5′N 103°59.5′–104°01′E, Ban Saluei → Phou Pane Mts., 1340–1870 m, 10.v.–16.vi.2009, M. Brancucci & local coll. leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” / “HOLOTYPE, *Ceratus, phoupaniensis*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Holotype is deposited in NHMB.

Paratype: 1, from the following locality: “LAOS-NE, Houa Phan prov., 20°11–13′N 103°59′–104°01′E, Ban Saluei → Phou Pane Mts., 9.–17.vi.2009, 1300–1900 m, Michael Geiser leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” / “PARATYPE, *Ceratus, phoupaniensis*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [yellow printed label]. Paratype is deposited in NHMB.

Description. Male holotype: Length, 5.00 mm. Width, 1.50 mm. Body subcylindrical, elongate and tapering towards the elytral apex; black; antennae black, except antennomere II reddish-brown; femur and tibiae black, except joints infusate reddish-brown; tarsi medium brown to black; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 140).

Head: Closely punctate, subspherical; frons convex; interantennal carina complete; surface dullish; apical margin of frontoclypeal region evenly rounded, at least 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres IV–X, reaching just beyond hind angles of pronotum; antennomeres II and III short, combined shorter than IV; antennomere IV longer than V; antennomeres V–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate to rugose; surface dullish; slightly longer than wide, with moderate hind angles; lateral sides sinuous, gradually narrowed cranially; disc convex; base sinuous, with a pair of divergent elongate fovea above scutellum.

Scutellum: Punctate, shiny, quadrate and distally rounded.

Elytra: Weakly striate; interstices slightly elevated; surfaces transversely rugose.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, lateral antennal grooves; metathoracic episternum caudally widened; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Variations. One male paratype was examined. The paratype is longer and wider than the holotype, measuring 6.00 mm long and 2.00 mm wide. Exoskeletal structures between the paratype and holotype are essentially similar.

Etymology. The specific epithet, *phoupaniensis* is named after the Phou Pane mountain range in Northeastern Laos in which the species have been collected.

Differential diagnosis. Weakly serrate antennae and arcuate laterally arcuate pronotum will distinguish *C. phoupaniensis* from *C. antennatus*.

Distribution. A very rare, endemic eucnemid species known from two nearby localities within the Houaphanh province in Northeastern Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Both adults were taken from a tropical montane deciduous forest.

***Fornax* Laporte, 1835**

(=*Filifornax* Fleutiaux, 1945: 188)

(=*Monilifornax* Fleutiaux, 1945: 189)

Diagnosis. Macraulacini, apical margin of frontoclypeal region evenly rounded and more than twice as wide as the distance between antennal sockets; well developed basally open lateral antennal grooves present; male prothoracic tarsomere I simple, with basal sex combs; metathoracic coxal plates medially more than 6.00 times wider than laterally; elytral epipleura basally grooved or evenly punctate; last visible ventrite either strongly produced, rounded or truncated; tarsal claws basally toothed; lateral surfaces of mesothoracic and metathoracic tibiae with setae and transverse rows of spine combs; male aedeagus dorsoventrally compressed, without secondary lateral lobes; median lob simple, with moderately and narrowly bifurcate apices; lateral lobes simple, entire, flagellum simple.

Note. Some of the identifications were made through interpreting translated keys from BONVOULOIR (1872) and FLEUTIAUX (1926, 1947). These identifications were verified through comparing some specimens against descriptions provided by these authors. Remaining identifications were made possible after breaking down a list of all known species from the region and grouping them. These groupings were based on key diagnostic features (*i.e.* presence versus absence of interantennal carina) found in each species descriptions from a number of references. These information were compared against any unidentified specimens. New species identification was made, when some specimens failed to match with any interpreted published descriptions of the species known from the region. Authoratively identified specimens, including some types were loaned from the MNHN to verify identity of some species.

Key to the species of *Fornax*

- | | | |
|---|--|---|
| 1 | Tarsal claws basally toothed. | 2 |
| – | Tarsal claws simple. | 4 |
| 2 | Antennomere III longer than IV. | 3 |
| – | Antennomere III as long as IV. | <i>Fornax collega</i> Bonvouloir, 1872 |
| 3 | Last abdominal tergite strongly produced. | |
|  | ..... | <i>Fornax subacuminatus</i> Bonvouloir, 1872 |
| – | Last abdominal tergite rounded. | <i>Fornax vestitus</i> Fleutiaux, 1896 |

- 4 Interantennal carina complete. 5
- Interantennal carina interrupted in middle. 12
- 5 Form elliptical. 6
- Form subcylindrical. 8
- 6 Elytra without indications of striae. 7
- Elytra with shallowly indicated to near indistinct striae.
..... *Fornax concolor* (Blanchard, 1853)
- 7 Elongate setae more apparent on base of pronotum and elytra.
..... *Fornax astriatus* sp.nov.
- Elongate setae not apparent on base of pronotum and elytra.
..... *Fornax nicotianae* (Fleutiaux, 1895)
- 8 Frons with delicate median carina. 9
- Frons without delicate median carina. 11
- 9 Pronotum gradually narrowing craniad. 10
- Pronotum subparallel-sided. *Fornax carinicolis* sp.nov.
- 10 Pronotum much longer than wide; surface shallowly punctate.
..... *Fornax incisus* Bonvouloir, 1872
- Pronotum slightly longer than wide; surface moderately punctate.
..... *Fornax oudomxaiensis* sp.nov.
- 11 Pronotum subparallel-sided, arcuate.
..... *Fornax morosus* Bonvouloir, 1872
- Pronotum strongly narrowing craniad.
..... *Fornax phoupaniensis* sp.nov.
- 12 Antennomere V as long as VI. 13
- Antennomere V shorter than VI. 14
- 13 Pronotum longer than wide; dorsum dark brown-black.
..... *Fornax attenuatus* Fleutiaux, 1899
- Pronotum as long as wide; dorsum black.
..... *Fornax brancuccii* sp.nov.
- 14 Form subcylindrical. 15
- Form elliptical. *Fornax rufoantennatus* sp.nov.
- 15 Lateral sides of pronotum basally parallel-sided; antennomere III
shorter than combined lengths of IV and V.
..... *Fornax differens* Fleutiaux, 1918
- Lateral sides of pronotum arcuate; antennomere III as long as
combined lengths of IV and V.
..... *Fornax rotundicollis* Fleutiaux, 1929

***Fornax astriatus* sp.nov.**

(Fig. 141)

Type material. Male holotype: “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12’ E104°01’, 1300–1900 m, 11.iv.–15.v.2012” / “BMNH{E}, 2012-14, C. Holzschuh” / “HOLOTYPE, *Fornax, astriatus*,

Otto, det. R.L. Otto, 2014" (♂ handwritten behind species name on label) [red printed label]. Holotype is deposited in the BMNH.

Paratype: 1, from the following locality: "1, "LAOS-NE, Houa Phan prov., 20°11–13'N 103°59'–104°01'E, Ban Saluei → Phou Pane Mts., 9.–17.vi.2009, 1300–1900 m, Michael Geiser leg." / "NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán" (NHMB)".

Specimen labeled: "PARATYPE, *Fornax, astriatus*, Otto, det. R.L. Otto, 2014" (♂ handwritten behind species name on each label) [yellow printed label]. Paratype is deposited in NHMB.

Description. Male holotype: Length, 5.25 mm. Width, 1.75 mm. Body elliptical, elongate and tapering towards the elytral apex; black; antennae dark brown-black, except antennomeres I and II dark infuscate reddish; legs dark reddish-brown; tarsi dark reddish-brown; head, pronotum and elytra clothed with short, yellowish recumbent setae, more apparent on base of pronotum and elytra as well as lateral sides of elytra (Fig. 141).

Head: Closely punctate, subspherical; frons convex; interantennal carina well developed; frontoclypeal region without median carina; surface shiny; apical margin of frontoclypeal region evenly rounded, more than 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to elytral humeri; antennomere III longer than IV; antennomere IV as long as II; antennomere V longer than IV; antennomeres V–XI each subequal, longer than wide.

Pronotum: Closely punctate; laterally rugose; surface shiny; as long as wide, with moderate hind angles; lateral sides gradually narrowed cranially; disc convex; base sinuous.

Scutellum: Punctate, elongate, sub-triangular and distally rounded.

Elytra: Striae absent; interstices flattened, with dense shallow punctations; humeri slightly rugose.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellowish recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Variation. One male paratype was examined. The specimen measured 5.00 long, shorter than the holotype. There are no structural variations observed between the paratype and the holotype.

Etymology. The specific epithet is derived from a lack of striae on the elytra.

Differential diagnosis. Elongate setae on the base of the pronotum and elytra will distinguish *F. astriatus* from *F. concolor* and *F. nicotianae*.

Distribution. A very rare, endemic eucnemid species known from a single locality within the Houaphanh province in Northeastern Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Both adults were taken from a tropical montane deciduous forest.

***Fornax attenuatus* Fleutiaux, 1899** (Fig. 142)

Material examined. Four specimens were available for study: 1, "LAOS, Louangnamtha pr., NAMTHA → Muang Sing, 21°09'N 101°19'E, 5–31.v.1997, 900–1200 m, Vít Kubáň leg." (JMC); 1, "LAOS, Bolikhamxai pr., N18°16', E103°11', 70 km NEE Vientiane, 2–3.vi.1997, 150 m, V. Kubáň leg." (NHMB); 1, "LAOS, Phongsaly prov., PHONGSALY env., 6.–17.v.2004, ~1150 m, 21°41'N 102°06'E, P. Pacholátko leg." (NHMB); 1, "NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12'N, 104°01'E, leg. C. Holzschuh" / "BMNH{E}, 2012–14, C. Holzschuh" (BMNH).

Redescription. Length, 8.00–8.50 mm. Width, 2.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; dark brown-black; antennae, legs and tibiae dark brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 142).

Head: Closely and shallowly punctate, subspherical; frons convex; interantennal carina interrupted in middle; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching just beyond hind angles of pronotum; antennomeres III as long as the combined lengths of IV and V; antennomere IV as long as II; antennomeres V–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface shiny; slightly longer than wide, with moderate hind angles; lateral sides arcuate, gradually narrowed craniad; disc convex; base sinuous, with a pair of circular fovea above scutellum.

Scutellum: Punctate, oblong, quadrate and distally rounded.

Elytra: Without striae, except along suture; interstices flattened, with sparse and shallow punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Antennomere V as long as VI will distinguish *F. attenuatus* from *F. differens*, *F. incisus* and *F. rotundicollis*. Simple tarsal claws will further distinguish *F. attenuatus* from *F. subacuminatus* and *F. vestitus*.

Distribution. A very rare eucnemid species previously found in Myanmar. The species was taken for the first time in Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest, lowland semi-evergreen forest and tropical montane deciduous forest.

***Fornax brancuccii* sp.nov.**

(Fig. 143)

Type material. Male holotype: “LAO-NE, Hua Phan prov., 20°12' N 104°01'E, PHU PHAN Mt., ~1750 m, 17.v.–3.vi.2007, Vit. Kubán leg” / “NHMB Basel, expedition to Laos, 2007” / “HOLOTYPE, *Fornax brancuccii*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Holotype is deposited in NHMB.

Description. Male holotype: Length, 4.50 mm. Width, 1.25 mm. Body subcylindrical, elongate and tapering towards the elytral apex; black, except base of elytra reddish; antennae dark brown, except antennomeres II and IX–XI dark reddish; legs infusate reddish to black; tarsi infusate reddish; head, pronotum and elytra clothed with short, yellowish recumbent setae, more apparent on base of pronotum and elytra as well as lateral sides and sutural areas of elytra (Fig. 143).

Head: Very closely punctate, subspherical; frons convex, with median tubercle above clypeus; interantennal carina absent; frontoclypeal region without median carina; surface dull; apical margin of frontoclypeal region evenly rounded, more than 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to elytral humeri; antennomere III longer than IV; antennomere IV as long as II; antennomere V longer than IV; antennomeres V–XI each subequal, longer than wide.

Pronotum: Closely punctate; laterally rugose; surface dull; as long as wide, with moderate hind angles; lateral sides gradually narrowed cranially; disc convex; base sinuous, with a pair of circular foveae above scutellum.

Scutellum: Punctate, elongate, quadrate and distally rounded.

Elytra: Indistinctly striate; interstices flattened, with dense shallow punctations; humeri transversely rugose.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellowish recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum apically wide; elytral epipleurae basally grooved; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Etymology. The specific epithet, *brancuccii* is named in honor of M. Brancucci, who was instrumental in conducting extensive collecting expeditions in Laos.

Differential diagnosis. Simple tarsal claws, along with the shape of the pronotum and distinct pattern of setae on the pronotum and elytra will distinguish *F. brancuccii* from all *Fornax* species in Laos.

Distribution. A very rare, endemic eucnemid species known from a holotype collected in Houaphanh province of Northeastern Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. A single adult was taken from a tropical montane deciduous forest.

***Fornax carinicornis* sp.nov.**

(Fig. 144)

Type material. Female holotype: "LAOS, 1–18.v.2001, Bolikhamxai prov., 18°21'N 105°08'E, Ban Nape (8 km NE), ~ 600 m, V. Kubán leg" / "HOLOTYPE, *Fornax, carinicornis*, Otto, det. R.L. Otto, 2014" (♀ handwritten behind species name on label) [red printed label]. Holotype is deposited in NHMB.

Description. Female holotype: Length, 6.00 mm. Width, 2.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomeres I and II reddish; legs dark brown; tarsi medium brown; head, pronotum and elytra clothed with short, white recumbent setae (Fig. 144).

Head: Very closely punctate, subspherical; frons convex, with circular shallow fovea above frontoclypeal region and median carina; interantennal carina well developed, frontoclypeal region with short median carina; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface somewhat shiny; as long as wide, with moderate, divergent hind angles; basal 3/4 parallel-sided, apical 1/4 arcuate; disc convex, with short median carina near base; base with pair of divergent foveae, sinuous.

Scutellum: Punctate, wider, sub-trapezoid and distally rounded.

Elytra: Striae 1–4 present, remaining lateral areas weakly striate to absent; interstices elevated; surfaces transversely rugose to densely punctate.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Etymology. The specific epithet, *carinicornis* is derived from a short, delicate carina present on the vertex which extends down near center of the frons.

Differential diagnosis. Subcylindrical habitus along with the subparallel pronotum, median carina on vertex and middle of frons and presence of interantennal carina will distinguish *F. carinicornis* from other *Fornax* species present in Laos.

Distribution. A very rare, endemic eucnemid species known from a holotype collected in Borikhamxay province of eastern Laos.

Ecoregion(s). Northern Annamites rain forests.

Biology. Developmental stages remain unknown. A single adult was taken from a lowland semi-evergreen forest.

***Fornax collega* Bonvouloir, 1872**

(Fig. 145)

Material examined. Five specimens were available for study: 1, "N LAOS, 13–24.V.1997, 15 km NW Luang Namtha, N 21°07.5' E 101°21.0', M. Strba & R. Hergovits leg." (JMC); 1, "LAOS north, 13–24.V.1997, 15 km NW Louang Namtha, N 21°07.6' E 101°21.0', alt. 750 ±100 m, M. Strba & R. Hergovits leg." (JMC); 1, "LAOS, Louangnamtha pr., NAMTHA → Muang Sing, 21°09'N 101°19'E, 5–31.v.1997, 900–1200 m, Vít Kubáň leg." (JMC); 1, "Laos, Louangnamtha pr., 21° 09'N 101° 19'E, Namtha → Muang Sing, 5–31.v.1997, 900–1200 m, Vít Kubáň leg." (NHMB); 1, "LAOS, 24–29.iv.2001, Khammouan prov., 18°07'N 104°29'E, Ban Khoun Ngeun, ~ 200 m, Vít Kubáň leg." (NHMB).

Redescription. Length, 4.50–10.75 mm. Width, 1.25–3.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; dark brown-black, except apical margin of pronotum reddish-brown; antennae, legs and tibiae reddish-brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 145).

Head: Very closely punctate to rugose, subspherical; frons convex; interantennal carina interrupted in middle; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, at least 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching just beyond hind angles of pronotum; antennomeres III–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely and shallowly punctate; surface somewhat shiny to dullish; slightly longer than wide, with moderate hind angles; lateral sides arcuate, gradually narrowed cranially; disc convex; base sinuous.

Scutellum: Punctate, oblong, quadrate and distally truncated.

Elytra: Striate; interstices slightly elevated, with close and shallow punctations.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Robust form, along with dull luster and the reddish-brown apical margin of the pronotum will distinguish *F. collega* from any known *Fornax* species in Laos.

Distribution. A rare eucnemid species previously found in Indonesia and Philippines. The species was taken for the first time in Laos.

Ecoregion(s). Northern Annamites rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. All adults were taken from a dry evergreen forest and tropical montane evergreen forest.

***Fornax concolor* (Blanchard, 1853)**

(Fig. 146)

Eucnemis concolor Blanchard, 1853: 92

(= *Fornax ater* Bonvouloir, 1871: 312–313; plate 13, Fig. 4)

Material examined. Seventeen specimens were available for study: 4, “LAOS, 21°09'N 101°19'E, Louangnamtha pr., Namtha → Muang Sing, 5–31.v.1997, 900–1200 m, V. Kubáň leg.” / “*Fornax concolor*, Blanchard, 1853, J. Muona det. 2014” (JMC); 1, “LAOS Bolikhamsai province, BAN NAPE – Kaew Nua Pas, 18.04.01–05–1998 600 masl, 18 22.3' N 105 9.1' E, E. Jendek & O. Sausa legit” (JMC); 4, “LAOS South, Attapu prov., Bolaven Plateau, 18–30.IV.1999, 15 km SE of Ban Houaykong, NONG LOM (lake) env., N 15°02' E 106°35', alt. 800 m, E. Jendek & O. Šauša leg.” (JMC); 2, “LAOS, 1.–9.v.1999, Louangprabang pr., 20°33–4'N 102°14'E, BanSongCha (5 km W), 1200 m, V. Kubáň leg.” / “*Fornax concolor*, Blanchard, 1853, J. Muona det. 2014” (JMC); 1, “LAOS, 24–29.iv.2001, Khammouan prov., 18°07'N 104°29'E, Ban Khoun Ngeun, ~200 m, V. Kubáň leg.” / “*Fornax concolor*, Blanchard, 1853, J. Muona det. 2014” (JMC); 2, “LAO-NE, Hua Phan prov., 20°12' N 104°01'E, PHU PHAN Mt., ~1750 m, 17.v.–3.vi.2007, Vit. Kubáň leg” / “NHMB Basel, expedition to Laos, 2007” (NHMB); 1, “LAO-NE, Hua Phan prov., ~20°12' N 104°01'E, PHU PHAN Mt., 1500–1900 m, 17.v.–3.vi.2007, M. Brancucci leg” / “NHMB Basel, expedition to Laos, 2007” (GERP); 2, “LAOS-NE, Xieng Khouang prov., 19°37–8'N 103°20–1'E, 30 km NE Phonsavan: Ban Na Lam → Phou Sane Mt., 1300–1700 m, 10.–30.v.2009, M. Geiser leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB).

Redescription. Length, 4.00–7.00 mm. Width, 1.00–2.00 mm. Body elliptical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomeres I, II and XI apically reddish; legs and tibiae dark reddish-brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 146).

Head: Very closely punctate, subspherical; frons convex; interantennal carina complete; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III slightly shorter than the combined lengths of IV and V; antennomere IV as long as II; antennomere V slightly shorter than VI; VI–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely and shallowly punctate, laterally rugose; surface shiny; as long as wide, with moderate hind angles; basal 3/4 parallel-sided, apical 1/4 arcuate; disc convex; base sinuous.

Scutellum: Slightly rugose, oblong, quadrate and distally rounded.

Elytra: Faintly to indistinctly striae; interstices flattened, with sparse and shallow punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Shorter and uniform setae on the pronotum and elytra will distinguish *F. concolor* from *F. astriatus*. Very shallowly indicated to indistinctly indicate elytral striae will further distinguish *F. concolor* from *F. nicotianae*.

Distribution. An uncommon, widespread eucnemid species found in India, Indonesia, Papua New Guinea and Vietnam. The species was taken for the first time in Laos.

Ecoregion(s). Luang Prabang montane rain forests, Northern Annamites rain forests, Northern Indochina subtropical forests, Southern Annamites montane rain forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest, lowland semi-evergreen forest, tropical montane deciduous forest and tropical montane evergreen forest.

***Fornax differens* Fleutiaux, 1918**

(Fig. 147)

Material examined. Eight specimens were available for study: 2, “LAOS centr., Bolikhamsai prov., BAN NAPE-Kaew Nua Pass, 18.4–1.5.1998, alt. 600 ±100 m, N 18°22.3′ E 105°09.1′ (GPS), M. Strba & R. Hergovits leg.” (JMC); 1, “LAOS c., Bolikhamsai prov., BAN NAPE-Kaew Nua Pass, 18.4–1.5.1998, alt. 600 m, N18°22.3′ E105°09.1′ GPS, E. Jendek & O. Šauša lgt.” (GERP); 1, “LAOS Champasak province, Paksé-Paksong, Ban Itou env., 10–18.IV.1999 800 masl, N 15 10.4′ E 106 0.5.8′ (GPS), E. Jendek & O. Sausa leg.” (JMC); 1, “LAOS South, Attapu prov., Bolaven Plateau, 18–30.IV.1999, 15 km SE of Ban Houaykong, NONG LOM (lake) env., N 15°02′ E 106°35′, alt. 800 m, E. Jendek & O. Šauša leg.” (JMC); 1, “LAOS, Phongsaly prov., PHONGSALY env., 6.–17.v.2004, ~1500 m, 21°41′N 102°06′E, P. Pacholátko leg.” (NHMB); 1, “LAO, Phongsaly prov., 21°41′N 102°06′E, PHONGSALY env., 6.–17.v.2004, ~ 1500 m, Vít Kubáň leg.” (NHMB); 1, “LAOS-NE, Xieng Khouang prov., 19°37–8′N 103°20–1′E, 30 km NE Phonsavan: Ban Na Lam → Phou Sane Mt., 1300–1700 m, 10.–30.v.2009, M. Geiser leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB).

Redescription. Length, 6.00–7.00 mm. Width, 1.50–2.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly reddish-brown; antennae, legs and tibiae reddish-brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 147).

Head: Closely and shallowly punctate, subspherical; frons convex; interantennal carina interrupted in middle; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III slightly shorter than the combined lengths of IV and V; antennomere IV as long as II, slightly shorter than V; antennomere V slightly shorter than VI; VI–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely and shallowly punctate, laterally rugose; surface shiny; slightly longer than wide, with moderate hind angles; basal 3/4 parallel-sided, apical 1/4 arcuate; disc convex; base sinuous.

Scutellum: Slightly rugose, oblong, sub-triangular and distally rounded.

Elytra: Without striae; interstices flattened, with sparse and shallow punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V short with small, simple claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Simple tarsal claws will distinguish *F. differens* from *F. subacuminatus* and *F. vestitus*. Basally parallel-sided pronotum will further distinguish *F. differens* from *F. incisus* and *F. rotundicollis*. Antennomere V shorter than VI will also distinguish *F. differens* from *F. attenuatus*.

Distribution. A rare eucnemid species have been taken in India, Laos, Thailand and Vietnam. In Laos, *F. differens* were taken at an unknown locality and most recently in many locations throughout the country.

Ecoregion(s). Central Indochina dry forests, Luang Prabang montane rain forests, Northern Annamites rain forests, Southern Annamites montane rain forests.

Biology. Developmental stages remain unknown. Adults were taken from a lowland semi-evergreen forest and tropical montane deciduous forest.

***Fornax incisus* Bonvouloir, 1872**

(Fig. 148)

Material examined. Two specimens were available for study: 1, "LAOS Bolikhamsai province, BAN NAPE – Kaew Nua Pas, 18.04.01–05-1998 600 masl, 18 22.3' N 105 9.1' E, E. Jendek & O. Sausa legit" (JMC); 1, "LAOS, Houa Phan prov., Ban Meuang Van near Muang Et., 20°49–50'N 103°59'–104°01–02'E, 2.–5.vi.2009, 300–800 m, Michael Geiser leg." / "NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň" (NHMB).

Redescription. Length, 6.50–10.00 mm. Width, 1.75–2.50 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly brownish-black; antennae, legs and tibiae dark reddish-brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 148).

Head: Closely punctate, subspherical; frons convex, with delicate median carina; interantennal carina complete; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III as long as the combined lengths of IV and V; antennomere IV as long as II, shorter than V; antennomere V slightly shorter than VI; VI–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely and shallowly punctate, laterally rugose; surface shiny; slightly longer than wide, with moderate hind angles; lateral sides arcuate, gradually narrowing cranially; disc convex; base sinuous.

Scutellum: Punctate, slightly oblong, sub-triangular and distally rounded.

Elytra: Striate near elytral suture; interstices flattened; with dense, shallow punctations.

Legs: First tarsomere nearly as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V short with simple claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Complete interantennal carina along with the presence of a delicate median carina on the frons will distinguish *F. incisus* from *F. attenuatus*, *F. differens*, *F. rotundicollis*, *F. subacuminatus* and *F. vestitus* in Laos.

Distribution. A very rare eucnemid species previously collected in Indonesia, Singapore and Thailand. The species was taken for the first time in Laos.

Ecoregion(s). Northern Annamites rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a lowland semi-evergreen forest and tropical montane deciduous forest.

***Fornax morosus* Bonvouloir, 1872**

(Fig. 149)

Material examined. Two specimens were available for study: 1, "LAOS, 1.–9.v.1999, Louangprabang pr., 20°33–4'N 102°14'E, BanSongCha (5 km W), 1200 m, V. Kubán leg." / "Fornax morosus, Bonvouloir, 1872, J. Muona det. 2014" (JMC); 1, "LAOS, 1.–16.v.1999, Louangprabang pr., 20°33–4'N 102°14'E, BanSongCha (5 km W), 1200 m, V. Kubán leg." / "Fornax morosus, Bonvouloir, 1872, J. Muona det. 2014" (JMC).

Redescription. Length, 4.50–6.00 mm. Width, 1.25–1.75 mm. Body subcylindrical, elongate and tapering towards the elytral apex; black; antennae, legs and tibiae reddish-brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 149).

Head: Very closely punctate, subspherical; frons convex, without fovea or carina; interantennal carina complete; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching up to hind angles of pronotum; antennomere III longer than IV; antennomere IV as long as II, shorter than V; antennomeres V–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate; surface shiny; slightly longer than wide, with moderate hind angles; basal 2/3 subparallel-sided, apical 1/3 arcuate; disc convex, with very shallow median fovea at basal 1/4; base sinuous.

Scutellum: Punctate, short, triangular and distally rounded.

Elytra: Very weakly to indistinctly striate; interstices flattened; surfaces closely punctate.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Presence of interantennal carina, simple tarsal claws, non-carinate frons along with the shape of the pronotum will distinguish *F. morosus* from any known *Fornax* species in Laos.

Distribution. A very rare, widespread eucnemid species previously found in Malaysia, Papua New Guinea and Philippines. The species was taken for the first time in Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Both adults were taken from a dry evergreen forest.

***Fornax nicotianae* (Fleutiaux, 1895)**

(Fig. 150)

Dromaeolus nicotianae Fleutiaux, 1895: 162–163(= *Fornax ater* var. *Bonvouloir*, 1871: 313; plate 13, Fig. 5)

Material examined. Twenty-eight specimens were available for study: 1, “LAOS north, 13–24.V.1997, 15 km NW Louang Namtha, N21°07.5′, E101°21.0′, alt. 750 ±100 m, E. Jendek & O. Šauša leg.” (GERP); 2, “LAOS north, 24–30.V.1997, 20 km NW Louang Namtha, N21°09.2′, E101°18.7′, alt. 900 ±100 m, E. Jendek & O. Šauša leg.” (GERP); 1, “LAOS c., Bolikhamsai prov., BAN NAPE-Kaew Nua Pass, 18.4–1.5.1998, alt. 600 m, N18°22.3′ E105°09.1′ GPS, E. Jendek & O. Šauša lgt.” (GERP); 1, “LAOS centr., Khammouan prov., NAKAI env., 17°43′N, 105°09′E, 22.V.–8.VI.2001, alt. 500–600 m, E. Jendek & O. Šauša leg.” (GERP); 1, “LAOS, 24–29.iv.2001, Khammouan prov., 18°07′N 104°29′E, Ban Khoun Ngeun, ~200 m, Vít Kubáň leg.” (NHMB); 15, “LAOS, 1–18.v.2001, Bolikhamxai prov., 18°21′ N 105°08′E, Ban Nape (8 km NE); ~600 m, V. Kubáň leg.” (NHMB); 1, “Collection naturhistorisches Museum Basel” / “LAO, Phongsaly prov., 21°41–2′ N 102°06–8′E, 28.v.–20.vi.2003, PHONGSALY env., ~1500 m, Vít Kubáň leg.” (NHMB); 3, “LAOS C., Bolikhamsai pr., BAN NAPE env., 7–16.V.2004, alt 400 ±100 m, 18°20′N, 104°08′E, E. Jendek & O. Šauša leg.” (GERP); 2, “LAOS C., Khammouan pr., 20–29.V.2004, alt. 250 m, BAN KHOUN NGEUN env., 18°07′N, 104°29′E, E. Jendek & O. Šauša leg.” (GERP); 1, “LAO-NE, Hua Phan prov., 20°12′ N 104°01′E, PHU PHAN Mt., ~1750 m, 17.v.–3.vi.2007, Vít. Kubáň leg” / “NHMB Basel, expedition to Laos, 2007” (NHMB).

Redescription. Length, 4.50–6.00 mm. Width, 1.50–2.00 mm. Body elliptical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomeres I, II reddish; legs and tibiae dark reddish-brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 150).

Head: Very closely punctate, subspherical; frons convex; interantennal carina complete; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III slightly shorter than the combined lengths of IV and V; antennomere IV as long as II; antennomere V slightly shorter than VI; VI–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely and shallowly punctate, laterally rugose; surface shiny; slightly longer than wide, with moderate hind angles; lateral sides gradually narrowing craniad; disc convex; base sinuous.

Scutellum: Slightly rugose, oblong, subtriangular and distally rounded.

Elytra: Without striae; interstices flattened, with sparse and shallow punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Shorter and uniform setae on the pronotum and elytra will distinguish *F. nicotianae* from *F. astriatus*. Absence of elytral striae will further distinguish *F. nicotianae* from *F. concolor*.

Distribution. An uncommon, widespread eucnemid species has been found in Indonesia, Malaysia, Papua New Guinea and Philippines. The species was taken for the first time in Laos.

Ecoregion(s). Luang Prabang montane rain forests, Northern Annamites rain forests, Northern Indochina subtropical forests, Northern Khorat Plateau moist deciduous forests.

Biology. Developmental stages remain unknown. Adults were taken from a lowland semi-evergreen forest, tropical montane deciduous forest and tropical montane evergreen forest.

***Fornax oudomxaiensis* sp.nov.**

(Fig. 151)

Type material. Male holotype: “LAOS-N (Oudomxai), 1–9.v.2002, ~1100m, 20°45′ N 102°09′E, OUDOM XAI (17 km NEE), Vit. Kubáň leg” / “*Fornax morosus*, Bonvouloir, 1872, J. Muona det. 2014” / “HOLOTYPE, *Fornax, oudomxaiensis*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Holotype is deposited in JMC.

Description. Male holotype: Length, 5.50 mm. Width, 1.50 mm. Body subcylindrical, elongate and tapering towards the elytral apex; black; antennae, legs and tibiae reddish-brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 151).

Head: Very closely punctate, subspherical; frons convex, with delicate, short median carina; interantennal carina complete; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Filiform from antennomeres III–X, reaching up to hind angles of pronotum; antennomere III longer than IV; antennomere IV as long as II, slightly shorter than V; antennomeres V–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely and moderately punctate; surface shiny; slightly longer than wide, with moderate hind angles; lateral sides arcuate; disc convex; base sinuous.

Scutellum: Punctate, short, triangular and distally rounded.

Elytra: Very weakly striate; interstices flattened; surfaces closely punctate.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Etymology. The specific epithet, *oudomxaiensis* is named after the Oudomxay province in Northern Laos in which the species have been collected.

Differential diagnosis. Presence of a delicate, short, median carina on the frons will distinguish *F. oudomxaiensis* from *F. morosus*.

Distribution. A very rare, endemic eucnemid species have been taken from a holotype collected in northern Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. A single adult was taken from a dry evergreen forest.

***Fornax phoupaniensis* sp.nov.**

(Fig. 152)

Type material. Male holotype: “LAO-NE, Hua Phan prov., 20°12' N 104°01'E, PHU PHAN Mt., ~1750 m, 17.v.–3.vi.2007, Vit. Kubán leg” / “NHMB Basel, expedition to Laos, 2007” / “HOLOTYPE, *Fornax phoupaniensis*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Holotype is deposited in NHMB.

Description. Male holotype: Length, 5.00 mm. Width, 1.25 mm. Body elongate and tapering towards the elytral apex; uniformly black; antennae infusate dark reddish-brown; legs and tibiae infusate dark reddish-brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 152).

Head: Very closely punctate, subspherical; frons convex; interantennal carina complete; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching just beyond the hind angles of pronotum; antennomeres III shorter than the combined lengths of IV and V; antennomere IV shorter than V, as long as II; V–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Sparsely and shallowly punctate, laterally rugose; surface shiny; as long as wide, with moderate hind angles; lateral sides narrowed cranially; disc convex; base sinuous.

Scutellum: Punctate, oblong, sub-triangular and distally rounded.

Elytra: With indications of striae at humeri; interstices flattened, with sparse and shallow punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Etymology. The specific epithet, *phoupaniensis* is named after the Phou Pane Mountain in Northeastern Laos where the species was collected.

Differential diagnosis. Complete interantennal carina, along with the form of the pronotum will distinguish *F. phoupaniensis* from all known *Fornax* species in Laos.

Distribution. A very rare, endemic eucnemid species have been taken from from a holotype collected in northeastern Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. A single adult was taken from a tropical montane deciduous forest.

***Fornax rotundicollis* Fleutiaux, 1929**

(Fig. 153)

Material examined. Eight specimens were available for study: 1, “LAOS, 10. –16.v.1999, Louangprabang pr., 20°33–4'N 102°14'E, BanSongCha (5 km W), 1200 m, Vit Kubán leg.” (JMC); 2, “LAO-NE, Hua Phan prov., ~20°12' N 104°01'E, PHU PHAN Mt., 1500–1900 m, 17.v.–3.vi.2007, M. Brancucci leg” / “NHMB Basel,

expedition to Laos, 2007" (NHMB); 1, "LAOS-NE, Houa Phan prov., Ban Saluei → Phou Pane Mts., 20°12'–13.5'N 103°59.5'–104°01'E, 1340–1870 m, 15.iv.–15.v.2008, Laos collectors leg." (NHMB); 1, "LAOS-NE, Houa Phan prov., 20°12'–13.5'N 103°59.5'–104°01'E, Ban Saluei → Phou Pane Mts., 1340–1870 m, 10.v.–16.vi.2009, M. Brancucci & local coll. leg." / "NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán" (NHMB); 2, "NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12' E104°01', 1300–1900 m, 11.iv.–15.v.2012" / "BMNH{E}, 2012–14, C. Holzschuh" (BMNH); 1, "NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12'N, 104°01'E, leg. C. Holzschuh" / "BMNH{E}, 2012–14, C. Holzschuh" (BMNH).

Redescription. Length, 6.00–7.25 mm. Width, 1.25–1.75 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly reddish-brown; antennae, legs and tibiae reddish-brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 153).

Head: Very closely punctate, almost rugose, subspherical; frons convex, with circular fovea above clypeus; interantennal carina interrupted in middle; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III subequal to combined lengths of IV and V; antennomere IV as long as II; antennomere V slightly shorter than VI; VI–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Sparsely and shallowly punctate, laterally rugose; surface shiny; longer than wide, with moderate hind angles; lateral sides arcuate; disc convex; base sinuous.

Scutellum: Slightly rugose, oblong, quadrate and distally rounded.

Elytra: Without striae; interstices flattened, with sparse and shallow punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Simple tarsal claws will distinguish *F. rotundicollis* from *F. subacuminatus* and *F. vestitus*. Antennomere V shorter than VI will further distinguish *F. rotundicollis* from *F. attenuatus* and *F. incisus*. Laterally arcuate pronotum will also distinguish *F. rotundicollis* from *F. differens*.

Distribution. A rare eucnemid species previously found in Taiwan and Vietnam. The species was taken for the first time in Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest and tropical montane deciduous forest.

***Fornax rufoantennatus* sp.nov.**

(Fig. 154)

Type material. Male holotype: "LAOS-CE, 1–18.v.2001, Boli Kham Xai prov., 18° 21'N 105° 08'E, BAN NAPE (8 km NE), ~ 600 m, V. Kubán leg." / "HOLOTYPE, *Fornax, rufoantennatus*, Otto, det. R.L. Otto, 2014" (♂ handwritten behind species name on label) [red printed label]. Holotype is deposited in NHMB.

Paratypes: 5, from the following localities: INDONESIA: 1, "Siberut isl., Mentawai, Malamean Mt., 13–17.I.2004, S. Jakl leg." (GERP); LAOS: 1, "LAOS South, Attapu prov., Bolaven Plateau, 18–30.IV.1999, 15 km SE of Ban Houaykong, NONG LOM (lake) env., N 15°02' E 106°35', alt. 800 m, E. Jendek & O. Šauša leg." (JMC); 1, "LAO-NE, Hua Phan prov., ~20°12' N 104°01'E, PHU PHAN Mt., 1500–1900 m, 17.v.–3.vi.2007, Vit. Kubáň leg." / "NHMB Basel, expedition to Laos, 2007" (NHMB); 1, "LAOS-NE, Houa Phan prov., 20°13'09–19°N 103°59'54"–104°00'03"E, 1480–1550 m, PHOU PANE Mt., 9–16.vi.2009, David Hauck leg." / "NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň" (NHMB); 1, "LAOS-NE, Houa Phan prov., 20°11–13'N 103°59'–104°01'E, Ban Saluei → Phou Pane Mts., 9–17.vi.2009, 1300–1900 m, Michael Geiser leg." / "NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň" (NHMB).

Each specimen labeled: "PARATYPE, *Fornax, rufoantennatus*, Otto, det. R.L. Otto, 2014" (♂ handwritten behind species name on each label) [yellow printed label]. Paratypes are deposited in GERP, JMC and NHMB.

Description. Male holotype: Length, 5.00 mm. Width, 1.25 mm. Body elliptical, elongate and tapering towards the elytral apex; dorsum black, venter dark infusate reddish; antennae, legs and tibiae reddish-brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 154).

Head: Closely and shallowly punctate, subspherical; frons convex; interantennal carina interrupted in middle; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching just beyond hind angles of pronotum; antennomeres III nearly as long as the combined lengths of IV and V; antennomere IV short, as long as II; antennomere V slightly shorter than VI; VI–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely and shallowly punctate, laterally rugose; surface shiny; as long as wide, with moderate hind angles; lateral sides arcuate, gradually narrowed cranially; disc convex; base sinuous.

Scutellum: Sparsely punctate, oblong, sub-triangular and distally rounded.

Elytra: Weakly striate; interstices flattened, with sparse and shallow punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V short with small, simple claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum caudally widen; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Variations. Five male paratypes were examined. They range from 4.50–5.00 mm long. All specimens are structurally similar, showing little to no variations at all, except for one specimen being shorter in length. The degree of darkness of the venter varied slightly, some showing an almost blackish coloration, while others are dark infusate reddish.

Etymology. The specific epithet is derived from the combination of two Latin terms "*rufo*" for red and "*antennatus*" for antennae in regards to reddish colored antennae the species possess.

Differential diagnosis. Reddish-brown colored antennae and legs, along with the interrupted interantennal carina will distinguish *F. rufoantennatus* from *F. nicotianae*.

Distribution. A rare eucnemid species known from a single locality in Indonesia and three localities in Laos.

Ecoregion(s). Northern Annamites rain forests, Northern Indochina subtropical forests, Southern Annamites montane rain forests.

Biology. Developmental stages remain unknown. Adults were taken from a lowland semi-evergreen forest and tropical montane deciduous forest.

***Fornax subacuminatus* Bonvouloir, 1872**

(Fig. 155)

Material examined. Seven specimens were available for study: 1, "Laos; Vientiane., J. Rondon, 1963, B.M. 1964-77." / "Fornax spec., det. W. Lucht, 1989 (genus, spec. and year handwritten)" (BMNH); 1, "LAOS centr., 26.IV.1997, VIENTIANE env., 150 m, N 17°56.8', E 102°37.3', Mekong River bank, M. Strba & R. Hergovits leg." (JMC); 2, "LAOS centr., 27.IV.1997, 70 km NE Vientiane, BAN PHABAT env., 150 m, N 18°16.1', E 103°10.9', M. Strba & R. Hergovits leg." (JMC); 1, "N LAOS, 13-24.V.1997, 15 km NW Luang Namtha, N 21°07.5', E 101°21.0', M. Strba & R. Hergovits leg." (JMC); 1, "LAOS, Louang Namtha pr., LOUANG NAMTHA, 21°00'N 101°25'E, 31.v.1997, 600 m, Vít Kubáň leg." (JMC); 1, "LAOS north, LUANG NAMTHA env., 4.-12.V.1998, R. HERGOVITS leg." (handwritten) (JMC).

Redescription. Length, 7.50–10.00 mm. Width, 2.00–2.50 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly dark reddish-brown; antennae, legs and tibiae reddish-brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 155).

Head: Very closely punctate, subspherical; frons convex; interantennal carina interrupted in middle; surface shiny; apical margin of frontoclypeal region evenly rounded, about 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III shorter than combined lengths of IV and V; antennomere IV short, as long as II; antennomere V slightly longer than IV, slightly shorter than VI; VI–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Sparsely and shallowly punctate, laterally rugose; surface shiny; as long as wide, with moderate hind angles; basal 2/3 parallel-sided, apical 1/3 arcuate; disc convex, basally depressed; base sinuous.

Scutellum: Slightly rugose, quadrate and distally truncated.

Elytra: Without striae; interstices flattened, with dense and shallow punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally; last abdominal sternite strongly produced.

Differential diagnosis. Produced last abdominal sternite will distinguish *F. subacuminatus* from *F. attenuatus*, *F. differens*, *F. incisus*, *F. rotundicollis* and *F. vestitus*.

Distribution. An uncommon, widespread eucnemid species previously found in India, Indonesia, Malaysia, Papua New Guinea and Singapore. The species was taken for the first time in Laos.

Ecoregion(s). Luang Prabang montane rain forests, Northern Indochina subtropical forests, Northern Khorat Plateau moist deciduous forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest and lowland semi-evergreen forest.

***Fornax vestitus* Fleutiaux, 1896**

(Fig. 156)

Material examined. Two specimens were available for study: 1, "LAOS, 24–29.iv.2001, Khammouan prov., 18°07'N 104°29'E, Ban Khoun Ngeun, ~200 m, Vít Kubáň leg." (NHMB); 1, "LAOS, Phongsaly prov., BAN SANO MAI, 19–26.v.2004, ~1150 m, 21°21'N 102°03'E, P. Pacholátko leg." (NHMB).

Redescription. Length, 9.50 mm. Width, 2.25 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly dark brown-black; antennae, legs and tibiae dark brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 156).

Head: Very closely punctate, subspherical; frons convex, with median circular fovea; interantennal carina interrupted in middle; surface shiny; apical margin of frontoclypeal region evenly rounded, 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III subequal to combined lengths of IV and V; antennomere IV as long as II; antennomere V slightly shorter than VI; VI–X each subequal, slightly longer than wide; antennomere XI slightly longer than X.

Pronotum: Sparsely and shallowly punctate, laterally rugose; surface shiny; longer than wide, with moderate hind angles; basal 2/3 parallel-sided, apical 1/3 arcuate; disc convex; base sinuous.

Scutellum: Slightly rugose, oblong, quadrate and distally rounded.

Elytra: Without striae; interstices flattened, with shallow punctations; humeri transversely rugose.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Basally toothed tarsal claws will distinguish *F. vestitus* from *F. attenuatus*, *F. differens*, *F. incisus* and *F. rotundicollis*. Rounded last abdominal sternite will further distinguish *F. vestitus* from *F. subacuminatus*.

Distribution. An uncommon, widespread eucnemid species have been taken in Cambodia, India, Indonesia, Laos, Myanmar and Vietnam. In Laos, *F. vestitus* were

previously taken at Vientiane, Tranninh Plateau and “Haut-Mékong” (FLEUTIAUX, 1923) and most recently in two provinces.

Ecoregion(s). Northern Annamites rain forests, Northern Indochina subtropical forests.

Biology. GARDNER (1935) described larvae collected from a decaying *Garuya pinnata* Roxburgh (Burseraceae) log in India. BEESON (1941) reported the species bores in the wood of *Bombax malabaricum* (now *Bombax ceiba* L. (Malvaceae)) and *Lannea grandis* (Dennstedt) Engler (now *Lannea coromandelica* (Houttuyn) Merrill (Anacardiaceae)). Both adults were taken from a tropical montane deciduous forest and tropical montane evergreen forest.

Raapia Fleutiaux, 1898

Diagnosis. Macraulacini, with apical margin of frontoclypeal region evenly rounded and more than twice as wide as the distance between antennal sockets; well developed, often wide, basally open, lateral antennal grooves present; male prothoracic tarsomere I simple, with straight, basal sex combs; apices of elytra dehiscent; metathoracic coxal plates medially 3.00–6.00 times wider than laterally; last visible ventrite either truncated, slightly emarginated or rounded; basally toothed tarsal claws; lateral surfaces of mesothoracic and metathoracic tibiae with setae and transverse rows of spine combs.

Note. Identification of the species was made possible through comparison of these specimen against an illustration of the species from SUZUKI & HSIEH (2014).

Raapia sauteri Fleutiaux, 1929

(Fig. 157)

Material examined. Two specimens were available for study: 1, “LAOS-NE, Xieng Khouang prov., 19°37–8’N 103°20–1’E, Phonsavan (30 km NE), Phou Sane Mt., 1400–1700 m, 10.–30.v.2009, D. Hauck leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB); 1, “LAOS-NE, Xieng Khouang prov., 19°37–8’N 103°20–1’E, Phonsavan: Ban Na Lam → Phou Sane Mt., 1300–1700 m, 10.–30.v.2009, M. Geiser leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB).

Redescription. Length, 6.50 mm. Width, 2.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly dark black, except for infusate orange area near pronotal hind angles and elytral humeri; antennae black, femur, tibiae dark brown; tarsi medium brown; head, pronotum and elytral humeri clothed with short, white recumbent setae (Fig. 157).

Head: Very closely punctate to rugose, subspherical; frons convex; surface dull; apical margin of frontoclypeal region evenly rounded, 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Pectinate from antennomeres III–X, reaching to hind angles of pronotum; rami arising from apical end of each segment; ramus on antennomere III slightly shorter than ramus on antennomere IV; rami on antennomere IV–X subequal; antennomere XI longer than X.

Pronotum: Closely punctate to rugose; surface somewhat shiny; slightly longer than wide, with short hind angles; lateral sides arcuate, gradually narrowing cranially; disc convex; base sinuous.

Scutellum: Punctate, oblong, sub-triangular with median groove and distally rounded.

Elytra: Indistinctly striate, except humeri shallowly striate; interstices slightly elevated, with dense, shallow punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V short with basally toothed claws.

Venter: Closely punctate to rugose, with white recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Narrower and less convex form of habitus will distinguish *R. sauteri* from another species, *Raapia galboides* Fleutiaux 1899 also present in mainland Asia.

Distribution. A very rare eucnemid species previously found in China (Taiwan). The species was taken for the first time in Laos.

Ecoregion(s). Luang Prabang montane rain forests.

Biology. Developmental stages remain unknown. Both adults were taken from a tropical montane deciduous forest.

Dorsifornax Fleutiaux, 1926

Diagnosis. Macraulacini, with apical margin of frontoclypeal region feebly trilobed and more than twice as wide as the distance between antennal sockets; well developed, often wide basally open lateral antennal grooves present; male prothoracic tarsomere I simple, with basal sex combs; metathoracic coxal plates medially 3.00–6.00 times wider than laterally; last visible ventrite either truncated, slightly emarginated or rounded; basally toothed tarsal claws; lateral surfaces of mesothoracic and metathoracic tibiae with setae and transverse rows of spine combs.

Dorsifornax borikhamxaiensis sp.nov.

(Fig. 158)

Type material. Female holotype: “LAOS-CE, 1–18.v.2001, Boli Kham Xai prov., 18°21'N 105°08'E, BAN NAPE (8 km NE), ~ 600 m, V. Kubáň leg.” / “HOLOTYPE, *Dorsifornax borikhamxaiensis*, Otto, det. R.L. Otto, 2014” (♀ handwritten behind species name on label) [red printed label]. Holotype is deposited in NHMB. Paratype: 1, from the following locality: “LAOS C., Bolikhamsai pr., BAN NAPE-Kaew Nua Pass, 18.4.–1.5.1998, alt. 600 m, 18°22.3'N, 105°09.1'E, E. Jendek & O. Šauša leg.”.

Specimen labeled: “PARATYPE, *Dorsifornax borikhamxaiensis*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [yellow printed label]. Paratype is retained in GERP.

Description. Female holotype: Length, 10.50 mm. Width, 3.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly dark brown; antennae, apical margin of pronotum, scutellum, abdominal ventrites, legs and tarsi infusate reddish; head, pronotum and elytra clothed with short, yellowish recumbent setae (Fig. 158).

Head: Very closely punctate, almost rugose, subspherical; frons convex, without median carina or fovea; interantennal carina absent; frontoclypeal region without median

carina; surface dull; apical margin of frontoclypeal region feebly trilobed, more than 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Filiform from antennomeres III–X, reaching to elytral humeri; antennomere III longer than IV; antennomere IV longer than II; antennomeres IV–XI each subequal, longer than wide.

Pronotum: Closely punctate to rugose; surface dull; as long as wide, with moderate hind angles; basal 2/3 parallel-sided, apical 1/3 arcuate; disc convex, with median groove; base sinuous, with large basal keel above scutellum.

Scutellum: Punctate, elongate, sub-triangular and distally rounded.

Elytra: Weakly striate; interstices slightly elevated, with dense shallow punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Punctate, with recumbent yellowish recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum apically wide; elytral epipleurae basally grooved; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Variation. One male paratype was examined. Length is 7.00 mm. The pronotum is distinctly narrowing craniad compared to the female holotype. Antennae are slightly longer in the paratype, just beyond the elytral humeri. Colorations are similar to the holotype. There are no discernable differences in the exoskeletal structures between the holotype and the paratype.

Etymology. The specific epithet, *borikhamxaiensis* is named after the Laotian province in which both holotype and paratype were collected.

Differential diagnosis. Diagnosis of the new species was based on generic character traits, including presence of enlarged basal keel on the pronotum and comparing against translated, interpreted description of *Dorsifornax diapodiodes* (Fleutiaux, 1919). Unicolored dark brown dorsum along with sparser setae will distinguish *D. borikhamxaiensis* from *D. diapodiodes*.

Distribution. A very rare, endemic eucnemid species known from a single locality within the Borikhamxay province in central Laos.

Ecoregion(s). Northern Annamites rain forests.

Biology. Developmental stages remain unknown. Both adults were taken from a lowland semi-evergreen forest.

Xylofornax gen.nov.

Type species. *Xylofornax dromaeoloides* sp.nov., designated here.

Diagnosis. Adult *Xylofornax* superficially resemble *Dromaeolus* Kiesenwetter and *Fornax* Laporte. The new genus can be distinguished from either genera by it shorter antennomere III in relation to IV.

Description. Female. Body cylindrical, approximately four times longer than wide, dorsally convex and ventrally well sclerotized.

Head: Hypognathus, with short setae. Antennae weakly serrate to filiform, setose; scape three times longer than pedicel; pedicel globular, subequal to antennomere III; antennomere III shorter than antennomere IV; antennomeres IV–X subequal in lengths, longer than wide; antennomere XI longer than X (Fig. 161). Compound eye circular, well developed, small. Antennal groove present in geni region between base of mandible and compound eye. Frontoclypeal region subtriangular, apically rounded, less than 2.00 times wider apically than the distance between antennal sockets. Mandibles well developed, stout, setose; left mandibles unidentate; right mandible bidentate.

Pronotum: Rectangular, convex, setose, subparallel-sided, cranially wider. Longer than wide. Lateral pronotal ridge entire, straight. Disc convex with short median carina present above scutellum; base sinuous.

Scutellum: Longer than wide, sub-triangular, distally rounded.

Elytron: Elongate, convex, laterally marginate, setose. Disc with shallow striae. Interstices slightly elevated.

Legs: Prothoracic legs shortest, metathoracic legs longest. Prothoracic tibia elongate, triangular, rounded in cross section, basally narrowed, apically rounded, setose with one apical spur. Lateral side of mesothoracic and metathoracic tibiae with hairs and transverse rows of spines. Metathoracic tarsi, including claws longer than tibia. First metathoracic tarsi as long as the combined lengths of remaining four. Metathoracic tarsi I–III simple. Metathoracic tarsi IV excavated-emarginated, wider than III. Metathoracic tarsi V short with simple claws. Tarsal formula 5-5-5.

Venter: With elongate setae. Prothoracic sternal peg basally broad, somewhat short. Notosternal suture as long as the hypomeral base. Hypomeron with wide, deep, basally open lateral antennal grooves (Fig. 160). Epipleura not grooved. Metathoracic episterna caudally wide. Metathoracic coxal plate medially 3.00 times wider than laterally. Tarsal grooves absent on mesothoracic and metathoracic sterna. Abdomen with five visible ventrites, medially convex. Last visible ventrite apically rounded.

Etymology. The generic name, *Xylofornax* is a combination of two words, the prefix ‘xylo-’ is derived from the Greek word ‘xylon’ pertaining to wood and ‘Fornax’, which is based on a eucnemid genus. Gender: masculine.

Key to the species of *Xylofornax*

- 1 Pronotum widest cranially. *Xylofornax dromaeoloides* sp.nov.
- Pronotum parallel-sided. *Xylofornax piceus* sp.nov.

Xylofornax dromaeoloides sp.nov.

(Figs 159–161)

Type material. Female holotype: “LAOS centr., Khammouan prov., NAKAI env., 4–8.5.1998, Route No. 8, alt. 560 ±20 m, N 17°42.8', E 105°08.9' (GPS), M. Strba & R. Hergovits leg.” / “HOLOTYPE, *Xylofornax dromaeoloides*, Otto, det. R.L. Otto, 2014” (♀ handwritten behind species name on label) [red printed label]. Holotype is deposited in JMC.

Description. Female holotype: Length, 5.50 mm. Width, 1.50 mm. Body color black (Fig. 159).

Head: Black; closely punctate, surface dullish; eyes slightly protuberant; frons simple, without fovea or carina; interantennal carina complete; median carina absent on frontoclypeal region.

Antennae: Weakly serrate to filiform, reaching almost 1/2 the length of the body; antennomere I black, antennomeres II–XI reddish-brown.

Pronotum: Black, dullish with yellow recumbent setae; surface very closely punctate to rugose; longer than wide, basal half parallel-sided; with divergent, moderate hind angles; apical 1/2 wider; disc convex, with shallow median fovea present above scutellum; base sinuous.

Elytron: Length 4.00 mm. Width 0.50 mm at humeri. Black, convex, somewhat shiny with distinct elongate, yellow recumbent setae present on basal 1/3 and along elytral suture, remaining areas with short, yellow recumbent setae. Disc striate. Interstices slightly elevated, horizontally rugose.

Legs: Shiny, uniformly reddish-brown. Tarsi reddish-brown in color. Surfaces shallowly punctate; with short, yellow recumbent setae.

Venter: Shiny, black, surface with short, yellow recumbent setae; closely, shallowly punctate.

Etymology. The specific epithet is derived by its close appearance to some species of *Dromaeolus*.

Differential diagnosis. Cranially wide pronotum will distinguish *X. dromaeoloides* from *X. piceus*.

Distribution. A very rare, endemic eucnemid species is known from a holotype collected in Khammuane province of central Laos.

Ecoregion(s). Northern Annamites rain forests.

Biology. Developmental stages remain unknown. A single adult was taken from a tropical montane evergreen forest.

Xylofornax piceus sp.nov.

(Fig. 162)

Type material. Female holotype: “LAOS South, Attapu prov., Bolaven Plateau, 18–30.IV.1999, 15 km SE of Ban Houaykong, NONG LOM (lake) env., N 15°02' E 106°35', alt. 800 m, E. Jendek & O. Šauša leg.” / “HOLOTYPE, *Xylofornax, piceus*, Otto, det. R.L. Otto, 2014” (♀ handwritten behind species name on label) [red printed label]. Holotype is deposited in JMC.

Paratype. 1, from the following locality: “LAOS centr, 27.IV.–1.V.1997, 70 km NE Vientiane, BAN PHABAT env., 150m, N 18° 16.1 E 103° 10.9, M. Strba & R. Hegovits leg.” / “PARATYPE, *Xylofornax, piceus*, Otto, det. R.L. Otto, 2015” (♀ handwritten behind species name on each label) [yellow printed label]. Paratype is deposited in GERP.

Description. Female holotype: Length, 6.00 mm. Width, 1.50 mm. Body cylindrical, elongate and tapering towards the elytral apex; uniformly black; antennomere I black, antennomeres II–XI dark reddish; legs dark brown to black; tarsi dark brown; head,

pronotum and elytra clothed with short, yellow recumbent setae, more apparent on base of pronotum and base of elytra (Fig. 162).

Head: Very closely punctate, subspherical; frons simple, without carina or fovea; interantennal carina interrupted, frontoclypeal region without median carina; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III shorter than IV; antennomeres IV–X each subequal, slightly longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface shiny; longer than wide, with divergent, moderate hind angles; lateral sides arcuate, slightly narrowing cranially; disc convex; base sinuous, with pair of circular fovea above scutellum.

Scutellum: Punctate, short, sub-triangular and distally rounded.

Elytra: Striate; interstices slightly elevated; surfaces shallowly punctate.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum apically widened; metathoracic coxal plates medially 3.00–6.00 times wider than laterally. Last abdominal tergite apically slightly produced.

Variation. One female paratype was examined. The paratype measured 7.00 mm long and 1.75 mm wide, larger than the holotype. Hind angles are less divergent in the paratype as compared to the holotype. Exoskeletal structures are very similar to the holotype.

Etymology. The specific epithet '*piceus*' was used to describe the pitch black coloration of the new species.

Differential diagnosis. *Xylofornax piceus* can be distinguished from *D. granosus* by its punctate surfaces of the pronotum. *Xylofornax piceus* is also distinguished from *D. bolavenensis* by its vestitures on the pronotum and elytra as well as the last abdominal tergite. Parallel-sided pronotum will distinguish *X. piceus* from *X. dromaeoloides*.

Distribution. A very rare, endemic eucnemid species known from single localities within the Attapeu and Borikhamxay provinces.

Ecoregion(s). Luang Prabang montane rain forests, Southern Annamites montane rain forests.

Biology. Developmental stages remain unknown. Both adults were taken from a lowland semi-evergreen forest.

***Dromaeolus* Kiesenwetter, 1858**

(=*Melanus* Broun, 1881: 676)

(=*Megathambus* Reitter, 1911: 201)

Diagnosis. Macraulacini, with apical margin of frontoclypeal region feebly trilobed and more than twice as wide as the distance between antennal sockets; well developed basally open or basally closed lateral antennal grooves present; male prothoracic tarsomere I simple with basal sex combs; metathoracic coxal plates medially 1.20–2.50 times wider than laterally; last visible ventrite either rounded or truncated; tarsal claws simple; lateral surfaces of mesothoracic and metathoracic tibiae either with setae and transverse rows of spine combs or setae and irregularly placed spines; male aedeagus dorsoventrally compressed, with laterally attached secondary lateral lobes; median lobe simple, with moderately and narrowly bifurcate apices; lateral lobes simple, entire; flagellum simple.

Note. Some of the identifications were made through interpreting translated keys from BONVOULOIR (1872) and FLEUTIAUX (1926, 1947), as well as comparing specimens against illustrations in the monograph. These identifications were verified through comparing some specimens against descriptions provided by these authors. Remaining identifications were made possible after breaking down a list of all known species from the region and grouping them. These groupings were based on key diagnostic features (*i.e.* presence versus absence of interantennal carina, presence versus absence of median carina on frons) found in each species descriptions from a number of references. These information were compared against any unidentified specimens. New species identification was made, when some specimens failed to match with any interpreted published descriptions of species distributed in the region. Authoratively identified specimens, including some types were loaned from the MNHN to verify identity of some species.

Key to the species of *Dromaeolus*

- | | | |
|---|---|---|
| 1 | Lateral antennal grooves basally open. | 2 |
| – | Lateral antennal grooves basally closed. | 9 |
| 2 | Head without median carina. | 3 |
| – | Head with median carina. | 6 |
| 3 | Elytra without elongate setae at base and along sutural areas. | 4 |
| – | Elytra with elongate setae at base and along sutural areas. | |
| | <i>Dromaeolus simplicifrons</i> sp.nov. | |
| 4 | Antennomere III longer than either IV or V. | 5 |
| – | Antennomere III as long as either IV or V. | |
| | <i>Dromaeolus cylindricus</i> Fleutiaux, 1916 | |

- 5 Pronotal surfaces punctate. *Dromaeolus bolavenensis* sp.nov.
 – Pronotal surfaces granulose.
 *Dromaeolus granosus* Fleutiaux, 1928
- 6 Median carina on head well developed. 7
 – Median carina on head weakly developed.
 *Dromaeolus coomani* Fleutiaux, 1947
- 7 Setae more widely apparent up to 1/3 of elytral base; basal median
 pronotal groove shallow. 8
 – Setae narrowly apparent on extreme elytral base; basal median
 pronotal groove very deep and wide.
 *Dromaeolus sulcicollis* Fleutiaux, 1922
- 8 Setae more apparent throughout pronotum and basal 1/4 of elytra.
 *Dromaeolus exilis* Bonvouloir, 1871
 – Setae more apparent on base of pronotum and basal 1/3 of elytra.
 *Dromaeolus semigriseus* Bonvouloir, 1871
- 9 Interantennal carina well developed. 10
 – Interantennal carina interrupted in middle.
 *Dromaeolus assamensis* Fleutiaux, 1899
- 10 Antennomere III longer than IV. 11
 – Antennomere III as long as IV. 20
- 11 Frontoclypeal region without median carina. 12
 – Frontoclypeal region with at least one median carina. 15
- 12 Frons without median carina above interantennal carina. 13
 – Frons with short median carina above interantennal carina. 14
- 13 Frons without depression above base of frontoclypeal region;
 antennomeres II–XI reddish; elytra with uniform vesture.
 *Dromaeolus minimus* Fleutiaux, 1896
 – Frons with depression above base of frontoclypeal region;
 antennomeres II–XI black; basal 1/3 of elytra with elongate vestiture
 of setae. *Dromaeolus foveatus* sp.nov.
- 14 Elongate setae present on elytral humeri and sutural areas and base of
 pronotum. *Dromaeolus phonsavanicus* sp.nov.
 – Elytra and base of pronotum with uniform vesture of setae.
 *Dromaeolus xiengkhouangensis* sp.nov.
- 15 Frontoclypeal region with median carina. 16
 – Frontoclypeal region with pair of diverging carina.
 *Dromaeolus divergentus* sp.nov.
- 16 Base of pronotum without median carina above scutellum. 17
 – Base of pronotum with median carina above scutellum.
 *Dromaeolus modiglianii* Fleutiaux, 1896
- 17 Antennomeres III–X reddish. 18
 – Antennomeres III–X either dark brown or black. 19

- 18 Pronotum parallel-sided; surface rugose. ***Dromaeolus ferruginipes* Bonvouloir, 1871**
 – Pronotum gradually narrowed cranially; surface closely punctate. ***Dromaeolus longicollis* Fleutiaux, 1896**
- 19 Elongate setae apparent on head, base of pronotum as well as basal 1/3 of elytra and suture. ***Dromaeolus confusus* Fleutiaux, 1896**
 – Elongate setae apparent on head, base of pronotum as well as basal 1/4 of elytra. ***Dromaeolus dissimilis* Fleutiaux, 1896**
- 20 Frontoclypeal region with median carina. **21**
 – Frontoclypeal region without median carina. **22**
- 21 Basal 2/3 of pronotum parallel-sided, apical 1/3 arcuate; antennae black. ***Dromaeolus vicinus* Fleutiaux, 1899**
 – Basal 3/4 of pronotum parallel-sided, apical 1/4 arcuate; antennae reddish. ***Dromaeolus congener* Bonvouloir, 1871**
- 22 Elytra consistently clothed with setae, without distinct band of elongate setae. **23**
 – Elytra with distinct band of elongate setae confined up to basal 1/2. **24**
- 23 Frons with median carina above interantennal carina. ***Dromaeolus laosianus* sp.nov.**
 – Frons with median depression above interantennal carina. ***Dromaeolus depressifrons* sp.nov.**
- 24 Pronotum without shallow median groove. **25**
 – Pronotum with shallow median groove. ... ***Dromaeolus kubani* sp.nov.**
- 25 Elongate setae more apparent along lateral and basal 1/4 of pronotum as well as basal 1/2 of elytra; antennae slightly serriform, blackish. ***Dromaeolus amicus* Bonvouloir, 1871**
 – Elongate setae more apparent along lateral and basal 1/2 of pronotum as well as basal 1/2 of elytra; antennae filiform, dark reddish. ***Dromaeolus indicus* Bonvouloir, 1871**

***Dromaeolus amicus* Bonvouloir, 1871**

(Fig. 163)

Material examined. Four specimens were available for study: 1, “LAOS, 21°09’ N 101°19’ E, Louangnamtha pr., Namtha → Muang Sing, 5–31.v.1997, 900–1200 m, Vít Kubáň leg.” (JMC); 1, “LAOS, 1.–9.v.1999, Louangprabang pr., 20°33–4’N 102°14’E, BanSongCha (5 km W), 1200 m, Vít Kubáň leg.” (JMC); 1, “Collection Naturhistorisches Museum Basel” / “LAO, Phongsaly prov., 21°41–2’N 102°06–8’E, 28.v.–20.vi.2003, PHONGSALY env., ~ 1500 m, Vít Kubáň leg.” (NHMB); 1, “LAOS-NE, Xieng Khouang prov., 19°37–8’N 103°20–1’E, 30 km NE Phonsavan, Ban Na Lam → Phou Sane Mt., 1300–1700 m, 10.–30.v.2009, M. Geiser leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB).

Redescription. Length, 5.00 mm. Width, 1.50 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomeres II and XI apically reddish; femur and tibiae dark brown to black; tarsi medium-dark

brown; head, pronotum and elytra clothed with short, yellowish recumbent setae, more apparent on head, pronotum and basal 1/3 of elytra (Fig. 163).

Head: Very closely punctate, subspherical; frons convex; interantennal carina complete; frontoclypeal region without median carina; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, about 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface shiny; as long as wide, with moderate hind angles; lateral sides gradually narrowed cranially; disc convex, with very shallow median groove; base sinuous.

Scutellum: Slightly rugose, slightly wide, sub-triangular and distally rounded.

Elytra: With indications of striae; interstices slightly elevated; humeri finely rugose, remaining areas with dense punctations.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellowish recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically wide; metathoracic coxal plates medially 2.00 times wider than laterally.

Differential diagnosis. Convex frons will distinguish *D. amicus* from *D. depressus*. Convex pronotal disc will separate *D. amicus* from *D. kubani*. Arrangements of elongate setae present on the pronotum and elytra, as well as the antennal structure and coloration will further distinguish *D. amicus* from *D. indicus*.

Distribution. A very rare eucnemid species previously found in Indonesia. The species was taken for the first time in Laos.

Ecoregion(s). Luang Prabang montane rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest and tropical montane deciduous forest.

Dromaeolus assamensis Fleutiaux, 1899

(Fig. 164)

Material examined. One specimen was available for study: “LAOS-NE, Houa Phan prov., 20°12'N 104°01'E, PHOU PANE Mt., ~ 1750 m, 17.v.–3.vi.2007, V. Kubán leg.” / “NHMB Basel expedition to Laos, 2007” (NHMB).

Redescription. Length, 4.75 mm. Width, 1.25 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae reddish; legs and tarsi reddish; head, pronotum and elytra clothed with short, yellowish recumbent setae, more apparent on base of pronotum and elytral humeri, as well as the lateral sides (Fig. 164).

Head: Very closely punctate, subspherical; frons convex; interantennal carina absent, frontoclypeal region without median carina; surface shiny; apical margin of

frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III longer than IV; antennomeres IV–X each subequal, slightly longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely, shallowly punctate, laterally rugose; surface shiny; as long as wide, with moderate hind angles; lateral sides gradually narrowing cranially; disc convex; base sinuous, with pair of divergent oblong foveae above scutellum.

Scutellum: Slightly rugose, oblong, sub-triangular and distally rounded.

Elytra: With indications of striae; interstices slightly elevated; surfaces with dense punctations.

Legs: First tarsomere longer than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellowish recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically widened; metathoracic coxal plates medially 2.00 times wider than laterally.

Differential diagnosis. Reddish colored antennae and legs, along with the absence of interantennal carina will distinguish *D. assamensis* from all known *Dromaeolus* species in Laos.

Distribution. A very rare eucnemid species previously found in India. The species was taken for the first time in Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. A single adult was taken from a tropical montane deciduous forest.

Dromaeolus bolavenensis sp.nov.

(Fig. 165)

Type material. Female holotype: “LAOS South, Attapu prov., Bolaven Plateau, 18–30.IV.1999, 15 km SE of Ban Houaykong, NONG LOM (lake) env., N 15°02' E 106°35', alt. 800 m, E. Jendek & O. Šauša leg.” / “HOLOTYPE, *Dromaeolus, bolavenensis*, Otto, det. R.L. Otto, 2014” (♀ handwritten behind species name on label) [red printed label]. Holotype is deposited in JMC.

Description. Female holotype: Length, 5.00 mm. Width, 1.00 mm. Body cylindrical, elongate and tapering towards the elytral apex; uniformly dark brownish-black; antennae dark brown; legs dark brown; tarsi dark brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 165).

Head: Very closely punctate, subspherical; frons simple, without carina or fovea; interantennal carina interrupted, frontoclypeal region without median carina; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III slightly longer than IV; antennomeres IV–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface shiny; longer than wide, with moderate hind angles; lateral sides arcuate, slightly narrowing cranially; disc convex; base sinuous, with pair of circular fovea above scutellum.

Scutellum: Punctate, short, sub-triangular and distally rounded.

Elytra: Shallowly striate; interstices slightly elevated; surfaces shallowly punctate.

Legs: First tarsomere longer than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally; last abdominal tergite apically truncate.

Etymology. The specific epithet, *bolavenensis* is derived from the Bolavan Plateau in which the new species was taken.

Differential diagnosis. *Dromaeolus bolavenensis* can be distinguished from *D. granosus* by its punctate surfaces of the pronotum.

Distribution. A very rare, endemic eucnemid species known from a holotype collected in Attapeu province of southern Laos.

Ecoregion(s). Southern Annamites montane rain forests.

Biology. Developmental stages remain unknown. A single adult was taken from a lowland semi-evergreen forest.

Dromaeolus confusus Fleutiaux, 1896

(Fig. 166)

Material examined. Seven specimens were available for study: 1, “LAOS, 1.–9.v.1999, Louangprabang pr., 20°33–4′N 102°14′E, BanSongCha (5 km W), 1200 m, Vít Kubáň leg.” (JMC); 4, “LAOS, 1.–16.v.1999, Louangprabang pr., 20°33–4′N 102°14′E, BanSongCha (5 km W), 1200 m, Vít Kubáň leg.” (JMC); 1, “LAOS-NE, Houa Phan prov., 20°13′09–19″N 103°59′54″–104°00′03″E, 1480–1550 m, PHOU PANE Mt., 1–16.vi.2009, Zdeněk Kraus leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB); 1, “LAOS-NE, Houa Phan prov., 20°13′09–19″N 103°59′54″–104°00′03″E, 1480–1550 m, PHOU PANE Mt., 9–16.vi.2009, David Hauck leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB).

Redescription. Length, 5.00–5.50 mm. Width, 1.50–1.75 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae blackish, except antennomere II reddish; legs dark brown to black; tarsi medium-dark brown; head, pronotum and elytra clothed with short, white recumbent setae, more apparent on head, pronotum, lateral side, suture and basal 1/3 of elytra (Fig. 166).

Head: Very closely punctate, subspherical; frons with delicate median carina; interantennal carina well developed, frontoclypeal region with median ridge; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III slightly longer than IV; antennomeres IV–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate; surface shiny; longer than wide, with moderate hind angles; lateral sides gradually narrowing cranially; disc convex; base sinuous.

Scutellum: Slightly rugose, short, sub-triangular and distally rounded.

Elytra: With indications of striae, more so at humeri; interstices slightly elevated; humeri and basal 1/3 rugose, remaining areas with dense punctations.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically widened; metathoracic coxal plates medially 2.00 times wider than laterally.

Differential diagnosis. *Dromaeolus confusus* can be separated from *D. longicollis* by its punctations and shinier surfaces of the pronotum as well as darker antennae and legs. *Dromaeolus confusus* can be further separated from *D. congener* by the form of the pronotum and antennomere III being longer than IV.

Distribution. A rare eucnemid species previously found in Indonesia. The species was taken for the first time in Laos.

Ecoregion(s). Louang Prabang montane rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest and tropical montane deciduous forest.

Dromaeolus congener Bonvouloir, 1871

(Fig. 167)

Material examined. Six specimens were available for study: 1, “LAOS centr., 27.IV.–IV.1997, 70 km NE Vientiane, BAN PHABAT env., 150 m, N18°16.1', E103°10.9', E. Jendek & O. Šauša leg.” (GERP); 1, “LAOS, 1–18.v.2001, Bolikhamxai prov., 18°21'N 105°08'E, Ban Nape (8 km NE), ~ 600 m, V. Kubáň leg.” (NHMB); 1, “LAOS C., Bolikhamxai pr., BAN NAPE env., 7–16.V.2004, alt. 400 ± 100 m, 18°20'N, 105°08'E, E. Jendek & O. Šauša leg.” (GERP); 1, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12'N, 104°01'E, leg. C. Holzschuh” / “BMNH{E}, 2012–14, C. Holzschuh” (BMNH); 2, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12' E104°01', 1300–1900 m, 11.iv.–15.v.2012” / “BMNH{E}, 2012–14, C. Holzschuh” (BMNH).

Redescription. Length, 6.00–7.00 mm. Width, 1.75–2.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae dark reddish; femur dark brown to black; tibiae and tarsi reddish-brown; head, pronotum and elytra clothed with short, white recumbent setae; more apparent on the head, pronotum and basal 1/3 of pronotum (Fig. 167).

Head: Very closely punctate, almost rugose, subspherical; frons convex; interantennal carina well developed, median ridge extends down above frontoclypeal region from midline; surface somewhat shiny; apical margin of frontoclypeal region

evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface somewhat shiny; longer than wide, with moderate hind angles; basal 3/4 parallel-sided, apical 1/4 arcuate; disc convex; base sinuous, with delicate short median groove above scutellum extending close to center.

Scutellum: Slightly rugose, oblong, sub-trapezoid and distally rounded.

Elytra: With indications of striae; interstices slightly elevated, with dense punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically widened; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. *Dromaeolus congener* can be separated from *D. confusus* and *D. longicollis* by length of antennomere III relative to IV; that being III as long as IV in *D. congener* and antennomere III being longer than IV in the other two species.

Distribution. A rare, widespread eucnemid species in Indonesia, Malaysia, Myanmar and Vietnam. The species was taken for the first time in Laos.

Ecoregion(s). Luang Prabang montane rain forests, Northern Annamites rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a lowland semi-evergreen forest and tropical montane deciduous forest.

Dromaeolus coomani Fleutiaux, 1947

(Fig. 168)

Material examined. Two specimens were available for study: 1, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12’N, 104°01’E, leg. C. Holzschuh” / “BMNH{E}, 2012–14, C. Holzschuh” (BMNH); 1, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12’ E104°01’, 1300–1900 m, 11.iv.–15.v.2012” / “BMNH{E}, 2012–14, C. Holzschuh” (GERP).

Redescription. Length, 9.75–11.00 mm. Width, 2.00–2.50 mm. Body cylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomere XI apically reddish; legs dark brown to black; tarsi medium-dark brown; head, pronotum and elytral humeri clothed with short, white recumbent setae, with remaining elytra with sparse white setae (Fig. 168).

Head: Rugose; subspherical; frons convex, with weakly developed median carina extending from vertex to above frontoclypeal region; interantennal carina interrupted in middle; surface dull; apical margin of frontoclypeal region evenly rounded, about 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomere III as long as IV and V combined; antennomere IV subequal to II; antennomere V slightly shorter than VI; antennomeres VI–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Granulose; surface dull; longer than wide, with moderate hind angles; basal 3/4 parallel-sided, slightly arcuate anteriorly; disc convex; base sinuous, with very shallow and narrow median groove extending from base to near center of disc.

Scutellum: Slightly rugose, oblong, quadrate and distally rounded.

Elytra: Without striae; interstices flattened; basal half rugose, remaining areas with dense punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Weakly developed median carina on the head and granulose, dull pronotum will distinguish *D. coomani* from *D. exilis*, *D. semigriseus*, *D. simplicifrons* and *D. sulcicollis*.

Distribution. A very rare eucnemid species previously found in Vietnam. The species was taken for the first time in Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Both adults were taken from a tropical montane deciduous forest.

Dromaeolus cylindricus Fleutiaux, 1916

(Fig. 169)

Material examined. Five specimens were available for study: 1, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12’N, 104°01’E, leg. C. Holzschuh” / “BMNH{E}, 2012–14, C. Holzschuh” (BMNH); 4, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12’ E104°01’, 1300–1900 m, 11.iv.–15.v.2012” / “BMNH{E}, 2012–14, C. Holzschuh” (BMNH; GERP).

Redescription. Length, 6.50–7.00 mm. Width, 1.50 mm. Body cylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomere XI apically reddish; legs dark brown to black; tarsi medium-dark brown; head, pronotum and elytra clothed with sparse, short, white recumbent setae (Fig. 169).

Head: Very closely punctate, almost granulose, subspherical; frons convex; interantennal carina interrupted in middle; surface somewhat dull; apical margin of frontoclypeal region evenly rounded, about 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomere III as long as either IV or V; antennomere V slightly shorter than VI; antennomeres VI–X each subequal, slightly longer than wide; antennomere XI slightly longer than X.

Pronotum: Granulose; surface dull; longer than wide, with moderate hind angles; lateral sides arcuate, basally compressed above hind angles; disc convex; base sinuous, with delicate median groove extending from base to near center of disc.

Scutellum: Slightly rugose, oblong, sub-triangular and distally rounded.

Elytra: Without striae; interstices flattened; humeri rugose, with circular impressions; remaining areas with dense punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with sparse, white recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum apically widened; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. *Dromaeolus cylindricus* can be distinguished from *D. granosus* by antennomere III being as long as either IV or V. *Dromaeolus cylindricus* can be further separated from *D. exilis*, *D. semigriseus*, *D. simplicifrons* and *D. sulcicollis* by the absence of median carina on the head. Absence of elongate setae on the humeri and sutural regions of the elytra will separate *D. cylindricus* from *D. simplicifrons*.

Distribution. A rare eucnemid species previously found in Indonesia and Philippines. The species was taken for the first time in Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. All adults were taken from a tropical montane deciduous forest.

Dromaeolus depressifrons sp.nov.

(Fig. 170)

Type material. Male holotype: “LAOS-NE, Houa Phan prov., 20°13′09–19″N 103°59′54″–104°00′03″E, 1480–1550 m, PHOU PANE Mt., 1–16.vi.2009, Zdeněk Kraus leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” / “HOLOTYPE, *Dromaeolus, depressifrons*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Female allotype, with same label data as holotype: / “ALLOTYPE, *Dromaeolus, depressifrons*, Otto, det. R.L. Otto, 2014” (♀ handwritten behind species name on label) [yellow printed label]. Holotype and allotype are deposited in NHMB.

Description. Male holotype: Length, 3.75 mm. Width, 1.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; scape black, antennomeres II and XI apically reddish, antennomeres III–X dark brown; femur and tibiae dark brown to black; tarsi medium brown; head, pronotum and elytra clothed with short, yellowish recumbent setae (Fig. 170).

Head: Very closely punctate, subspherical; frons convex, with shallow circular fovea and short delicate median carina above frontoclypeal region; interantennal carina complete; frontoclypeal region with very narrow base, without median carina; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, more than 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III–X each subequal, slightly longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface somewhat shiny; slightly longer than wide, with moderate hind angles; lateral sides arcuate; disc convex; base sinuous.

Scutellum: Punctate, elongate, sub-triangular and distally rounded.

Elytra: Faintly striate; interstices slightly elevated; humeri transversely rugose, apical areas with dense punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellowish recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically wide; metathoracic coxal plates medially 2.00 times wider than laterally.

Allotype: 4.00 mm long; antennae darker, similar to holotype; frons with deeper circular fovea above clypeus, with shorter delicate median carina.

Etymology. The specific epithet, *depressifrons* is derived for the depressed fovea present above the clypeus on the frons.

Differential diagnosis. Uniform vestitures of setae on the dorsum of *D. depressifrons* will distinguish the eucnemid species from most *Dromaeolus* species in Laos, except *D. laosianus* and *D. xiengkhouangensis*. Lengths of antennomere III in relation to IV will distinguish *D. depressifrons* from *D. xiengkhouangensis*; that being III as long as IV in *D. depressifrons* and antennomere III longer than IV in *D. xiengkhouangensis*. *Dromaeolus depressifrons* can be further distinguished from *D. laosianus* based on the characteristics of the frons above the interantennal carina; circular fovea present in *D. depressifrons* and with median carina present in *D. laosianus*.

Distribution. A very rare, endemic eucnemid species known from a single locality within the Houaphanh province in Northeastern Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Both adults were taken from a tropical montane deciduous forest.

Dromaeolus dissimilis Fleutiaux, 1896

(Fig. 171)

Material examined. Four specimens were available for study: 1, “LAOS, 10.–16.v.1999, Louangprabang pr., 20°33–4’N 102°14’E, BanSongCha (5 km W), 1200 m, Vít Kubán leg.” (JMC); 1, “LAOS, Phongsaly prov., BAN SANO MAI, 19–26.v.2004, ~1150 m, 21°21’N 102°03’E, P. Pacholátko leg.” (GERP); 1, “LAOS-NE, Xieng Khouang prov., 19°37–8’N 103°20–1’E, 30 km NE Phonsavan, Ban Na Lam → Phou Sane Mt., 1300–1700 m, 10.–30.v.2009, M. Geiser leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (NHMB); 1, “LAOS-NE, Houa Phan prov., 20°12–13.5’N 103°59.5’–104°01’E, Ban Saleui → Phou Pane Mt., 1340–1870 m, 10.v–16.vi.2009, M. Brancucci & local coll. leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (NHMB).

Redescription. Length, 5.75–7.00 mm. Width, 1.50–2.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomere II reddish; legs dark brown to black; tarsi medium-dark brown; head, pronotum and elytra clothed with short, white recumbent setae, more apparent on head, lateral sides of pronotum and basal 1/4 of elytra (Fig. 171).

Head: Very closely punctate, almost rugose, subspherical; frons convex; interantennal carina well developed, median ridge extends down frontoclypeal region and above interantennal carina on frons; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III slightly longer than IV; antennomeres IV–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally and basally rugose; surface somewhat shiny; slightly longer than wide, with moderate hind angles; lateral sides sinuous above hind angles, arcuate above; disc convex; base sinuous.

Scutellum: Slightly rugose, oblong, sub-trapezoid and distally rounded.

Elytra: With indications of striae; interstices slightly elevated; surfaces transversely rugose.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically widened; metathoracic coxal plates medially 1.25 times wider than laterally.

Differential diagnosis. Antennomeres III longer than IV will distinguish *D. dissimilis* from *D. vicinus*. Absence of short median carina on the base of the pronotum will further distinguish *D. dissimilis* from *D. modiglianii*.

Distribution. A very rare eucnemid species previously found in Indonesia. The species was taken for the first time in Laos.

Ecoregion(s). Luang Prabang montane rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest and tropical montane deciduous forest.

***Dromaeolus divergentus* sp.nov.**

(Fig. 172)

Type material. Male holotype: “LAOS centr. Khammouan prov., 4–16.XI, 25–30.XI.2000, BAN KHOUN NGEUN env., N 18°07' E 104°29', alt. 250 m, E. Jendek & P Pacholátka leg.” / “HOLOTYPE, *Dromaeolus divergentus*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Holotype is deposited in JMC.

Description. Male holotype: Length, 4.50 mm. Width, 1.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennomere I black,

antennomeres II–XI dark reddish; legs dark brown to black; tarsi medium-dark brown; head, pronotum and elytra clothed with short, white recumbent setae, more apparent on head, pronotum and basal 1/3 of elytra (Fig. 172).

Head: Very closely punctate, subspherical; frons simple, without carina or fovea; interantennal carina well developed, frontoclypeal region with pair of diverging carina; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III slightly longer than IV; antennomeres IV–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface shiny; longer than wide, with moderate hind angles; lateral sides arcuate, gradually narrowing cranially; disc convex; base sinuous, with pair of circular fovea above scutellum.

Scutellum: Punctate, short, sub-triangular and distally rounded.

Elytra: Weakly striate; interstices slightly elevated; surfaces finely and horizontally rugose.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially less than 2.00 times wider than laterally.

Etymology. The specific epithet, *divergentus* is derived from the presence of a pair of divergent carina on the frontoclypeal region.

Differential diagnosis. A pair of divergent carina on the frontoclypeal region will distinguish *D. divergentus* from all known species known in Laos.

Distribution. A very rare, endemic eucnemid species known from a holotype collected in Khammuane province of central Laos.

Ecoregion(s). Northern Annamites rain forests.

Biology. Developmental stages remain unknown. A single adult was taken from a tropical montane evergreen forest.

***Dromaeolus exilis* Bonvouloir, 1871**

(Fig. 173)

Material examined. Seventeen specimens were available for study: 1, “LAOS centr., Khammouan prov., NAKAI env., 4–8.5.1998, Route No. 8, alt. 560 ±20 m, N 17°42.8′, E 105°08.9′ (GPS), M. Strba & R. Hergovits leg.” / “*Dromaeolus semigriseus*, Bonvouloir, 1871, J. Muona det. 2014” (JMC); 1, “LAOS-NE, Houa Phan prov., 20°13′09–19″N 103°59′54″–104°00′03″E, 1480–1550 m, PHOU PANE Mt., 1–16.vi.2009, Zdeněk Kraus leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB); 1, “LAOS-NE, Houa Phan prov., 20°11–13′N 103°59′–104°01′E, Ban Saluei → Phou Pane Mt., 9–17.vi.2009, 1300–1900 m, Michael Geiser leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB); 1, “LAOS-NE, Houa Phan prov., 20°12–13′N 103°59.5′–104°01′E, Ban Saluei → Phou Pane Mt., 1340–1870 m, 10.v.–16.vi.2009, M. Brancucci & local coll. leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M.

Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň" (NHMB); 6, "NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12'N, 104°01'E, leg. C. Holzschuh" / "BMNH{E}, 2012–14, C. Holzschuh" (BMNH; GERP); 7, "NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12' E104°01', 1300–1900 m, 11.iv.–15.v.2012" / "BMNH{E}, 2012–14, C. Holzschuh" (BMNH).

Redescription. Length, 8.00–11.50 mm. Width, 1.90–2.50 mm. Body cylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomere XI apically reddish; legs black; tarsi dark brown-black; head, pronotum and elytral humeri clothed with short, white recumbent setae, with remaining elytra with sparse white setae (Fig. 173).

Head: Very closely punctate, almost rugose, subspherical; frons convex, with median ridge extending from vertex to above frontoclypeal region; interantennal carina interrupted in middle; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, about 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomere III as long as IV and V combined; antennomere IV subequal to II; antennomere V slightly shorter than VI; antennomeres VI–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface shiny; longer than wide, with moderate hind angles; basal 3/4 parallel-sided, slightly arcuate anteriorly; disc convex; base sinuous, with shallow and narrow median groove extending from base to near center of disc.

Scutellum: Slightly rugose, oblong, quadrate and distally rounded.

Elytra: Without striae; interstices flattened; humeri rugose, remaining areas with dense punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Well developed median carina on the head will distinguish *D. exilis* from *D. coomani* and *D. simplcifrons*. Setae on the pronotum and elytra will further separate the species from *D. semigriseus*. *Dromaeolus exilis* can be separated from *D. sulcicollis* by its shallower basal groove of the pronotum and setae on the base of the elytra.

Distribution. An uncommon eucnemid species previously found in Indonesia. The species was taken for the first time in Laos.

Ecoregion(s). Northern Annamites rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a tropical montane deciduous forest and tropical montane evergreen forest.

***Dromaeolus ferruginipes* Bonvouloir, 1871**

(Fig. 174)

Material examined. Four specimens were available for study: 1, "LAOS, 1.–9.v.1999, Louangprabang pr., 20°33–4'N 102°14'E, BanSongCha (5 km W), 1200 m, Vít Kubáň leg." (JMC); 1, "LAOS, 1–18.v.2001, Bolikhamxai prov., 18°21'N 105°08'E, Ban Nape (8 km NE), ~ 600 m, V. Kubáň leg." (GERP); 1, "Collection Naturhistorisches Museum Basel" / "LAO, Phongsaly prov., 21°41–2'N 102°06–8'E, 28.v.–20.vi.2003, PHONGSALY env., ~ 1500 m, Vít Kubáň leg." (NHMB); 1, "LAOS-NE, Xieng Khouang prov., 19°26'N 103°13'E, Phonsavan town to Phu Padaeng, 1100–1200 m, 8.–9.v.2009, M. Geiser leg." / "NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň" (NHMB).

Redescription. Length, 5.00–6.25 mm. Width, 1.25–1.75 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae reddish, except basal segment black; legs dark brown to black; tarsi medium-dark reddish-brown; head, pronotum and elytra clothed with short, white recumbent setae, more apparent on head, pronotum, suture and elytral humeri (Fig. 174).

Head: Very closely punctate, almost rugose, subspherical; frons convex; interantennal carina well developed, frontoclypeal region with median carina; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III longer than IV; antennomeres IV–X each subequal, as long as wide; antennomere XI slightly longer than X.

Pronotum: Very closely punctate, laterally and basally rugose; surface somewhat dullish; longer than wide, with moderate hind angles; lateral sides parallel-sided, apically arcuate; disc convex; base sinuous, with short median carina above scutellum.

Scutellum: Slightly rugose, wide, short, sub-triangular and distally rounded.

Elytra: With slight indications of striae; interstices slightly elevated; humeri and basal 1/2 rugose, remaining areas with dense punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellowish recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically widened; metathoracic coxal plates medially 2.00 times wider than laterally.

Differential diagnosis. Reddish colored antennae along with the absence of a median pronotal carina above the scutellum will distinguish *D. ferruginipes* from *D. modiglianii*. Shape of the pronotum and surface structure will further distinguish the species from *D. longicollis*; that being parallel-sided pronotum with rugose surfaces in *D. ferruginipes* and arcuate lateral sides with closely punctate surfaces in *D. longicollis*.

Distribution. A rare eucnemid species previously found in Papua New Guinea. The species was taken for the first time in Laos.

Ecoregion(s). Luang Prabang montane rain forests, Northern Annamites rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest, lowland semi-evergreen forest and tropical montane deciduous forest.

***Dromaeolus foveatus* sp.nov.**

(Fig. 175)

Type material. Male holotype: “LAOS-NE, Xieng Khouang prov., 19°37–8′N 103°20–1′E, 30 km NE Phonsavan, Ban Na Lam → Phou Sane Mt., 1300–1700 m, 10.–30.v.2009, M. Geiser leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” / “HOLOTYPE, *Dromaeolus, foveatus*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Female allotype: “LAOS, 1.–16.v.1999, Louangprabang pr., 20°33–4′N 102°14′E, BanSongCha (5 km W), 1200 m, Vít Kubáň leg.” / “ALLOTYPE, *Dromaeolus, foveatus*, Otto, det. R.L. Otto, 2014 (♀ handwritten behind species name on label) [yellow printed label]. Holotype is deposited in NHMB. Allotype is deposited in BMNH.

Description. Male holotype: Length, 5.75 mm. Width, 1.50 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomere II reddish; legs dark brown to black; tarsi medium-dark brown; head, pronotum and elytra clothed with short, white recumbent setae, more apparent on head, pronotum and basal 1/3 of elytra (Fig. 175).

Head: Very closely punctate, subspherical; frons with circular fovea and delicate median carina above frontoclypeal region; interantennal carina well developed, frontoclypeal region without median carina; surface shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III slightly longer than IV; antennomeres IV–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface shiny; longer than wide, with moderate hind angles; lateral sides arcuate, gradually narrowing cranially; disc convex; base sinuous, with delicate short median groove above scutellum.

Scutellum: Punctate, short, sub-triangular and distally rounded.

Elytra: With indications of striae; interstices slightly elevated; surfaces finely and horizontally rugose.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically widened; metathoracic coxal plates medially 2.00 times wider than laterally.

Allotype: Length 5.00 mm; width 1.25 mm; elongate vestitures on elytra slightly different than holotype, more concave.

Etymology. The specific epithet, *foveatus* is derived for the depressed fovea present above the frontoclypeal region on the frons.

Differential diagnosis. *Dromaeolus foveatus* can be separated from *D. amicus*, *D. indicus* and *D. kubani* based on the presence of a circular fovea above the frontoclypeal region.

Distribution. A very rare, endemic eucnemid species known from single localities within the Louangprabang and Xiengkhouang provinces in Laos.

Ecoregion(s). Luang Prabang montane rain forests.

Biology. Developmental stages remain unknown. Both adults were taken from a dry evergreen forest and tropical montane deciduous forest.

Dromaeolus granosus Fleutiaux, 1928

(Fig. 176)

Material examined. Ten specimens were available for study: 1, "LAOS, 24–29.iv.2001, Khammouan prov., 18°07'N 104°29'E, Ban Khoun Ngeun, ~200 m, Vít Kubáň leg." (NHMB); 3, "NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12'N, 104°01'E, leg. C. Holzschuh" / "BMNH{E}, 2012–14, C. Holzschuh" (BMNH); 6, "NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12' E104°01', 1300–1900 m, 11.iv.–15.v.2012" / "BMNH{E}, 2012–14, C. Holzschuh" (BMNH; GERP).

Redescription. Length, 4.50–7.00 mm. Width, 1.00–1.75 mm. Body cylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomere XI apically reddish; legs dark brown to black; tarsi medium-dark brown; head, pronotum and elytra clothed with short, white recumbent setae (Fig. 176).

Head: Very closely punctate, almost granulose, subspherical; frons convex, with variable short median ridge extending from vertex to absent; interantennal carina interrupted in middle; surface somewhat dull; apical margin of frontoclypeal region evenly rounded, about 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomere III longer than either IV and V; antennomere IV subequal to II and V; antennomere V as long as VI; antennomeres VI–X each subequal, slightly longer than wide; antennomere XI slightly longer than X.

Pronotum: Granulose; surface dull; longer than wide, with moderate hind angles; lateral sides arcuate, basally compressed above hind angles; disc convex; base sinuous, with delicate median impressed line extending from base to near center of disc.

Scutellum: Slightly rugose, oblong, quadrate and distally rounded.

Elytra: Without striae; interstices flattened; humeri rugose, remaining areas with dense punctations.

Legs: First tarsomere longer than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum apically widened; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. *Dromaeolus granosus* can be distinguished from *D. cylindricus* by antennomere III being longer than either IV or V. *Dromaeolus granosus* can be further separated from *D. coomani*, *D. exilis*, *D. semigriseus* and *D. sulcicollis* by the absence of median carina on the head. The eucnemid species can also be separated from *D. simplicifrons* by the absence of elongate setae on the humeri and sutural regions of the elytra.

Distribution. An uncommon eucnemid species previously found in Vietnam. The species was taken for the first time in Laos.

Ecoregion(s). Northern Annamites rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a tropical montane deciduous forest and tropical montane evergreen forest.

Dromaeolus indicus Bonvouloir, 1871

(Fig. 177)

Material examined. Seven specimens were available for study: 1, "LAOS, 1.–16.v.1999, Louangprabang pr., 20°33–4'N 102°14'E, BanSongCha (5 km W), 1200 m, Vít Kubáň leg." (JMC); 2, "LAOS, 10.–16.v.1999, Louangprabang pr., 20°33–4'N 102°14'E, BanSongCha (5 km W), 1200 m, Vít Kubáň leg." (JMC); 1, "LAOS, 24–29.vi.2001, Khammouan prov., 18°07'N 104°01'E, Ban Khoun Ngeun, ~ 200 m, Vít Kubáň leg." (NHMB); 2, "LAOS-NE, Xieng Khouang prov., 19°37–8'N 103°20–1'E, 30 km NE Phonsavan, Ban Na Lam → Phou Sane Mt., 1300–1700 m, 10.–30.v.2009, M. Geiser leg." / "NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň" (NHMB); 1, "LAOS-NE, Houa Phan prov., 20°12–13.5'N 103°59.5'–104°01'E, Ban Saluei → Phou Pane Mt., 1340–1870 m, 10.v.–16.vi.2009, M. Brancucci & local coll. leg." / "NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň" (NHMB).

Redescription. Length, 5.00–5.50 mm. Width, 1.25–1.50 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae very dark infusate reddish, except basal segment black; legs dark brown to black; tarsi medium-dark brown; head, pronotum and elytra clothed with short, white recumbent setae, more apparent on head, pronotum and basal 1/4 of elytra (Fig. 177).

Head: Very closely punctate, subspherical; frons convex; interantennal carina well developed, frontoclypeal region without median carina; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface somewhat shiny; slightly longer than wide, with moderate hind angles; basal 1/2 parallel-sided, apical 1/2 arcuate; disc with fine median fovea extending towards base; base sinuous.

Scutellum: Slightly rugose, oblong, sub-triangular and distally rounded.

Elytra: With indications of striae; interstices slightly elevated; humeri rugose, remaining areas with dense, shallow punctations.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic

tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically widened; metathoracic coxal plates medially 1.25 times wider than laterally.

Differential diagnosis. Convex frons will distinguish *D. indicus* from *D. foveatus*. Convex pronotal disc will further separate *D. indicus* from *D. kubani*. Arrangements of elongate setae present on the pronotum and elytra, as well as the antennal structure and coloration will also distinguish *D. indicus* from *D. amicus*.

Distribution. A rare eucnemid species previously found in India, Malaysia and Philippines. The species was taken for the first time in Laos.

Ecoregion(s). Northern Annamites rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest, tropical montane deciduous forest and tropical montane evergreen forest.

***Dromaeolus kubani* sp.nov.**

(Fig. 178)

Type material. Female holotype: “LAOS, 1–18.v.2001, Bolikhamxai prov., 18°21′N 105°08′E, Ban Nape (8 km NE), ~ 600 m, V. Kubán leg.” / “HOLOTYPE, *Dromaeolus, kubani*, Otto, det. R.L. Otto, 2014” (♀ handwritten behind species name on label) [red printed label]. Holotype is deposited in NHMB.

Description. Female holotype: Length, 5.00 mm. Width, 1.25 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomeres II and XI apically reddish; femur and tibiae dark brown to black; tarsi medium brown; head, pronotum and elytra clothed with short, whitish recumbent setae; basal 1/4 of elytra and pronotum with elongate whitish setae (Fig. 178).

Head: Very closely punctate, subspherical; frons convex, with short median carina; interantennal carina complete; frontoclypeal region with narrow base, without median carina; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, more than 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III–X each subequal, slightly longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface shiny; slightly longer than wide, with moderate hind angles; basal 2/3 parallel-sided; apical 1/3 arcuate; disc convex, basal 1/2 with median groove; base sinuous.

Scutellum: Punctate, elongate, sub-triangular and distally rounded.

Elytra: Slightly striate; interstices slightly elevated; humeri transversely rugose, apical areas with dense, shallow punctations.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with whitish recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically wide; metathoracic coxal plates medially 1.50 times wider than laterally.

Etymology. The specific epithet, *kubani* is named after V. Kubáň, collector of this species.

Differential diagnosis. *Dromaeolus kubani* can be separated from *D. amicus*, *D. foveatus* and *D. indicus* based on the presence of a median groove on the pronotal disc.

Distribution. A very rare, endemic eucnemid species known from a holotype collected in Borikhamxay province of central Laos.

Ecoregion(s). Northern Annamites rain forests.

Biology. Developmental stages remain unknown. A single adult was taken from a lowland semi-evergreen forest.

***Dromaeolus laosianus* sp.nov.**

(Fig. 179)

Type material. Male holotype: "LAOS-NE, Houa Phan prov., 20°13'09"-19°N 103°59'54"-104°00'03"E, 1480-1550 m, PHOU PANE Mt., 1-16.vi.2009, Zdeněk Kraus leg." / "NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň" / "HOLOTYPE, *Dromaeolus laosianus*, Otto, det. R.L. Otto, 2014" (♂ handwritten behind species name on label) [red printed label]. Holotype is deposited in NHMB.

Description. Male holotype: Length, 4.00 mm. Width, 1.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomeres II and XI apically reddish; femur and tibiae dark brown to black; tarsi medium brown; head, pronotum and elytra clothed with short, whitish recumbent setae (Fig. 179).

Head: Very closely punctate, subspherical; frons convex, with delicate short median carina above frontoclypeal region; interantennal carina complete; frontoclypeal region with narrow base, without median carina; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, more than 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III-X, reaching to hind angles of pronotum; antennomeres III-X each subequal, slightly longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely and shallowly punctate, laterally rugose; surface shiny; slightly longer than wide, with moderate hind angles; lateral sides arcuate; disc convex; base sinuous, with slightly elevated keel above scutellum.

Scutellum: Punctate, elongate, sub-triangular and distally rounded.

Elytra: Very slightly striate; interstices slightly elevated; humeri transversely rugose, apical areas with dense punctations.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I-III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with whitish recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically wide; metathoracic coxal plates medially 2.00 times wider than laterally.

Etymology. The specific epithet, *laosianus* is derived from the name of the country in which the species was collected.

Differential diagnosis. Uniform vestitures of setae on the dorsum of *Dromaeolus laosianus* will distinguish the species from most *Dromaeolus* species in Laos, except *D. depressifrons* and *D. xiengkhouangensis*. Lengths of antennomere III in relation to IV will also distinguish *D. laosianus* from *D. xiengkhouangensis*; that being III as long as IV in *D. laosianus* and antennomere III longer than IV in *D. xiengkhouangensis*. *Dromaeolus laosianus* can be further distinguished from *D. depressifrons* based on the characteristics of the frons above the interantennal carina; median carina present in *D. laosianus* and with circular fovea in *D. depressifrons*.

Distribution. A very rare, endemic eucnemid species known from a holotype collected in Houaphanh province of Northeastern Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. A single adult was taken from a tropical montane deciduous forest.

Dromaeolus longicollis Fleutiaux, 1896

(Fig. 180)

Material examined. Three specimens were available for study: 1, "LAOS, Louangnamtha pr., 21°09'N 101°19'E, Namtha → Muang Sing, 5–31.v.1997, 900–1200 m, Vít Kubáň leg." (NHMB); 2, "LAOS, 1–18.v.2001, Bolikhamxai prov., 18°21'N 105°08'E, Ban Nape (8 km NE), ~ 600 m, V. Kubáň leg." (GERP, NHMB).

Redescription. Length, 5.25–5.50 mm. Width, 1.50 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae reddish, except basal segment black; legs dark brown; tarsi medium-dark reddish-brown; head, pronotum and elytra clothed with short, white recumbent setae, more apparent on head, pronotum, lateral side, suture and basal 1/3 of elytra (Fig. 180).

Head: Very closely punctate, subspherical; frons with delicate median carina above frontoclypeal region; interantennal carina well developed; frontoclypeal region with median carina; surface somewhat dull; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III slightly longer than IV; IV–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Very closely punctate, laterally rugose; surface somewhat dull; slightly longer than wide, with moderate hind angles; lateral sides arcuate, gradually narrowing craniad; disc convex, with fine median line extending from base up near middle; base sinuous.

Scutellum: Slightly rugose, short, sub-trapezoid and distally rounded.

Elytra: With indications of striae; interstices slightly elevated; basal 1/2 rugose, remaining areas with dense punctations.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically widened; metathoracic coxal plates medially 1.25 times wider than laterally.

Differential diagnosis. *Dromaeolus longicollis* can be separated from *D. confusus* by its closer punctations and duller surfaces of the pronotum as well as reddish antennae and legs. *Dromaeolus longicollis* can be further separated from *D. congener* by the form of the pronotum and antennomere III being longer than IV.

Distribution. A very rare eucnemid species previously found in Papua New Guinea. The species was taken for the first time in Laos.

Ecoregion(s). Northern Annamites rainforests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest and lowland semi-evergreen forest.

***Dromaeolus minimus* Fleutiaux, 1896**

(Fig. 181)

Material examined. Four specimens were available for study: 3, “LAOS, 21°09'N 101°19'E, Louangnamtha pr., Namtha → Muang Sing, 5–31.v.1997, 900–1200 m, V. Kubáň leg.” / “*Dromaeolus minimus*, Fleutiaux, 1896, J. Muona det. 2014” (JMC); 1, “LAOS Bolikhamsai province, BAN NAPE – Kaew Nua pas, 18.04.01–05–1998 600 masl, 18 22.3' N 105 9.1' E, E. Jendek & O. Sausa legit” (JMC).

Redescription. Length, 3.50–4.25 mm. Width, 1.00–1.25 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennomere I black, antennomeres II–XI red; legs dark brown to black; tarsi medium-dark brown; head, pronotum and elytra clothed with short, yellow recumbent setae (Fig. 181).

Head: Very closely punctate, subspherical; frons convex; interantennal carina well developed, frontoclypeal region without median carina; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III slightly longer than IV; antennomeres IV–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface somewhat shiny; as long as wide, with moderate hind angles; lateral sides gradually narrowing cranially, arcuate; disc convex; base sinuous.

Scutellum: Rugose, short, sub-triangular and distally rounded.

Elytra: Weakly striate; interstices slightly elevated; humeri transversely rugose, remaining areas with dense punctations.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic

tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellow recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically widened; metathoracic coxal plates medially 1.25 times wider than laterally.

Differential diagnosis. Convex frons, reddish antennomeres II–XI as well as vestitures on elytra will distinguish *D. minimus* from *D. foveatus*.

Distribution. A very rare eucnemid species previously found in Indonesia, Malaysia, Philippines and Vietnam. The species was taken for the first time in Laos.

Ecoregion(s). Northern Annamites rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest and lowland semi-evergreen forest.

Dromaeolus modiglianii Fleutiaux, 1896

(Fig. 182)

Material examined. Five specimens were available for study: 1, “LAOS, 1–9.v.1999, Louangprabang pr., 20°33–4′N 102°14′E, BanSongCha (5 km W), 1200 m, Vít Kubáň leg.” (JMC); 1, “Collection Naturhistorisches Museum Basel” / “LAOS-N, (Oudomxai), 1–9.v.2002, ~ 1100 m, 20°45′N 102°09′E, OUDOM XAI (17 km NEE), Vít Kubáň leg.” (NHMB); 2, “LAO-NE, Hua Phan prov., 20°12′ N 104°01′E, PHU PHAN Mt., ~1750 m, 17.v.–3.vi.2007, Vít. Kubáň leg” / “NHMB Basel, expedition to Laos, 2007” (GERP); 1, “LAOS-NE, Xieng Khouang prov., 19°37–8′N 103°20′E, 30 km NE Phonsavan, Ban Na Lam → Phou Sane Mt., 1300–1500 m, 10.–30.v.2009, M. Brancucci leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB).

Redescription. Length, 5.50–6.00 mm. Width, 1.50–1.75 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae reddish-brown, except basal segment black; legs, including tarsi infuscate reddish; head, pronotum and elytra clothed with short, white recumbent setae, moreso on elytral humeri and base of pronotum (Fig. 182).

Head: Very closely punctate, almost rugose, subspherical; frons convex; interantennal carina well developed, frontoclypeal region with median carina; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III longer than IV; IV slightly shorter than V; V–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally and basally rugose; surface somewhat shiny; slightly longer than wide, with moderate hind angles; lateral sides gradually narrowing cranially; disc convex; base sinuous, with delicate short median carina above scutellum.

Scutellum: Punctate, wide, sub-trapezoid and distally rounded.

Elytra: With indications of striae, especially at humeri; interstices slightly elevated; humeri rugose, remaining areas with dense punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically widened; metathoracic coxal plates medially 2.00 times wider than laterally.

Differential diagnosis. Antennomeres III longer than IV will distinguish *D. modiglianii* from *D. vicinus*. Presence of short median carina on the base of the pronotum will further distinguish *D. modiglianii* from *D. dissimilis*.

Distribution. A rare eucnemid species previously found in India. The species was taken for the first time in Laos.

Ecoregion(s). Lunag Prabang montane rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest and tropical montane deciduous forest.

***Dromaeolus phonsavanicus* sp.nov.**

(Fig. 183)

Type material. Female holotype: “LAOS-NE, Xieng Khouang prov., 19°37–8’N 103°20–1’E, 30 km NE Phonsavan: Ban Na Lam → Phou Sane Mt., 1300–1700 m, 10.–30.v.2009, M. Geiser leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” / “HOLOTYPE, *Dromaeolus, phonsavanicus*, Otto, det. R.L. Otto, 2014” (♀ handwritten behind species name on label) [red printed label]. Holotype is deposited in NHMB.

Description. Female holotype: Length, 5.00 mm. Width, 1.50 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomeres II and XI apically reddish; femur and tibiae dark brown to black; tarsi medium-dark brown; head, pronotum and elytra clothed with short, yellowish recumbent setae; elongate setae present moreso on elytral humeri and sutural areas and base of pronotum (Fig. 183).

Head: Very closely punctate, subspherical; frons convex, with short median carina above clypeus; interantennal carina complete; frontoclypeal region without median carina; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, about 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III slightly longer than IV; IV–X each subequal, slightly longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely and shallowly punctate, laterally rugose; surface shiny; slightly longer than wide, with moderate hind angles; lateral sides arcuate; disc convex; base sinuous, with median keel present above scutellum.

Scutellum: Punctate, wide, sub-triangular and distally rounded.

Elytra: Slightly striate; interstices slightly elevated, rugose; surfaces with elongate recumbent setae; lateral sides with very sparse, short setae.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellowish recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically wide; metathoracic coxal plates medially 1.50 times wider than laterally.

Etymology. The specific epithet, *phonsavanicus* is named after the nearest community, Phonsavan, in which the new species was taken.

Differential diagnosis. *Dromaeolus phonsavanicus* is distinguished from all *Dromaeolus* species in Laos, based on the shape of the setal pattern on the elytra.

Distribution. A very rare, endemic eucnemid species known from a holotype collected in Xiengkhouang province of Northeastern Laos.

Ecoregion(s). Luang Prabang montane rain forests.

Biology. Developmental stages remain unknown. A single adult was taken from a tropical montane deciduous forest.

Dromaeolus semigriseus Bonvouloir, 1871

(Fig. 184)

Material examined. Fifteen specimens were available for study: 1, “LAOS Bolikhamsai province, BAN NAPE – Kaew Nua Pas, 18.04.01.05–1998 600 masl, 18 22.3’ N 105 9.1’ E, E. Jendek & O. Sausa legit” / “*Dromaeolus exilis*, Bonvouloir, 1871, J. Muona det. 2014” (JMC); 1, “LAOS Champasak province, Paksé-Paksong, Ban Itou env., 10–18.IV.1999 800 masl, N 15 10.4’ E 106 0.5.8’ (GPS), E. Jendek & O. Sausa leg.” / “*Dromaeolus exilis*, Bonvouloir, 1871, J. Muona det. 2014” (JMC); 1, “LAS-NE, Houa Phan prov., 20°12–13’N 103°59.5’–104°01’E, Ban Saluei → Phou Pane Mt., 1340–1870 m, 10.v.–16.vi.2009, M. Brancucci & local coll. leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (NHMB); 9, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12’N, 104°01’E, leg. C. Holzschuh” / “BMNH{E}, 2012–14, C. Holzschuh” (BMNH); 3, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12’ E104°01’, 1300–1900 m, 11.iv.–15.v.2012” / “BMNH{E}, 2012–14, C. Holzschuh” (BMNH; GERP).

Redescription. Length, 7.50–10.50 mm. Width, 1.75–2.25 mm. Body cylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomere XI apically reddish; legs dark brown to black; tarsi medium-dark brown; head, pronotum and basal 1/4 of elytra clothed with short, white recumbent setae, with remaining elytra with sparse white setae (Fig. 184).

Head: Very closely punctate, almost rugose, subspherical; frons convex, with median carina extending from vertex to frontoclypeal region; interantennal carina interrupted in middle; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, about 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomere III as long as IV and V combined; antennomere IV subequal to II; antennomere V slightly shorter than VI; antennomeres VI–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface shiny; longer than wide, with moderate hind angles; basal 3/4 parallel-sided, arcuate anteriorly; disc with very small pair of small, circular depressions; base sinuous, with somewhat deep and narrow median groove extending from base to 3/4 the length of the pronotum.

Scutellum: Slightly rugose, oblong, quadrate and distally rounded.

Elytra: With indications of striae; interstices slightly elevated; humeri rugose, remaining areas with dense punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Well developed median carina on the head will distinguish *D. semigriseus* from either *D. coomani* or *D. simplicifrons*. Setae on the pronotum and elytra will further separate *D. semigriseus* from *D. exilis*. *Dromaeolus semigriseus* can be separated from *D. sulcicollis* by its shallower basal groove of the pronotum and setae at the base of the elytra.

Distribution. An uncommon, widespread eucnemid species previously found in Papua New Guinea and Vietnam. The species was taken for the first time in Laos.

Ecoregion(s). Central Indochina dry forest, Northern Annamites rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a lowland semi-evergreen forest and tropical montane deciduous forest.

***Dromaeolus simplicifrons* sp.nov.**

(Fig. 185)

Type material. Male holotype: “LAOS-NE, Xieng Khouang prov., 19°37–8′N 103°20′E, 30 km NE Phonsavan: Ban Na Lam → Phou Sane Mt., 1300–1500 m, 10.–30.v.2009, M. Brancucci leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” / “HOLOTYPE, *Dromaeolus, simplicifrons*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Female allotype, with same label data as holotype: / “ALLOTYPE, *Dromaeolus, simplicifrons*, Otto, det. R.L. Otto, 2014” (♀ handwritten behind species name on label) [yellow printed label]. Holotype and allotype are deposited in NHMB.

Paratypes: 24, from the following localities: LAOS: 1, “LAOS north, 13–24.V.1997, 15 km NW Louang Namtha, N 21°07.5′ E 101°21.0′, alt. 750 ±100 m, M. Strba & R. Hergovits leg.” (JMC); 1, “LAOS-CE, 1–18.v.2001, Boli Kham Xai prov., 18°21′ N 105°08′E, BAN NAPE (8 km NE), ~600 m, Vít Kubán leg.” (NHMB); 1, “LAO, Phongsaly prov., 21°21′N 102°03′E, BAN SANO MAI, 19–26.v.2004, ~1150 m, Vít Kubán leg.” (NHMB); 1, “LAOS, Phongsaly prov., BAN SANO MAI, 19–26.v.2004, ~1150 m, 21°21′N 102°03′E, P. Pacholátko leg.” (FSCA); 5, “LAOS-NE, Xieng Khouang prov., 19°37–8′N 103°20′E, 30 km NE Phonsavan: Ban Na Lam → Phou Sane Mt., 1300–1500 m, 10.–30.v.2009, M. Brancucci leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (NHMB); 13, “LAOS-NE, Xieng Khouang prov., 19°37–8′N 103°20–1′E, 30 km NE Phonsavan: Ban Na Lam → Phou Sane Mt., 1300–1700 m, 10.–30.v.2009, M. Geiser leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (GERP, NHMB); 1, “LAOS-NE, Xieng Khouang prov., 19°37–8′N 103°20–1′E, Phonsavan (30 km NE): Phou Sane Mt., 1400–1700 m, 10.–30.v.2009, D. Hauck leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (NHMB); THAILAND: 1, “THAI. N. Nan prov., Doi Phu Kha N. P. Headq., 19°13′ N, 101°07′ E, 22–26.iv.1999, D. hauck leg.” (JMC).

Each specimen labeled: “PARATYPE, *Dromaeolus, simplicifrons*, Otto, det. R.L. Otto, 2014” (either ♂ or ♀ handwritten behind species name on each label) [yellow printed label]. All paratypes are deposited in FSCA, GERP, JMC and NHMB.

Description. Male holotype: Length, 10.00 mm. Width, 2.00 mm. Body cylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomeres XI apically reddish; femur and tibiae black; tarsi dark brown-black; head, pronotum and basal 1/4 elytral humeri and suture clothed with whitish recumbent setae (Fig. 185).

Head: Very closely punctate, almost rugose, subspherical; frons convex, without median carina; interantennal carina absent; frontoclypeal region without median carina; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, about 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomere III as long as IV and V combined; antennomere IV slightly longer than II; antennomeres IV–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally and basally rugose; surface somewhat shiny; longer than wide, with moderate hind angles; lateral sides slightly arcuate; disc convex; base sinuous, with somewhat shallow and narrow median groove extending from base to 1/2 the length of the pronotum.

Scutellum: Punctate, quadrate and distally rounded.

Elytra: Striae absent; interstices flattened; humeri transversely rugose, remaining areas with dense shallow punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with whitish recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Allotype: 11.50 mm long; antennae slightly serrate; structurally similar to male holotype.

Variations. Twenty-four adult paratypes were examined. Thirteen male paratypes varied in length from 9.00–10.00 mm. Eleven female paratypes varied in length from 8.00–12.00 mm. Females are on average slightly larger than males. Female antennae are weakly serriform, not quite filiform as present in male specimens. Female antennae are shorter and more robust, reaching up to the hind angles. Male antennae are slightly longer and narrower, often reaching just beyond the hind angles of the pronotum. Reddish color intensity at the apical third of antennomere XI exhibits some variability. Some specimens were observed to have unicolored black antennae than in other specimens. The median sulcus above the scutellum on the pronotal disc is variable among some specimens. The impression is more elongate in some, while other specimens exhibit a shorter sulcus. One male specimen have a weakly developed median carina on the frons above the base of the epistomal part of the epicranium.

Etymology. The specific epithet, *simplicifrons* is derived from its simple frons which lacks a median carina, usually present in other similar species found in Laos.

Differential diagnosis. Absence of a median carina on the head will distinguish *D. simplicifrons* from *D. coomani*, *D. exilis*, *D. semigriseus* and *D. sulcicollis*.

Distribution. An uncommon eucnemid species known from several provinces in Central and Northeastern Laos and a single locality in Thailand.

Ecoregion(s). Lunang Prabang montaine rain forests, Northern Annamites rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest, lowland semi-evergreen forest and tropical montane deciduous forest.

Dromaeolus sulcicollis Fleutiaux, 1922

(Fig. 186)

Material examined. Nine specimens were available for study: 1, "LAO, Phongsaly prov., 21°21'N 102°03'E, BAN SANO MAI, 19–26.v.2004, ~1150 m, Vít Kubáň leg." (NHMB); 1, "LAOS-NE, Xieng Khouang prov., 19°37'–8°N 103°20'E, 30 km NE Phonsavan: Ban Na Lam → Phou Sane Mt., 1300–1500 m, 10.–30.v.2009, M. Brancucci leg." / "NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň" (NHMB); 1, "LAOS-NE, Houa Phan prov., 20°12'–13°N 103°59.5'–104°01'E, Ban Saleui → Phou Pane Mt., 1340–1870 m, 10.v.–16.vi.2009, M. Brancucci & local coll. leg." / "NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň" (NHMB); 5, "NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12'N, 104°01'E, leg. C. Holzschuh" / "BMNH{E}, 2012-14, C. Holzschuh" (BMNH; GERP); 1, "NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12' E104°01', 1300–1900 m, 11.iv.–15.v.2012" / "BMNH{E}, 2012-14, C. Holzschuh" (BMNH).

Redescription. Length, 7.00–11.50 mm. Width, 1.75–2.50 mm. Body cylindrical, elongate and tapering towards the elytral apex; uniformly black, with indications of metallic blue reflections (in some specimens); antennae black, except antennomere XI apically reddish; legs dark brown to black; tarsi medium-dark brown; head, pronotum and elytral humeri clothed with short, white recumbent setae, with remaining elytra with sparse white setae (Fig. 186).

Head: Very closely punctate, almost rugose, subspherical; frons convex, with median ridge extending from vertex to above the frontoclypeal region; interantennal carina interrupted in middle; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, about 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomere III as long as IV and V combined; antennomere IV subequal to II; antennomere V slightly shorter than VI; antennomeres VI–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface shiny; longer than wide, with moderate hind angles; basal 3/4 parallel-sided, slightly arcuate anteriorly; disc with slight pair of small, circular depressions; base sinuous, with deep and wide median groove extending from base to near center of disc.

Scutellum: Slightly rugose, oblong, quadrate and distally rounded.

Elytra: Without striae; interstices flattened; humeri rugose, remaining areas with dense punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with white recumbent setae; hypomeron with basally open, deep, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Well developed median carina on the head will distinguish *D. sulcicollis* from either *D. coomani* or *D. simplicifrons*. *Dromaeolus sulcicollis* can be further separated from *D. exilis* and *D. semigriseus* by its deeper basal groove of the pronotum and setae at the base of the elytra.

Distribution. A rare eucnemid species distributed across Laos and Vietnam. In Laos, *D. sulcicollis* was previously taken at “Haut-Mékong” (FLEUTIAUX 1947) and most recently in northern and central areas of the country.

Ecoregion(s). Luang Prabang montane rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. All adults were taken from a tropical montane deciduous forest.

Dromaeolus vicinus Fleutiaux, 1899

(Fig. 187)

Material examined. Six specimens were available for study: 1, “LAOS, 1.–16.v.1999, Louangprabang pr., 20°33–4′N 102°14′E, BanSongCha (5 km W), 1200 m, Vít Kubáň leg.” (JMC); 1, “LAO, Phongsaly prov., 21°41–2′N 102°06–8′E, 28.v.–20.vi.2003, PHONGSALY env., ~ 1500 m, Brancucci leg.” (NHMB); 1, “LAOS, Phongsaly prov., BAN SANO MAI, 19–26.v.2004, ~1150 m, 21°21′N 102°03′E, P. Pacholátko leg.” (NHMB); 1, “LAOS-NE, Houa Phan prov., 20°13′09–19″N 103°59′54″–104°00′03″E, 1480–1550 m, PHOU PANE Mt., 1–16.vi.2009, Zdeněk Kraus leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB); 1, “LAOS-NE, Houa Phan prov., Ban Saleui → Phou Pane Mt., 20°12–13.5′N 103°59.5′–104°01′E, 1340–1870 m, 10.v.–16.vi.2009, M. Brancucci & local coll. leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (GERP); 1, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12′ E104°01′, 1300–1900 m, 11.iv.–15.v.2012” / “BMNH{E}, 2012–14, C. Holzschuh” (BMNH).

Redescription. Length, 5.00–7.00 mm. Width, 1.25–2.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae brownish, except antennomere II reddish-brown; legs dark brown to black; tarsi medium-dark brown; head, pronotum and elytra clothed with short, yellowish recumbent setae (Fig. 187).

Head: Very closely punctate, almost rugose, subspherical; frons convex; interantennal carina well developed, frontoclypeal region with median carina; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, at least 2.50 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate to filiform from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, posteriorlaterally rugose; surface somewhat shiny; longer than wide, with moderate hind angles; basal 2/3 parallel-sided, apical 1/3 arcuate; disc convex; base sinuous.

Scutellum: Slightly rugose, oblong, sub-triangular and distally rounded.

Elytra: With indications of striae; interstices slightly elevated; humeri rugose, remaining areas with dense, shallow punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellowish recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically widened; metathoracic coxal plates medially 2.00 times wider than laterally.

Differential diagnosis. Antennomeres III as long as IV will distinguish *D. vicinus* from *D. modiglianii* and *D. dissimilis*.

Distribution. A rare eucnemid species previously found in India. The species was taken for the first time in Laos.

Ecoregion(s). Luang Prabang montane rain forests, Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Adults were taken from a dry evergreen forest and tropical montane deciduous forest.

***Dromaeolus xiengkhouangensis* sp.nov.**

(Fig. 188)

Type material. Female holotype: “LAOS-NE, Xieng Khouang prov., 19°37–8′N 103°20–1′E, Phonsavan (30 km NE), Phou Sane Mt., 1400–1700 m, 10.–30.v.2009, D. Hauck leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” / “HOLOTYPE, *Dromaeolus, xiengkhouangensis*, Otto, det. R.L. Otto, 2014” (♀ handwritten behind species name on label) [red printed label]. Holotype is deposited in NHMB.

Description. Female holotype: Length, 4.25 mm. Width, 1.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly black; antennae black, except antennomeres II and XI apically reddish; femur and tibiae dark brown to black; tarsi medium-dark brown; head, pronotum and elytra clothed with short, yellowish recumbent setae (Fig. 188).

Head: Very closely punctate, almost rugose, subspherical; frons convex, with delicate median carina above frontoclypeal region; interantennal carina complete; frontoclypeal region without median carina; surface somewhat shiny; apical margin of frontoclypeal region evenly rounded, about 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Weakly serrate from antennomeres III–X, reaching to hind angles of pronotum; antennomeres III slightly longer than IV; IV–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally rugose; surface shiny; as long as wide, with moderate hind angles; lateral sides gradually narrow cranially; disc convex; base sinuous.

Scutellum: Punctate, slightly wide, sub-triangular and distally rounded.

Elytra: Slightly striate; interstices slightly elevated; humeri transversely rugose, apical areas with dense punctations.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellowish recumbent setae; hypomeron with basally closed, deep, lateral antennal grooves; metathoracic episternum apically wide; metathoracic coxal plates medially 2.00 times wider than laterally.

Etymology. The specific epithet, *xiengkhouangensis* is named after the Laotian province where the holotype was collected.

Differential diagnosis. Uniform vestitures of setae on the dorsum of *D. xiengkhouangensis* will distinguish the species from most *Dromaeolus* species in Laos, except *D. depressifrons* and *D. laosianus*. Lengths of antennomere III in relation to IV will further distinguish *D. xiengkhouangensis* from either of these species; that being III longer than IV in *D. xiengkhouangensis* and antennomere III as long as IV in the other two species.

Distribution. A very rare, endemic eucnemid species known from a holotype collected in Xiengkhouang province of Northeastern Laos.

Ecoregion(s). Luang Prabang montane rain forests.

Biology. Developmental stages remain unknown. A single adult was taken from a tropical montane deciduous forest.

Tribe Nematodini Leiler, 1976

Diagnosis. Mandibles short, with ventral secondary tooth, without expanded lateral surfaces; prothoracic tibiae with one apical spur; male prothoracic tarsomere I with basal sex combs; tarsomere IV originally bilobed; lateral sides of mesothoracic and metathoracic tibiae variable, either with setae and simple spines or with setae and transverse rows of spine combs; hypomeron with antennal grooves or without antennal grooves; prothoracic sternal peg high, either truncated or excavated; median lobe without dorsal basal struts, fused with lateral lobes, distinct, with narrowly and deeply bifurcate apex; bursa divided, simple; spermatheca sclerotized, divided and U-shaped.

Key to the genera within the tribe Nematodini

- 1 Hypomeron without indications of lateral antennal grooves (Fig. 198). 2
- Hypomeron with shallow, basally open lateral antennal grooves (Fig. 194). *Graciliforma* gen.nov.
- 2 Strongly elongate capitate antennae absent; last abdominal terga hidden beneath elytral apices (Fig. 188–192). 3
- Strongly elongate capitate antennae present; last abdominal terga exposed beyond elytral apices (Fig. 196). *Miruantennus* gen.nov.

- 3 Dorsal surface of tarsomere IV shallowly excavated to receive tarsomere V; tarsal claws simple. *Nematodes* Berthold, 1827
- Dorsal surface of tarsomere IV deeply excavated to receive tarsomere V; tarsal claws basally toothed. *Coomanius* Fleutiaux, 1924

Nematodes Berthold, 1827

(=*Hypocaelus* Dejean, 1833: 85)

(=*Emathion* Laporte, 1835: 171)

(=*Sphaerocephalus* Laporte, 1838: table)

Diagnosis. Nematodini, with apical margin of frontoclypeal region feebly trilobed and more than twice as wide as the distance between antennal sockets; antennal grooves absent; male prothoracic tarsomere I simple with basal curved sex combs; metathoracic coxal plates medially 3.00–6.00 times wider than laterally; last visible ventrite strongly produced; tarsal claws simple; lateral surfaces of mesothoracic and metathoracic tibiae with setae and transverse rows of spine combs; male aedeagus dorsoventrally compressed, with laterally attached secondary lateral lobes; median lobe simple, with moderately and narrowly bifurcate apices; lateral lobes simple, entire; flagellum simple.

Note. Identification of two species were based on the translated, interpreted species descriptions from FLEUTIAUX (1896a, 1896b). New species identification was made when specimen failed to match with any interpreted published descriptions of other species known from the region.

Key to the species of *Nematodes*

- 1 Elytra with evenly distributed setae. 2
- Elytra with pronounced elongate setae at humeral and sutural regions. *Nematodes suturalis* Fleutiaux, 1896
- 2 Antennae reddish; pronotum without lateral circular foveae.
- Antennae dark reddish-brown; pronotum with lateral circular foveae. *Nematodes feai* Fleutiaux, 1896
- Antennae dark reddish-brown; pronotum with lateral circular foveae. *Nematodes lateralis* sp.nov.

Nematodes feai Fleutiaux, 1896

(Fig. 189)

Material examined. Six specimens were available for study: 2, “LAOS-NE, Houa Phan prov., Ban Saleui → Phou Pane Mt., 20°12–13.5′N 103°59.5′–104° 01′E, 1340–1870 m, 15.vi.–15.v.2008, Lao collectors leg. (NHMB); 1, “LAOS-NE, Houa Phan prov., 20°13′09–19″N 103°59′54″–104° 00′03″E, 1480–1550 m, PHOU PANE Mt., 9.–16.vi.2009, David Hauck leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (NHMB); 1, “LAOS-NE, Houa Phan prov., 20°11–13′N 103°59′–104° 01′E, Ban Saleui → Phou Pane Mt., 9.–17.vi.2009, 1300–1900 m, Michael Geiser leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubán” (GERP); 2, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12′ E104°01′, 1300–1900 m, 11.iv.–15.v.2012” / “BMNH{E}, 2012–14, C. Holzschuh” (BMNH).

Redescription. Length, 7.00–8.50 mm. Width, 1.50–2.00 mm. Body cylindrical, elongate and tapering towards the elytral apex; uniformly dark brown-black; antennae

dark reddish; legs dark brown; tarsi reddish-brown; head, pronotum and elytra clothed with very short, yellow recumbent setae (Fig. 189).

Head: Very closely punctate, subspherical; frons convex; surface dull; apical margin of frontoclypeal region feebly trilobed, 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Serrate, reaching to hind angles of pronotum; antennomere III as long as the combined lengths of IV and V; antennomeres IV–VI subequal; antennomeres VII–X slightly larger than VI; antennomere XI asymmetrical.

Pronotum: Very closely punctate to granulose; surface dull; longer than wide, with moderate, sharp hind angles; basal half parallel-sided, apical half arcuate; disc convex, with pair of circular fovea; median groove extends from base to near middle; base sinuous.

Scutellum: Dull, oblong, sub-triangular and distally rounded.

Elytra: Striate; interstices slightly elevated with dense punctations.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavate-emarginate; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate and rugose, with very short, white recumbent setae; hypomeron simple, without antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Smaller size, along with redder colored antennae and pronotal sculpture will distinguish *N. feai* from *N. lateralis*. Uniformly distributed setae on elytra will further distinguish *N. feai* from *N. suturalis*.

Distribution. A rare eucnemid species previously found in Myanmar. The species was taken for the first time in Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. All adults were taken from a tropical montane deciduous forest.

Nematodes lateralis sp.nov.

(Fig. 190)

Type material. Female holotype: “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12' E104°01', 1300–1900 m, 11.iv.–15.v.2012” / “BMNH{E}, 2012-14, C. Holzschuh” / “HOLOTYPE, *Nematodes, lateralis*, Otto, det. R.L. Otto, 2014” (♀ handwritten behind species name on label) [red printed label]. Holotype is deposited in BMNH.

Description. Female holotype: Length, 12.00 mm. Width, 3.00 mm. Body subcylindrical, elongate and tapering towards the elytral apex; uniformly brownish-black; antennae dark reddish-brown; legs dark reddish-brown; tarsi dark reddish-brown; head, pronotum and elytra clothed with short, yellowish recumbent setae (Fig. 190).

Head: Very closely punctate, subspherical; frons convex, with small median circular fovea above base of frontoclypeal region; surface shiny; apical margin of frontoclypeal region feebly trilobed, more than 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Serrate from antennomeres VI–X, reaching to elytral humeri; antennomeres III as long as combined lengths of IV and V; antennomeres IV and V subequal, shorter than VI; antennomeres VI–X each subequal, longer than wide; antennomere XI slightly longer than X.

Pronotum: Closely punctate, laterally and basally rugose; surface shiny; longer than wide, with moderate hind angles; basal 3/4 parallel-sided; apical 1/4 arcuate; disc convex, with median groove extending from base to near apical, lateral sides with circular foveae; base sinuous, depressed at both sides above scutellum.

Scutellum: Shallowly punctate, sub-trapezoid and distally truncated.

Elytra: Striate; interstices slightly elevated; humeri deeply, closely punctate; apical areas with shallow punctations.

Legs: First tarsomere shorter than the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavated and emarginated; metathoracic tarsomere V elongate with simple claws.

Venter: Punctate, with yellowish recumbent setae; hypomeron with apical basally opened, lateral antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Etymology. The specific epithet is derived from a pair of foveae present along the lateral sides of the pronotum.

Differential diagnosis. Larger size, along with darker colored antennae and pronotal sculpture will distinguish *N. lateralis* from *N. feai*. Uniformly distributed setae on elytra will further distinguish *N. lateralis* from *N. suturalis*.

Distribution. A very rare, endemic eucnemid species known from a holotype collected in Houaphanh province of Northeastern Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. A single adult was taken from a tropical montane deciduous forest.

Nematodes suturalis. Fleutiaux, 1896

(Fig. 191)

Material examined. Two specimens were available for study: 1, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12′ E104°01′, 1300–1900 m, 11.iv.–15.v.2012” / “BMNH{E}, 2012-14, C. Holzschuh” (GERP); 1, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12′N, 104°01′E, leg. C. Holzschuh” / “BMNH{E}, 2012-14, C. Holzschuh” (BMNH).

Redescription. Length, 6.00–8.00 mm. Width, 1.50–2.00 mm. Body cylindrical, elongate and tapering towards the elytral apex; uniformly dark brown-black; antennae dark brown-black, except antennomeres II and XI apically reddish; legs dark brown to black, tarsi medium brown; head, pronotum and elytra clothed with very short, white recumbent setae; humeral and sutural regions of elytra clothed with elongate, white recumbent setae (Fig. 191).

Head: Very closely punctate to granulose, subspherical; frons convex; surface dull; apical margin of frontoclypeal region feebly trilobed, 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Serrate, reaching to hind angles of pronotum; antennomere III as long as the combined lengths of IV and V; antennomeres IV–V subequal; antennomere VI slightly larger than IV and V; antennomeres VII–X slightly larger than VI; antennomere XI asymmetrical.

Pronotum: Very closely punctate to granulose; surface dull; longer than wide, with moderate, sharp hind angles; basal 3/4 parallel-sided, apical 1/4 arcuate; disc convex, with pair of circular fovea; median groove extends from base to near middle; base sinuous.

Scutellum: Dull, punctate, oblong, sub-triangular and distally rounded.

Elytra: Striate; interstices slightly elevated; surfaces densely punctate to transversely rugose.

Legs: First tarsomere as long as the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavate-emarginate; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Punctate and rugose, with very short, white recumbent setae; hypomeron simple, without antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. Distinct, elongate setae on the humeral and sutural regions of the elytra will distinguish *N. suturalis* from both *N. feai* and *N. lateralis*.

Distribution. A very rare eucnemid species previously found in Indonesia. The species was taken for the first time in Laos.

Ecoregion(s). Northern Indochina subtropical forests.

Biology. Developmental stages remain unknown. Both adults were taken from a tropical montane deciduous forest.

Coomanius Fleutiaux, 1924

Diagnosis. Nematodini, with apical margin of frontoclypeal region feebly trilobed and more than twice as wide as the distance between antennal sockets; antennal grooves absent; metathoracic coxal plates medially 3.00–6.00 times wider than laterally; last visible ventrite strongly produced; tarsal claws basally toothed; lateral surfaces of mesothoracic and metathoracic tibiae with setae and irregularly placed spines.

Coomanius lugubris Fleutiaux, 1925

(Fig. 192)

Material examined. Seventeen specimens were available for study: 1, “Laos, Umg. Vientiane, III.–VI.1963” / “*Coomanius, lugubris, Fleutiaux, A. Cobos det. 1965*” (genus, species, author and year handwritten) (ZSM); 1, “Laos, Umg. Vientiane, III.–VI.1963” / “*Coomanius, lugubris, Fleutiaux, A. Cobos det. 1967*” (genus, species, author and year handwritten) (ZSM); 15, “Laos, Umg. Vientiane, III.–VI.1963” (GERP and ZSM).

Redescription. Length, 6.50–11.00 mm. Width, 1.50–3.00 mm. Body cylindrical, elongate and tapering towards the elytral apex; uniformly dark brown-black to black; antennae dark brown-black to black, except antennomere XI apically reddish; legs dark

brown to black, tarsi medium brown; head, pronotum and elytra clothed with very short, white, apically directed, erect setae on pronotum, recumbent on elytra (Fig. 192).

Head: Very closely punctate to rugose, subspherical; frons convex, with variable median carina; surface dull; apical margin of frontoclypeal region feebly trilobed, 2.00 times wider than base; mandibles stout, bidentate, densely punctate and rugose.

Antennae: Very weakly serrate, reaching to hind angles of pronotum; antennomere III shorter than the combined lengths of IV and V; antennomeres IV–X subequal; antennomeres IX–XI rounded; antennomere XI slightly shorter than X.

Pronotum: Granulose; surface dull; longer than wide, with moderate, sharp hind angles; lateral sides gradually wider toward craniad, apical quarter strongly arcuate, hooded over vertex; disc convex, without circular foveae; median groove extends from base to near middle; base sinuous.

Scutellum: Dull, rugose, rectangular, distally bilobed with median groove.

Elytra: Striate; interstices slightly elevated; surfaces transversely rugose.

Legs: First tarsomere slightly shorter the combined lengths of the remaining four on mesothoracic and metathoracic tarsi; tibiae rounded in cross section; metathoracic tarsomeres I–III simple; metathoracic tarsomere IV excavate-emarginate; metathoracic tarsomere V elongate with basally toothed claws.

Venter: Finely punctate, with very short, white recumbent setae; hypomeron simple, without antennal grooves; metathoracic episternum parallel-sided; metathoracic coxal plates medially 3.00–6.00 times wider than laterally.

Differential diagnosis. See Diagnosis of the monotypic genus.

Distribution. An uncommon eucnemid species previously found in Vietnam. The species was taken for the first time in Laos.

Ecoregion(s). Northern Khorat Plateau moist deciduous forests.

Biology. Developmental stages remain unknown. All adults were taken from a lowland semi-evergreen forest.

***Graciliforma* gen.nov.**

Type species. *Graciliforma rufoapicalis* sp.nov., designated here.

Diagnosis. Adult *Graciliforma* superficially resemble those of other member of the tribe Nematodini, particularly *Nematodes* Berthold, 1827, *Neomathion* Fleutiaux, 1930 and *Trigonopleurus* Bonvouloir, 1871. Presence of basally open, shallow lateral antennal grooves on the hypomeron is a unique feature for *Graciliforma* within the tribe and serves as the best means to distinguish the group from all members of the tribe. The Neotropical *Microtrigonus* Bonvouloir is the only other group within the tribe which possess lateral hypomeral antennal grooves. Basally toothed tarsal claws and bicoloration will further diagnose *Microtrigonus* from *Graciliforma*. *Graciliforma* is superficially similar to *Fornax subacuminatus* Bonvouloir. Form of the antennal structures will distinguish *Graciliforma* from *F. subacuminatus*; that being slightly expanded and somewhat flattened in antennomeres VI–XI for *Graciliforma* and subequal and rounded in *F. subacuminatus*. Additionally, structure of the hypomeral

antennal grooves will also distinguish *Graciliforma* from *F. suacuminatus*; that being shallow and wider in *Graciliforma* and narrow and deeper in *F. subacuminatus*.

Description. Male. Body elongate-narrow, approximately four times longer than wide, dorsally convex and ventrally well sclerotized.

Head: Hypognathus with elongate setae. Antennae subfiliform with 11 antennomeres, setose; scape four times longer than pedicel; pedicel globular, subequal to antennomere III; antennomere III longer than antennomere IV; antennomere IV shorter than antennomere V; antennomere V slightly shorter than antennomere III; antennomeres VI–XI subequal in lengths, slightly expanded and slightly flattened in cross sectional view. Compound eye ovoid, well developed, moderately large. Antennal groove present in geni region between base of mandible and compound eye. Frontoclypeal region subtriangular, apically trilobed, 2.50 times wider apically than the distance between antennal sockets. Mandibles well developed, stout, setose; left mandibles unidentate; right mandible bidentate. Maxillary palpi 3-segmented; apical segment rectangular, nearly as long as preceding two segments. Labial palpi short, 2 segmented; apical segment rectangular, longer than preceding segment. Labrum concealed.

Pronotum: Slightly trapezoidal, convex, setose, carinulate above hind angles, arcuate in apical 3/4. Slightly longer than wide, basally widest. Lateral pronotal ridge entire, slightly sinuate near middle. Disc convex with a slight median sulcus extending from base to 1/2 the length; base sinuous.

Scutellum: Longer than wide, sub-triangular, distally rounded.

Elytron: Elongate, convex, laterally marginate, setose. Disc with slight indications of striae. Humeral region strongly striate. Interstices slightly elevated.

Legs: Prothoracic legs shortest, metathoracic legs longest. Prothoracic tibia rectangular, flattened, basally narrowed, setose with one apical spur. First prothoracic tarsi with straight basal sex combs. Lateral side of mesothoracic and metathoracic tibiae with hairs and transverse rows of spines. Metathoracic tarsi, including claws longer than tibia. First metathoracic tarsi longer than combined lengths of remaining four. Metathoracic tarsi I–III simple. Metathoracic tarsi IV excavated-emarginated, wider than III. Metathoracic tarsi V short with basally swollen, somewhat notched claws. Tarsal formula 5-5-5.

Venter: With elongate setae. Prothoracic sternal peg basally broad, somewhat elongate. Notosternal suture shorter than hypomerale base. Hypomerale with basally open, wide, shallow lateral antennal grooves; widest in the middle (Fig. 194). Median ridge of antennal grooves present. Epipleura expanded, concealing metathoracic episterna; not grooved. Metathoracic coxal plate medially 3.00–6.00 times wider than laterally. Tarsal grooves absent on mesothoracic and metathoracic sterna. Abdomen with five visible ventrites, medially convex. Last visible ventrite forming a strongly produced, truncated beak.

Aedeagus (Fig. 195): Elongate, dorsoventrally flattened; median lobe free, with fairly deeply notched apex; lateral lobes apically rounded, laterally toothed, shorter than median lobe; secondary lateral lobes laterally attached, apically rounded and without lateral teeth; basal piece elongate, dorsally open, apically rounded.

Etymology. The generic name is a combination of two Latin words ‘*gracilis*’ for slender and ‘*forma*’ for form. Gender: feminine.

***Graciliforma rufoapicalis* sp.nov.**

(Figs 193–195)

Type material. Male holotype: “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12′ E104°01′, 1300–1900 m, 11.iv.–15.v.2012” / “BMNH{E}, 2012-14, C. Holzschuh” / “HOLOTYPE, *Graciliforma rufoapicalis*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Female allotype: “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12′N, 104°01′E, leg. C. Holzschuh” / “BMNH{E}, 2012-14, C. Holzschuh” / “ALLOTYPE, *Graciliforma rufoapicalis*, Otto, det. R.L. Otto, 2014” (♀ handwritten behind species name on label) [yellow printed label]. Holotype and allotype are deposited in BMNH.

Paratypes: 152, from the following localities: 1, “LAOS South, Attapu prov., Bolaven Plateau, 18–30.IV.1999, 15 km SE of Ban Houaykong, NONG LOM (lake) env., N 15°02′ E 106°35′, alt. 800 m, E. Jendek & O. Šauša leg.” (JMC); 1, “LAOS, 1–18.v.2001, Bolikhamxai prov., 18°21′N 105°08′E, Ban Nape (8 km NE), ~600 m, Vít Kubáň leg.” (NHMB); 1, “LAOS-NE, Houa Phan prov., 20°13′09–19″N 103°59′54″–104°00′03″E, 1480–1550 m, PHOU PANE Mts., 1–16.vi.2009, Zdeněk Kraus leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB); 2, “LAOS-NE, Houa Phan prov., 20°13′09–19″N 103°59′54″–104°00′03″E, 1480–1550 m, PHOU PANE Mts., 9–16.vi.2009, David Hauck leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB); 3, “LAOS-NE, Houa Phan prov., 20°12′–13.5″N 103°59.5′–104°01′E, Ban Saluei → Phou Pane Mts., 1340–1870 m, 10.v.–16.vi.2009, M. Brancucci & local coll. leg.” / “NHMB Basel, NMPC Prague, Laos 2009 Expedition: M. Brancucci, M. Geiser, Z. Kraus, D. Hauck, V. Kubáň” (NHMB); 50, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), 1300–1900 m, 7.iv.–25.v.2010, 20°12′N, 104°01′E, leg. C. Holzschuh” / “BMNH{E}, 2012-14, C. Holzschuh” (AAC, BMNH, GERP, ZSM); 94, “NE LAOS, Hua Phan prov., Ban Saleui, Phou Pan (Mt.), N20°12′ E104°01′, 1300–1900 m, 11.iv.–15.v.2012” / “BMNH{E}, 2012-14, C. Holzschuh” (BMNH, FSCA, GERP, ZSM).

Each specimen labeled: “PARATYPE, *Graciliforma rufoapicalis*, Otto, det. R.L. Otto, 2014” (either ♂ or ♀ handwritten behind species name on each label) [yellow printed label]. All paratypes are deposited in AAC, BMNH, FSCA, GERP, JMC, NHMB and ZSM.

Description. Male holotype: Length, 7.00 mm. Width, 1.50 mm. Body color brown-black (Fig. 193).

Head: Closely and deeply punctate, surface shiny; eyes slightly protuberant; frons with slight circular depression above antennal insertions; labial and maxillary palpi reddish-brown.

Antennae: Subfiliform, reaching about 1/2 the length of the body; black with antennomere II and apical half of antennomere XI reddish.

Pronotum: Dark brown-black, shiny with short, yellow recumbent setae; surface with closely spaced, deep punctations; slightly rugose; slightly longer than wide, basally widest; with moderate hind angles; slightly carinulate above hind angles; arcuate in apical 3/4; disc convex, lacking circular foveae; slight median sulcus present above scutellum, extending up to 1/2 the length of pronotum.

Elytron: Length 5.00 mm. Width 0.33 mm at humeri. Convex, shiny with short, yellow recumbent setae, dark brown-black. Disc slightly striate. Interstices slightly elevated, horizontally rugose.

Legs: Shiny, dark brown-black. Apical ends reddish. Tarsi dark reddish in color. Surfaces shallowly punctate; with short, yellow recumbent setae.

Venter: Shiny, dark brown-black, surface with short, yellow recumbent setae; closely, shallowly punctate.

Allotype: 6.00 mm long; antennae weakly serriform, reaching 1/3 the length of the body, just beyond the hind angles; antennomere XI shorter, more ovoid than male; pronotal disc more convex, median sulcus shorter than male; tarsi darker; metathoracic tarsi I as long as the combined lengths of the remaining four.

Variation. One hundred and fifty-two adult paratypes were examined. One hundred and thirty-six male paratypes varied in length from 4.00–7.25 mm. Sixteen female paratypes varied in length from 5.50–6.00 mm. Females are on average larger than males. Female antennae are weakly serriform, not quite filiform as present in male specimens. Female antennae are quite short, extending about 1/3 the length of the body, just beyond the hind angles of the pronotum. Antennomere XI are shorter, more ovoid, while males have a more elongate terminal segment. Male antennae are slightly longer than 1/3 the length of the body. Color intensity at the apical half of antennomere XI exhibits some variability. Some specimens were observed to have a much smaller reddish area of the antennae than in other specimens. Coloration of the tibiae and tarsi also exhibit some variability. Some male specimens have similarly colored legs as in females, while other specimens have a lighter coloration. The median sulcus above the scutellum on the pronotal disc is variable among some specimens. The impression is more pronounced in some, while other specimens exhibit either weak to almost absent sulcus.

Etymology. The specific epithet is a combination of two Latin words ‘*rufus*’ for red and ‘*apic-*’ for apex in reference to antennomere XI having reddish coloration present on the apical half of the segment.

Differential diagnosis. See Diagnosis of the monotypic genus.

Distribution. A common, endemic eucnemid species known from a single locality within the Houaphanh province in Northeastern Laos and a single locality within the Borikhamxay province in Central Laos.

Ecoregion(s). Northern Annamites rain forests, Northern Indochina subtropical forests, Southern Annamites montane rain forests.

Biology. Developmental stages remain unknown. Adults were taken from a lowland semi-evergreen forest and tropical montane deciduous forest.

***Miruantennus* gen.nov.**

Type species. *Miruantennus basalis* sp.nov., designated here.

Diagnosis. Within the tribe, adult *Miruantennus* superficially resemble *Graciliforma*, *Nematodes* Berthold and *Neomathion* Fleutiaux. *Miruantennus* can be distinguished from *Graciliforma* by the absence of basally open, shallow, lateral antennal grooves on the hypermeron. Strongly elongate capitate antennal segments and exposed last abdominal segment will further distinguish the new group from *Nematodes* and *Neomathion*.

Description. Male. Body elongate-narrow, approximately four times longer than wide, dorsally convex and ventrally well sclerotized.

Head: Hypognathus with elongate setae. Antennae capitate with 11 antennomeres, terminal four segments elongate, setose; scape two times longer than pedicel; pedicel

elongate, subequal to antennomere III; antennomere III slightly longer than antennomere IV; antennomere IV as long as antennomere V; antennomere V slightly shorter than antennomere III; antennomeres VI–VII subequal in lengths, slightly expanded; antennomeres VIII–XI subequal, enlarged, each as long as the combined lengths of antennomeres III–VI (Fig. 197). Compound eye circular, well developed, moderately large. Antennal groove absent in geni region between base of mandible and compound eye. Frontoclypeal region subtriangular, apically rounded, 2.00 times wider apically than the distance between antennal sockets. Mandibles well developed, stout, setose; left mandibles unidentate; right mandible bidentate. Maxillary palpi 3-segmented; apical segment rectangular, nearly as long as preceding two segments. Labial palpi short, 2-segmented; apical segment rectangular, longer than preceding segment. Labrum concealed.

Pronotum: Rectangular, convex, setose, parallel-sided, arcuate craniad. Longer than wide. Lateral pronotal ridge entire, slightly sinuate near craniad. Disc convex with pair of small circular foveae, short carina present above scutellum; base sinuous.

Scutellum: Longer than wide, sub-triangular, distally rounded.

Elytron: Elongate, convex, laterally marginate, setose. Disc with indistinct striae, except near suture. Humeral region moderately striate. Interstices flattened.

Legs: Prothoracic legs shortest, metathoracic legs longest. Prothoracic tibia elongate, triangular, flattened, basally narrowed, apically rounded, setose with one apical spur. First prothoracic tarsi with straight basal sex combs. Lateral side of mesothoracic and metathoracic tibiae with hairs and transverse rows of spines. Metathoracic tarsi, including claws longer than tibia. First metathoracic tarsi as long as the combined lengths of remaining four. Metathoracic tarsi I–III simple. Metathoracic tarsi IV excavated-emarginated, wider than III. Metathoracic tarsi V short with basally swollen, simple claws. Tarsal formula 5-5-5.

Venter: With elongate setae. Prothoracic sternal peg basally broad, somewhat short. Notosternal suture as long as the hypomeral base. Hypomeron simple, without lateral antennal grooves (Fig. 198). Epipleura expanded, not grooved. Metathoracic episterna caudally wide. Metathoracic coxal plate medially 2.00 times wider than laterally. Tarsal grooves absent on mesothoracic and metathoracic sterna. Abdomen with five visible ventrites, medially convex. Last visible ventrite forming a strongly produced, truncated beak. Last abdominal segment exposed, extending beyond elytral apices.

Etymology. The generic name, *Miruantennus* is a combination of two Latin words ‘*mirus*’ for wonderful and ‘*antenna*’ for sailyard in reference to its unique antennal structure found in the tribe. Gender: masculine.

***Miruantennus basalis* sp.nov.** (Fig. 196–198)

Type material. Male holotype: “LAOS Champasak province, Paksé-Paksong, Ban Itou env., 10–18.IV.1999 800 masl, N 15 10.4’ E 106 0.5.8’ (GPS), E. Jendek & O. Sausa leg.” / “*Graciliforma* sp.nov., J. Muona det. 2014” / “HOLOTYPE, *Miruantennus, basalis*, Otto, det. R.L. Otto, 2014” (♂ handwritten behind species name on label) [red printed label]. Holotype is deposited in JMC.

Description. Male holotype: Length, 5.00 mm. Width, 1.00 mm. Body color dark brown-black, humeral region pale orange (Fig. 196).

Head: Black; closely punctate to granulose, surface dullish; eyes slightly protuberant; frons with small circular tubercle above antennal insertions; labial and maxillary palpi yellowish-brown.

Antennae: Capitate, reaching slightly more than a 1/3 the length of the body; medium brown with antennomeres VIII–XI dark brown.

Pronotum: Black, except for reddish apical margin, dullish with short, yellow recumbent setae; surface rugose to granulose; longer than wide, parallel-sided; with short hind angles; arcuate craniad; disc convex, with small, shallow circular foveae; slight median carina present above scutellum; base sinuous.

Elytron: Length 3.25 mm. Width 0.50 mm at humeri. Convex, shiny with short, yellow recumbent setae, dark brown-black, humeri pale orange. Disc indistinctly striate, except near suture. Interstices flattened, horizontally rugose.

Legs: Shiny, uniformly yellowish-brown. Tarsi yellowish-brown in color. Surfaces shallowly punctate; with short, yellow recumbent setae.

Venter: Shiny, black, surface with short, yellow recumbent setae; closely, shallowly punctate.

Etymology. The specific epithet is derived in reference to its lighter orange coloration present at the humeral region of the elytra.

Differential diagnosis. See Diagnosis of the monotypic genus.

Distribution. A very rare, endemic eucnemid species known from a holotype collected in Champasack province of Southern Laos.

Ecoregion(s). Central Indochina dry forest.

Biology. Developmental stages remain unknown. A single adult was collected from a lowland semi-evergreen forest.

Eucnemidae present in adjacent countries

<i>Anelastes crenulatus</i> (Bonvouloir, 1875)	..... Cambodia, India, Myanmar (FLEUTIAUX 1896, 1947)
<i>Farsus brevis</i> Fleutiaux, 1931	..... Vietnam (FLEUTIAUX 1931a)
<i>Farsus exoticus</i> Bonvouloir, 1871	..... India, Myanmar (BONVOULAIR 1871; FLEUTIAUX 1896)
<i>Rhagomicrus circumdatus</i> Fleutiaux, 1929	..... Vietnam (FLEUTIAUX 1929)
<i>Entomophthalmus alutaceus</i> Fleutiaux, 1938	.. Vietnam (FLEUTIAUX 1938b)
<i>Microrhagus quadricollis</i> (Fleutiaux, 1947)	.... Vietnam (FLEUTIAUX 1947)
<i>Microrhagus rouani</i> (Fleutiaux, 1924)	..... Vietnam (FLEUTIAUX 1924a)
<i>Microrhagus tonkinensis</i> (Fleutiaux, 1929)	.... Vietnam (FLEUTIAUX 1929)
<i>Scopulifer florentini</i> Fleutiaux, 1918	..... Vietnam, Myanmar (FLEUTIAUX 1927)
<i>Dendrocharis bicolor</i> Redtenbacher, 1867	..... Vietnam (MUONA 1991a)
<i>Dyscharachthis amplicollis</i> (Fleutiaux, 1923)	Thailand (OTTO, pers. obs.)
<i>Perrotius tenuipes</i> Fleutiaux, 1938	..... Vietnam (FLEUTIAUX 1938a)
<i>Mesogenus blumei</i> Fleutiaux, 1896	..... Myanmar (MUONA 1991a)
<i>Mesogenus mellyi</i> Bonvouloir, 1875	..... Indonesia, Malaysia

<i>Temnus sumatrensis</i> (Fleutiaux, 1896)	..... Vietnam (FLEUTIAUX 1923)
<i>Epipleurus coomani</i> Fleutiaux, 1928	..... Vietnam (FLEUTIAUX 1928)
<i>Galbites auricolor</i> (Bonvouloir, 1875)	..... India (MUONA 1991b)
<i>Galbites tomentosa</i> (Montrouzier, 1855)	..... Malay Peninsula (MUONA 1991b)
<i>Galbites wallacei</i> (Perroud & Montrouzier, 1864)	..... China, India, Myanmar, Singapore, Thailand (FLEUTIAUX 1896; MUONA 1991b)
<i>Diapodius infirmus</i> Bonvouloir, 1875	..... Thailand (FLEUTIAUX 1947)
<i>Pseudoscython parvulus</i> (Fleutiaux, 1899)	..... India, Myanmar, Vietnam (FLEUTIAUX 1899; MUONA 1991a)
<i>Scython florentini</i> Fleutiaux, 1918	..... Vietnam (FLEUTIAUX 1918)
<i>Cladoscython ramosus</i> (Fleutiaux, 1896)	..... Myanmar (FLEUTIAUX 1896)
<i>Proformax languei</i> Fleutiaux, 1896	..... Vietnam (FLEUTIAUX 1896)
<i>Serriformax extractus</i> Fleutiaux, 1947	..... Vietnam (FLEUTIAUX 1947)
<i>Serriformax longipennis</i> (Fleutiaux, 1927)	..... Vietnam (FLEUTIAUX 1927)
<i>Fornax blaisei</i> Fleutiaux, 1924	..... Vietnam (FLEUTIAUX 1924a)
<i>Fornax diversus</i> Fleutiaux, 1929	..... Vietnam (FLEUTIAUX 1929)
<i>Raapia galboides</i> Fleutiaux, 1899	..... Vietnam (FLEUTIAUX 1928)
<i>Dromaeolus hoabinus</i> Fleutiaux, 1947	..... Vietnam (FLEUTIAUX 1947)
<i>Dromaeolus rufus</i> Fleutiaux, 1918	..... Myanmar (FLEUTIAUX 1896)
<i>Dromaeolus tonkinensis</i> (Fleutiaux, 1927)	..... Vietnam (FLEUTIAUX 1927, 1947)
<i>Nematodes confusus</i> Fleutiaux, 1947	..... Vietnam (FLEUTIAUX 1947)
<i>Nematodes incertus</i> Bonvouloir, 1872	..... Myanmar (FLEUTIAUX 1896)

FLEUTIAUX (1923) listed two species, *Mesogenus mellyi* Bonvouloir, 1875 and *Diapodius infirmus* Bonvouloir, 1875 captured in Laos. These two eucnemid species however, have not been verified as taken in Laos and I have regarded these species as erroneously listed. Further research and surveys are needed to verify their presence in Laos.

FLEUTIAUX (1927, 1947) listed *Pterotarsus tomentosus* (Montrouzier, 1855) (now *Galbites tomentosa* (Montrouzier)) captured in Tonkin (now Vietnam). This species however, has otherwise only been taken as far north as Peninsular Malaysia (MUONA 1991b). The Vietnamese record requires further confirmation and it is quite possible if verified in Vietnam, that the range of this eucnemid species may extend into Laos.

Discussion

Globally, 14 different biomes and 8 biogeographic regions are recognized under these categories established by the World Wildlife Fund. Laos, as part of the Indo-Malayan region is home to two major biomes: Tropical/Subtropical Moist Broadleaf Forests and Tropical/Subtropical Dry Broadleaf Forests. Small, discrete ecoregions are categorized within these biomes.

Of the 71 ecoregions recognized within the Tropical/Subtropical Moist Broadleaf Forests in the Indo-Malayan region, 6 ecoregions are present in Laos. These ecoregions include the following: Luang Prabang montane rain forests, Northern Annamites rain forests, Northern Indochina subtropical forests, Northern Khorat Plateau moist deciduous forests, Northern Thailand-Laos moist deciduous forests and Southern Annamites montane rain forests.

Of the 12 ecoregions within the Tropical/Subtropical Dry Broadleaf Forests in the biogeographic region, only 2 ecoregions are present in Laos. These two ecoregions include the following: Central Indochina dry forests and Southeastern Indochina dry evergreen forests.

Central Indochina dry forests encompass a large area of the Indochina sub region covering much of Thailand as well as Cambodia, southeastern Laos and extending in southern Vietnam. Dipterocarps are the dominant elements of the drier forest systems within the ecoregion. The ecoregion receives approximately 100–150 cm of rainfall annually, with periods of drought lasting 5–7 months. Wildfires are common occurrences within the ecoregion. In Laos, only 3 species of Eucnemidae have been sampled within the ecoregion in the southern areas of the country.

Luang Prabang montane rain forests covers much of north central Laos south into north central Thailand. It is the second largest ecoregion in Laos, which is a heterogeneous mix of different forest communities including open montane forests, open conifer forests, mesic conifer-hardwood forests and montane hardwood forests dominated with Fagaceae and Lauraceae. Soils are thin, granitic in areas. Other areas, particularly dominated with pines, occur on skeletal soils of sandstone or clay schist. The ecoregion receives approximately 200–300 cm of rainfall annually with a long dry season. In Laos, 43 species of Eucnemidae have been sampled within the ecoregion in the north central part of the country.

Northern Annamites rain forests lies largely in east central Laos, extending into the Annamite Range of west central part of Vietnam. Low level, two tiered mesic montane forest systems are predominately members of Myrtaceae, Fagaceae, Elaeocarpaceae, and Lauraceae, with high levels of endemism taking place within the ecoregion. Geologic substrates are varied within the ecoregion, with large areas of limestone karst topography is present. Climate within the ecoregion are abrupt along the mountain crest. Within montane habitats, the ecoregion receives 150–250 cm of rainfall annually. In Laos, 53 species of Eucnemidae have been taken within the ecoregion in the east central part of the country.

Northern Indochina subtropical forests extends across the highlands of four countries including southern China, northern Laos, Myanmar and northern Vietnam. It is one of the largest ecoregion in area within Laos, composed of a heterogeneous mix of different forest systems, which will have Himalayan floristic elements in some areas influenced by high rainfall totals of the spring/summer seasons and cooler temperatures in the winter. These include open canopy pine forests, tropical montane rain forests, subtropical broadleaf forests, monsoon forests, evergreen broadleaf forests and tropical seasonal forests. Many of the trees within the ecoregion includes members of the Theaceae, Magnoliaceae and Fagaceae families in these forest systems. Mountains are

composed largely of Paleozoic limestone or igneous rocks. The region is warmest in the spring, prior to the start of the summer monsoon season. January is the coldest period with infrequent frost activities at higher elevations. The ecoregion receives 120–250 cm of rainfall annually. In Laos, 104 species of Eucnemidae have been sampled in the northern areas of the country.

Northern Khorat Plateau moist deciduous forests is a small ecoregion largely confined along the Mekong River Valley largely in northern Thailand and into east central area of Laos, south of the capital city of Vientiane. It has been suggested the mixed deciduous forest present in the valley is an intermediate of the mesic semi-evergreen forests and the xeric deciduous Dipterocarp forests, similar to the forest structures present in the Central Indochina dry forests. Much of the natural habitat within the ecoregion have been converted to agriculture. The ecoregion receives 200–300 cm of rainfall annually with 5–6 month dry season. In Laos, only 12 species of Eucnemidae have been taken along the Mekong River within the valley of west central part of the country.

Northern Thailand-Laos moist deciduous forests is a small ecoregion which spans the northern areas of Thailand and extending into northern and western Laos north of Vientiane, largely confined along major river valleys and tributaries. Teak (*Tectona grandis* Linnaeus filius; Lamiaceae) is co-predominantly present as one of the major tree species within the moist mixed deciduous forests in the ecoregion. A number of other floristic families are also present in the mesic forest systems. However, much of the natural habitats, including teak forests have been either destroyed or degraded due to selective logging, burning or converted to agricultural use. The ecoregion receives 100–120 cm of rainfall annually. In Laos, 6 species of Eucnemidae have been sampled within the ecoregion in the northern areas of the country.

Southern Annamites montane rain forests is highly remote and scattered in several areas including the Bolavans Plateau of southeast Laos and the Annamite Range of central Vietnam near the border with Cambodia. The region is extremely diverse in geologic strata, which includes granites, basalts and sedimentary substrates. The ecoregion consists of several forest systems, which includes the wet evergreen forests dominated by members of Fagaceae, Myrtaceae, and Lauraceae along with Anacardiaceae, Burseraceae, Dipterocarpaceae at lower elevations as well as conifer forests and hardwood forests largely consisting of Fagaceae, with members of Magnoliaceae, Aceraceae, Podocarpaceae, Lauraceae, and Theaceae at montane elevations. Forest systems at the highest levels consists largely members of Fagaceae, Theaceae, Ericaceae and a number of conifer species. These high elevation forest systems are often clothed in moist clouds. Abundances of dew and fog in these areas will make up for the lack of rainfall during the dry season. Mean rainfall totals in the ecoregion often exceeds more 250 cm followed by a short dry season lasting 2–3 months. In Laos, 11 species of Eucnemidae have been taken in the southern areas of the country, near the Bolavans Plateau.

Southeastern Indochina dry evergreen forests encompasses much of southern Vietnam and Cambodia, with narrow tracts of the ecoregion present in both southern Laos and central and northern areas of Thailand. Semi-evergreen forests composed

largely of Dipterocarps usually have multi-layered, open structured canopies. Floristic composition within these plant communities are lower and less diverse as compared with the evergreen tropical rain forests. Dry evergreen forests within the region occur on both calcareous and crystalline rock substrates. The ecoregion is humid to sub-humid receiving approximately 120–200 cm of rainfall annually with 3–6 months of significant dry periods. In Laos, no Eucnemidae have been sampled within the ecoregion in the southern areas of the country.

Prior to the start of the current survey of the family in Laos, only 27 described species along with two undescribed *Arrhipis* species were recorded for Laos, based on four major resources (FLEUTIAUX 1947; COBOS 1979; MUONA 1991b; BRÜSTLE *et al.* 2010). The last revision of the family for the region was published by FLEUTIAUX (1947), in which he listed 23 species taken by various collectors in Laos. *Agastocerus signaticollis* Bonvouloir, 1875 was listed in the paper as one of the eucnemid species collected in Laos. However, the identification of that species is questionable and it may refer to *Agastocerus frontalis* Fleutiaux, 1899. MUONA (1991b) revised the Eucnemine tribe Galbitini, added several *Galbimorpha* species to the Laotian fauna and synonymized *Pterotarsus mouhouti* Fleutiaux, 1924 under *Galba australiae* Lea, 1919 before transferring the species to *Galbites*. BRÜSTLE *et al.* (2010) added two species to the fauna. The current study lists a total of 154 species collected in Laos. From those figures, 129 species of Eucnemidae are recorded for the first time from Laos, including 53 newly described species. Factoring in all unnamed new species in current revisionary research projects, the Laotian Eucnemid fauna will stand at 162 species.

The majority of the Eucnemidae surveyed in Laos were collected in the northern half of the country, mostly from the NHMB expeditions of 2010–2012 lead by M. Brancucci. Some survey work has been conducted in the southern part of Laos. Future surveys in Laos not only will add additional data for existing species present in unexplored areas of the country, but may potentially add many new country records for species already present in adjacent countries in the region. Revisionary work of at least several groups led by Jyrki Muona will certainly add a number of new species (two in *Arrhipis*, one in *Arisus* and two in *Mesogenus*) to the Laotian eucnemid fauna. The upcoming revision of the tribe Dendrocharini will also add several new species to the Laotian fauna. The potential of adding at least an additional 40 species is very likely, making Laos one of the richest countries not only in the region, but also around the globe for this family, which could reach close to 200 or more species.

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