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A contribution to knowledge of the genus *Rhagonycha* Eschscholz, 1830 (Coleoptera, Cantharidae)

by Vladimír Švihla

Abstract. Species related to *Rhagonycha aetolica* (Kiesenwetter, 1859) are reviewed, illustrated, discussed and keyed. New species belonging to the group, and others, are described and illustrated: *Rhagonycha chironi* sp.nov. (Greece: Thessaly), *R. parnassica* sp.nov. (Greece: Parnassos mts.), *R. schneideri* sp.nov. (W Turkey), *R. ondreji* sp.nov. (China: Nei Mongol), *R. satoi* sp.nov. (China: Gansu) and *R. kazakhstanica* sp.nov. (E Kazakhstan: Tarbagatay mts.). *R. holtzi* Pic, 1905 sp.restit. is removed from synonymy with *R. aetolica* (Kiesenwetter, 1859). New synonyms are established: *R. holtzi* Pic, 1905 = *R. aetolica* var. *moreana* Pic, 1909, syn.nov., *R. balcanica* Pic, 1901 = *R. helleni* Dahlgren, 1968, syn.nov. and *Cratosilis osmana* Wittmer, 1972, syn.nov.

Key words. Coleoptera – Cantharidae – *Rhagonycha* – taxonomy – key – new species – restituted species – new synonyms – Palaearctic region

Introduction

The current paper follows on from my preceding articles on this subject (ŠVIHLA 1993, 1995, 2002). It deals with the taxonomy of some Balkan species, namely the *Rhagonycha aetolica* group and the synonymy of *R. balcanica* Pic, 1901. In addition, descriptions of new species from Turkey, Kazakhstan and China are presented.

Material and methods

The material is deposited in the following collections:

NHMB Naturhistorisches Museum, Basel, Switzerland
NMPC Národní muzeum, Praha, Czech Republic
UZMH University Zoological Museum, Helsinki, Finland
ZILS Museum of Zoology, Lund University, Lund, Sweden

The colours and their shades used in the descriptions are classified after PACLT (1958) and the names of integumental structures follow HARRIS (1979). The latter were observed under ×90 magnification. The locality labels of the type material are cited verbatim with dates converted to a standard English style. Separate labels are divided by a slash in text. The names of localities for the additional material are written in standard English style.

In the illustrations of the dorsal part of the aedeagus seen in dorsal view, the apical pubescence is omitted. Illustrations of parameres in ventrolateral view are drawn in such a way as to be considered parallel to the level of examination.

Review of species related to *Rhagonycha aetolica* (Kiesenwetter, 1859)

The *R. aetolica* group of species is characterized by a similarly formed dorsal part of the aedeagus and parameres and by a tendency to dilatation of the penultimate tergite in both sexes. As far as is known, the representatives of this group are restricted to the southern part of the Balkan Peninsula and the western part of Turkey. Excluding the species discussed and keyed below, other species belonging to this group also include *R. diversipes* Pic, 1905 (Romania: southern Carpathians), *R. cruentata* (Reiche, 1862) (Greece: Attica, Evvoia), *R. bythinica* Marseul, 1864 (W Turkey), *R. pamphylica* Wittmer, 1972 (SW Turkey), *R. gillerforsii* Švihla, 1993 (SW Turkey) and *R. stanislavi* Švihla, 2002 (SW Turkey).

Several species with identical parameres to those in Figs. 20–21 occur in Greece and adjacent countries. The dorsal part of the aedeagus is variable to a greater or lesser extent, even in the same locality, so these species, probably relatively young in evolutionary terms, can be differentiated only by their coloration combined with the range of variation in the shape of dorsal part of the aedeagus and the size of the eyes, as is shown below.

Rhagonycha aetolica (Kiesenwetter, 1859) (Figs 1–5)

Telephorus aetolicus Kiesenwetter, 1859: 25, type locality: Vrachori [= Greece, W Greece prov., Agrinion].

Material examined. Albania: Krujë, R. Hicker lgt., 1♂ 3♀♀; Vlorë, 1 ♀; Llogaraja, vi.1932, Bischoff lgt., 1♀; Korrë, 1♂ 2♀♀ (all NHMB); Macedonia, Pelister, vii.1914, Rambousek lgt.; Greece: Parnassos mts., Tithoréa, V. Melich lgt., 1♂ (all NMPC); Karpenision, Apfelbeck lgt., 1♂ (NHMB).

Distribution. Central and S Albania, S Macedonia, Greece: Western Greece prov., Central Greece prov.

Comments. The type material of *R. aetolica* has been destroyed. Judging by the coloration mentioned in the original description, it may also have involved *R. monticola* Dahlgren, 1985. However the latter species is smaller and with small and less protruding eyes (Figs 1, 22) (KIESENWETTER (1859) wrote “*Oculi in utroque sexu praecipue maris prominentis*”). Also the type locality of *R. aetolica* corresponds more closely with the localities of the material examined than that of *R. monticola* (Pindus mts.).

Rhagonycha holtzi Pic, 1905 sp.restit. (Figs 6–12)

Rhagonycha holtzi Pic, 1905: 185, type locality: [Greece, Peloponessus prov.] Chelmos mts.

Rhagonycha aetolica var. *moreana* Pic, 1909: 185, type locality: “Morée” [= Greece, Pelopónnisos Peninsula], **syn.nov.**

Rhagonycha aetolica var. *subaptera* Pic, 1909: 185, unavailable name according to ICZN (1999), Article 45.6.4.

Rhagonycha aetolica partim: DAHLGREN (1975): 109.

Material examined. Greece: Western Greece prov., Kalavríta [Chelmos mts.], Mařan lgt., 1♂; iv.1936, Mařan & Táborský lgt., 1♀; Pfeffer lgt., 1♀; 6 km N Mega Spileo, 12.v.1993, 1♂, J. Jelínek lgt.; Peloponessus prov.: Taygetos mts., Artemisía, 1700 m, 5.v.1979, Hladilovi lgt., 3♂♂; E Taygetos mts., 1700 m, 22.–24.v.1979,

Hladilovi lgt., 1♀; Kladhás env., 5 km NE Sparti, 8.–10.iv.2005, P. Bogusch et J. Skuhrovec lgt., 2♂♂ (all NMPC); Kalámata, 12.–30.iv.1982, Köstlin lgt., 1♂; Pílos, 11.–30.iv.1982, Köstlin lgt., 1♂; Mistrás, Meschnigg lgt., 1♂ 1♀; Parnon mts., Vamvakoú, 950–1200 m, Muche lgt., 1♂ (all NHMB).

Distribution. Greece: Pelopónnisos Peninsula (Western Greece prov. and Peloponnesus prov.).

Comments. DAHLGREN (1975), mentioned that the type material of *R. holtzi* was not found, and he assumed that *R. holtzi* was a synonym for *R. aetolica*; however *R. holtzi* differs in its entirely dark male pronotum and narrower base of the central, projecting, portion of the dorsal part of the aedeagus.

Rhagonycha kefallinica Dahlgren, 1975 (Figs 13–18)

Rhagonycha kefallinica Dahlgren, 1975: 109.

Type material examined. Holotype, ♂, extensively damaged, probably by *Anthrenus*, “Kephallenia, 1905, O. Leonhard [printed] / 255. [printed] / HOLOTYPE, RHAGONYCHA KEFALLINICA, G. DAHLGREN, 17.1.1974 [handwritten] / Mus. Zool. Helsinki, loan no. C 9051 [yellow label, printed and handwritten] / Mus. Zool. Helsinki, Loan Nr. C 05-351 [yellow label, printed]” (UZMH).

Additional material examined. Greece: Kephallénia: 1905, O. Leonhard lgt., 2♂♂ 2♀♀; A. Wikler lgt., 7♂♂ 1♀ (all NHMB); Peloponessus prov.: Taygetos mts.: Breit lgt., 1♂ (NHMB); 1935, Mařan & Štěpánek lgt., 9♂♂ 6♀♀; 1700 m, 22.–24.v.1979, Hladilovi lgt., 1♂; Artemisia, 8.–11.vi.1980, Bílý & Brodský lgt., 1♂; 1700 m, 5.v.1979, Hladilovi lgt., 3♂♂; Krionérion, 17.–18.vi.1974, Horák & Švihla lgt., 1♀; Kalamáta, 12.–30.iv.1982, Köstlin lgt., 1♂; Monemvasía, 16.vi.1974, V. Melich lgt., 1♂; Paradísia nr. Megalopólis, 12.iv.1995, T. Kopecký lgt., 1♂ (all NMPC).

Distribution. Greece: Pelopónissos Peninsula (Peloponnesus prov.).

Comments. *R. kefallinica* occurs sympatrically in some localities with *R. holtzi* (see above).

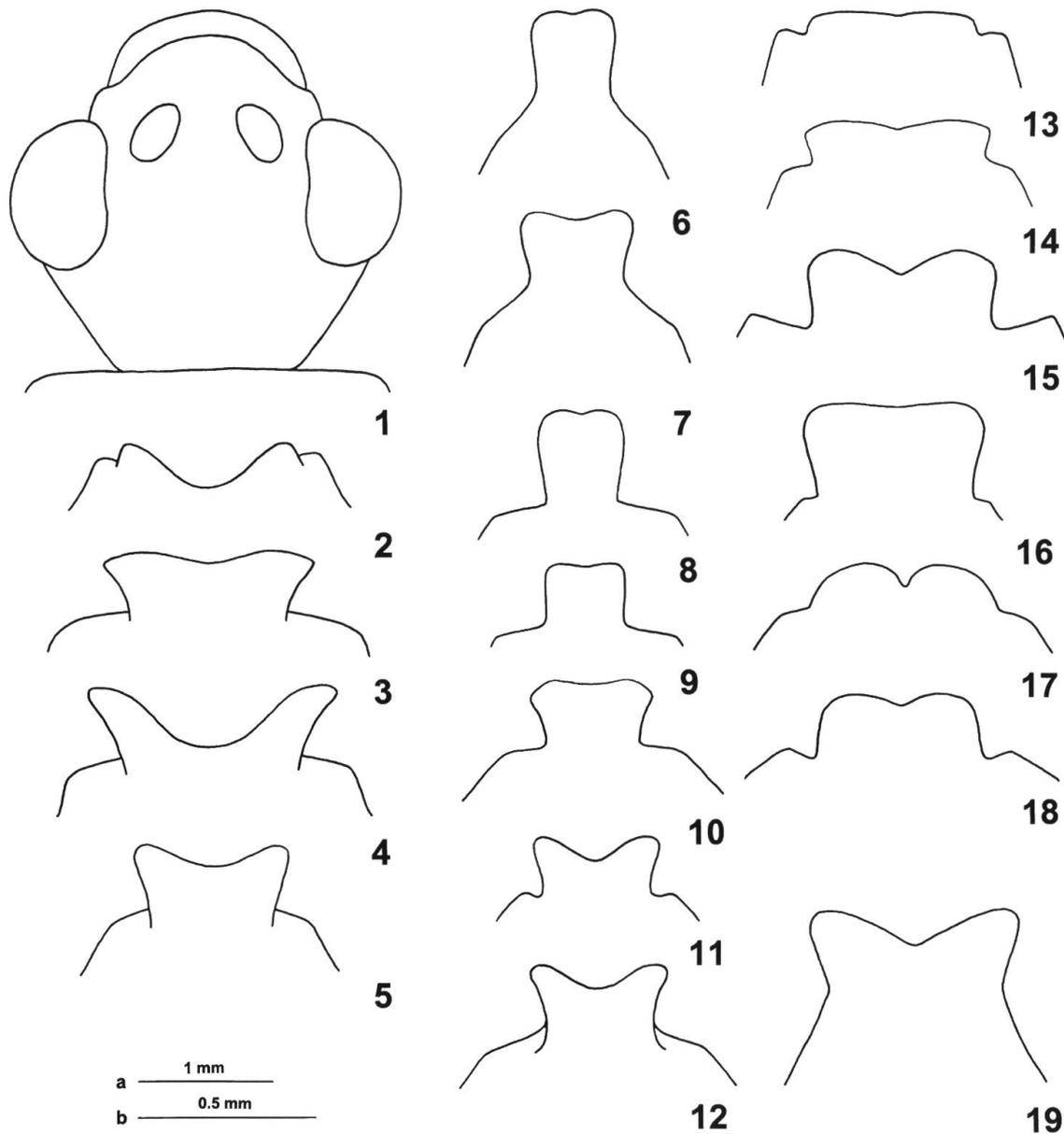
Rhagonycha chironi sp.nov. (Figs 19–21)

Type locality. Greece, Thessaly, Mt. Pílion.

Type material. Holotype, ♂, “Pelion [= Mt. Pílion], Thessalien [printed]” (NHMB); paratypes, same data, 2♀♀ (NHMB, NMPC).

Description. Coloration. Head black, mouthparts terra-cotta, antennae sooty. Thorax including scutellum black, abdomen sooty, legs honey yellow, elytra honey yellow, apices narrowly sepia.

Male. Eyes large and protruding, similar to Fig. 1, head across eyes as wide as pronotum, behind eyes straight then strongly narrowed posteriorly as in Fig. 1. Antennae almost reaching elytral apex. Surface of head very finely and densely punctate, with sparse, long, recumbent white pubescence, matt. Pronotum moderately wider than long, its anterior margin strongly rounded; anterior corners rounded, lateral margins rather strongly divergent apically, almost straight, very slightly sinuate before obtuse posterior corners; posterior margin widely rounded. Surface of pronotum sparsely and very finely punctate on disc, more densely punctate laterally, with sparse, long, recumbent white



Figs 1–19. 1–5, *Rhagonycha aetolica* (Ksw.): 1, head of male, semischematically; 2–5, variability of dorsal part of aedeagus: 2, Pelister; 3, Karpension; 4, Tithoréa; 5, Korrö. 6–12, *R. holtzi* Pic, variability of dorsal part of aedeagus: 6, Kalavrita; 7, Pílos; 8, Kladhás; 9, Artemisia; 10, Pílos; 11, Mega Spileo; 12, Kladhás. 13–18, *R. kefallinica* Dahlg., variability of dorsal part of aedeagus: 13–14, Kephallénia; 15–18, Taygetos mts. 19, *R. chironi* sp. nov., dorsal part of aedeagus. Scale a: 1, b: 2–19.

pubescence, semilustrous on disc, matt laterally. Elytra slender, slightly dilated apically, their surface finely rugulose-lacunose, with sparse, recumbent white pubescence, semilustrous. Elytral nervation slightly indicated. Penultimate tergite moderately but distinctly enlarged, aedeagus as in Figs 19–21.

Female. Eyes smaller and less protruding than in male, head across eyes moderately narrower than pronotum; head beyond eyes roundly narrowing posteriorly. Antennae shorter, reaching elytral mid-length. Elytra shorter and comparatively larger than in male.

Length ♂♀: 8.4–9.1 mm.

Distribution. Greece: Thessaly prov.

Derivatio nominis. Named after Chiron, a centaur prominent in Greek mythology who lived on Mount Pilion (ancient Pelion). Known as a sage, he was the tutor of many heroes in Greek legends.

Differential diagnosis. *Rhagonycha chironi* sp.nov. differs from other related species in its yellow legs and the terminal darkening of its elytra. Judging by the shape of dorsal part of the aedeagus and protruding eyes, it appears to be most closely related to *R. aetolica*.

***Rhagonycha monticola* Dahlgren, 1985** (Figs 22–24)

Rhagonycha monticola Dahlgren, 1985: 163, type locality: Greece, Central Greece prov. [Pindus mts.], Karditsis Pili, Kasarma.

Type material examined. Holotype, ♂, “Greece: Karditsis Pili, Kasarma, 16–1900 m. ö h., 14.vi.1971, leg. J. E. Nawrin [printed] / HOLOTYPE, RHAGONYCHA MONTICOLA, G. DAHLGREN 26.2.1985 [handwritten] / Zool. Mus. Lund Sweden, Cantharidae, TYPE NO. 2497: 1–2 [printed and handwritten]”; paratype, ♂ (aedeagus absent), “GR: Evritania, Mt. Timfristos, 1 km S Ski Centre, loc. 20, 10.vi.1982, leg. R. Danielsson (DAYS) [printed] / PARATYPE, RHAGONYCHA MONTICOLA, G. DAHLGREN 26.2.1985 [handwritten] / Type No. 2497:2 / ZML . 2005 071 [green label, printed]” (all ZILS).

Additional material examined. Greece, Thessaly prov., Trikala, 1 km E Katara, loc. 38, R. Danielsson lgt., 1♀ (ZILS).

Distribution. Greece: Pindus mts. (Central Greece prov., Thessaly prov.).

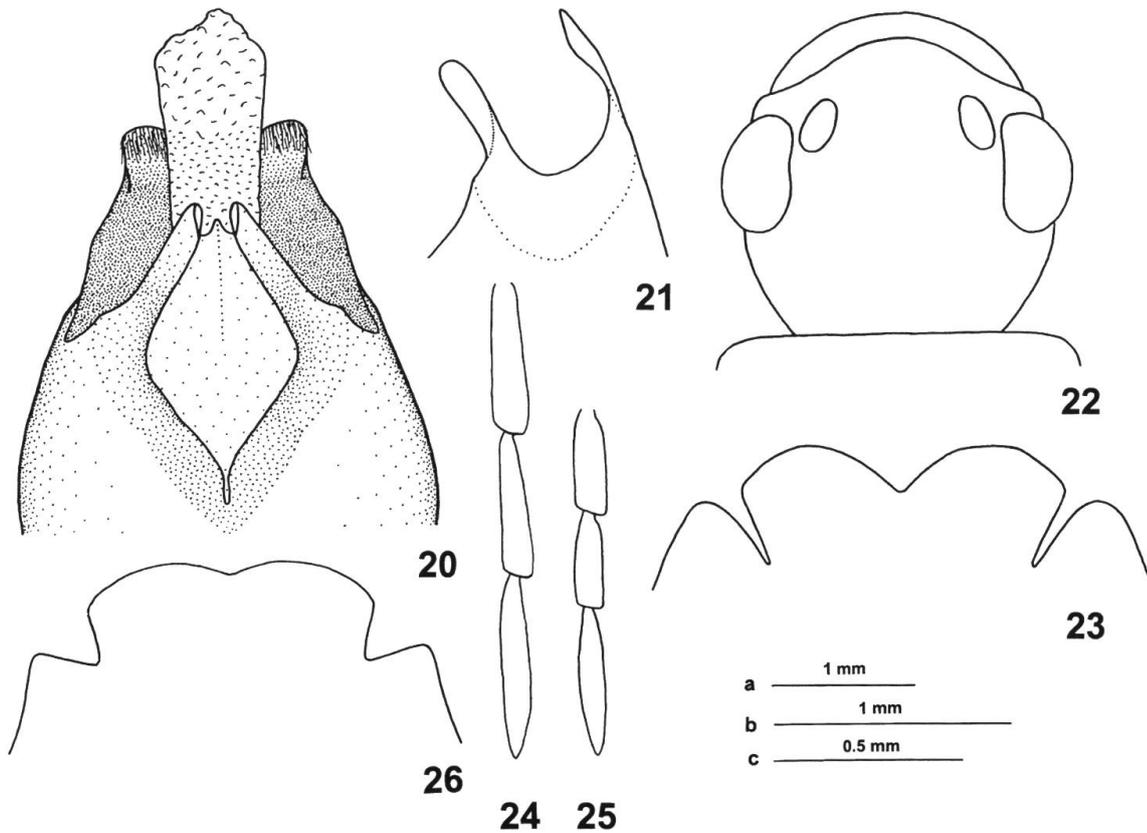
***Rhagonycha parnassica* sp.nov.** (Figs 25–26)

Type locality. Greece, Central Greece prov., Parnassos mts., Sarandavli env., subalpine zone, 1800–2200 m.

Type material. Holotype, ♂, “Graecia m. [Central Greece prov.], Parnassos mts., Sarandavli env., subalpine, 1800–2200 m, 20.vi.2005, S. Benedikt leg.”; paratypes, same data 2♂♂ (all NMPC).

Description. Coloration. Entirely black, only mandibles rusty.

Male. Eyes small, similar to Fig. 22, only moderately protruding, head across eyes as wide as pronotum, head beyond eyes rounded, slightly narrowed posteriorly as in Fig. 22. Antennae reaching ca. two thirds of elytral length, antennomeres from third one strikingly stout, becoming sequentially more slender towards the ends (Fig. 25). Surface of head very finely and densely punctate, with sparse, rather long, recumbent yellow pubescence, matt. Pronotum almost a fifth wider than long, its anterior margin rounded, anterior corners obtuse, lateral margins only very slightly diverging posteriorly, nearly straight, only very slightly sinuate before obtuse posterior corners, posterior margin widely rounded, very slightly sinuate at centre. Surface of pronotum punctate and pubescent like that of head, matt. Elytra comparatively short (about 2.5 times as long as



Figs 20–26. 20–21, *Rhagonycha chironi* sp.nov.: 20, aedeagus, ventral view; 21, ditto, lateral view. 22–24, *R. monticola* Dahlg.: 22, head of male, semischematically; 23, dorsal part of aedeagus; 24, terminal antennomeres of male. 25–26, *R. parnassica* sp.nov.: 25, terminal antennomeres of male; 26, dorsal part of aedeagus. Scale a: 22, 24–25, b: 20–21, c: 23, 26.

wide), nearly parallel-sided, their surface rather roughly rugulose-lacunose, with sparse, recumbent yellow pubescence, matt, basally semilustrous. Elytral nervation only very slightly indicated. Penultimate tergite rather dilated, its lateroapical corners rounded. Ventral part of aedeagus and parameres very similar to that of other species reviewed here, dorsal part of aedeagus as in Fig. 26.

Female unknown.

Length ♂: 5.0–5.2 mm.

Distribution. Greece: Parnassos mts. (Central Greece prov.).

Derivatio nominis. Named after its type locality.

Differential diagnosis. *R. parnassica* sp.nov. is, judging by its short and stout body and small eyes, related to *R. monticola*, from which it differs in its black coloration and in stouter antennomeres (Figs 24–25).

Key to males of *Rhagonycha aetolica* and closely related species

1. Male pronotum yellow to yellowish-brown laterally. 2.
 - Male pronotum entirely black, at most very narrow lateral margins become paler, dark brown. 3.
2. Eyes large and strongly protruding as in Fig. 1, elytra more than three times longer than wide basally, entirely yellow, dorsal part of aedeagus not cordiform (Figs 2–5). Central and S Albania, S Macedonia, Greece: Central and Western Greece prov. ***R. aetolica* Ksw.**
 - Eyes small and only moderately protruding, as in Fig. 22, elytra less than three times longer than wide basally, narrowly dark at the base, dorsal part of aedeagus cordiform (Fig. 23). Greece: Pindus mts. (Thessaly and Central Greece prov.) ***R. monticola* Dahlg.**
3. Elytra entirely black, eyes as in Fig. 22, dorsal part of aedeagus as in Fig. 26. Greece: Parnassos mts. (Central Greece prov.) ***R. parnassica* sp.nov.**
 - Elytra yellow or yellowish brown, at most bases and/or narrow apices darkened, eyes large and protruding, as in Fig. 1. 4.
4. Legs entirely yellow, apices of elytra narrowly blackish, aedeagus as in Figs 19–21. Greece: Mt. Pílion (Thessaly prov.) ***R. chironi* sp.nov.**
 - Legs dark brown to black, tibiae sometimes slightly paler but never yellow.
5. Base of narrow portion of dorsal part of aedeagus wide (Figs 13–18), pronotum of female entirely black. Greece: Kephallénia, Pelopónnisos (Peloponnesus prov.) ***R. kefallinica* Dahlg.**
 - Base of narrow portion of dorsal part of aedeagus narrow (Figs 6–12), pronotum of female yellow laterally. Greece: Pelopónnisos (Western Greece and Peloponnesus prov.) ***R. holtzi* Pic**

***Rhagonycha schneideri* sp.nov.**

(Figs 27–28)

Type locality. Turkey, Manisa prov., Osmañçali env., 38° 42.67'N 27° 18.98'E (GPS), 80 m.

Type material. Holotype, ♂, “Turkey, Manisa prov., Osmañçali vill. env., N38 42.67 E27 18.98 [GPS], 80 m, 25.iv.2004, Jan Schneider leg.” [printed]; paratype, same data, 1♀ (all NMPC).

Description. Coloration. Head black, mouthparts sienna to chestnut-brown, antennae black, antennomeres 1–2 honey-yellow, 3–5 black with narrowly honey-yellow bases. Prothorax, scutellum and ventral part of body black, elytra honey-yellow. Femora black, anterior ones with honey-yellow terminal third, middle and posterior ones with only narrowly honey-yellow knees, tibiae entirely honey-yellow, tarsi rusty to sepia.

Male. Eyes comparatively small, slightly protruding, head across eyes very slightly wider than pronotum, beyond eyes narrowing posteriorly and slightly rounded. Antenna almost reaching elytral mid-length. Surface of head very finely and densely punctate,

sparsely and finely yellow pubescent, matt. Pronotum slightly wider than long, its anterior margin widely rounded, anterior corners rounded, lateral margins nearly straight, very slightly diverging posteriorly, slightly sinuate before obtuse posterior angles, posterior margin rounded. Surface of pronotum punctate and pubescent, like that of head, matt. Elytra moderately dilated posteriorly, elytral nervation absent, surface finely rugulose-lacunose, sparsely and finely yellow pubescent, semilustrous. Aedeagus as in Figs 27–28.

Female. Eyes moderately smaller than in male, head across eyes slightly narrower than pronotum, head beyond eyes narrowing roundly posteriorly. Antennae shorter, reaching one-fourth of elytral length. Elytra comparatively slightly wider.

Length ♂♀: 5.6–11.2 mm.

Distribution. W Turkey.

Derivatio nominis. Dedicated to its collector, Jan Schneider (Prague).

Differential diagnosis. *Rhagonycha schneideri* sp.nov. is very similar both in body form and coloration to *R. catei* Švihla, 1993 (S Bulgaria, NW Turkey), from which it differs in having a mediolongitudinal groove on the dorsal part of the aedeagus (Fig. 28).

***Rhagonycha ondreji* sp.nov.** (Figs 29–32)

Type locality. China, Nei Mongol prov., pass from Chengdu to Chifeng, 41.6°N 118.2°E.

Type material. Holotype, ♂, “China: Nei Mongol, pass Chengdu-Chifeng, 41,6N 118,2E, 14.–16.vi.2001, O. Šafránek lgt.” [printed] (NMPC).

Description. Coloration. Entirely black, only mandibles and claws chestnut-brown.

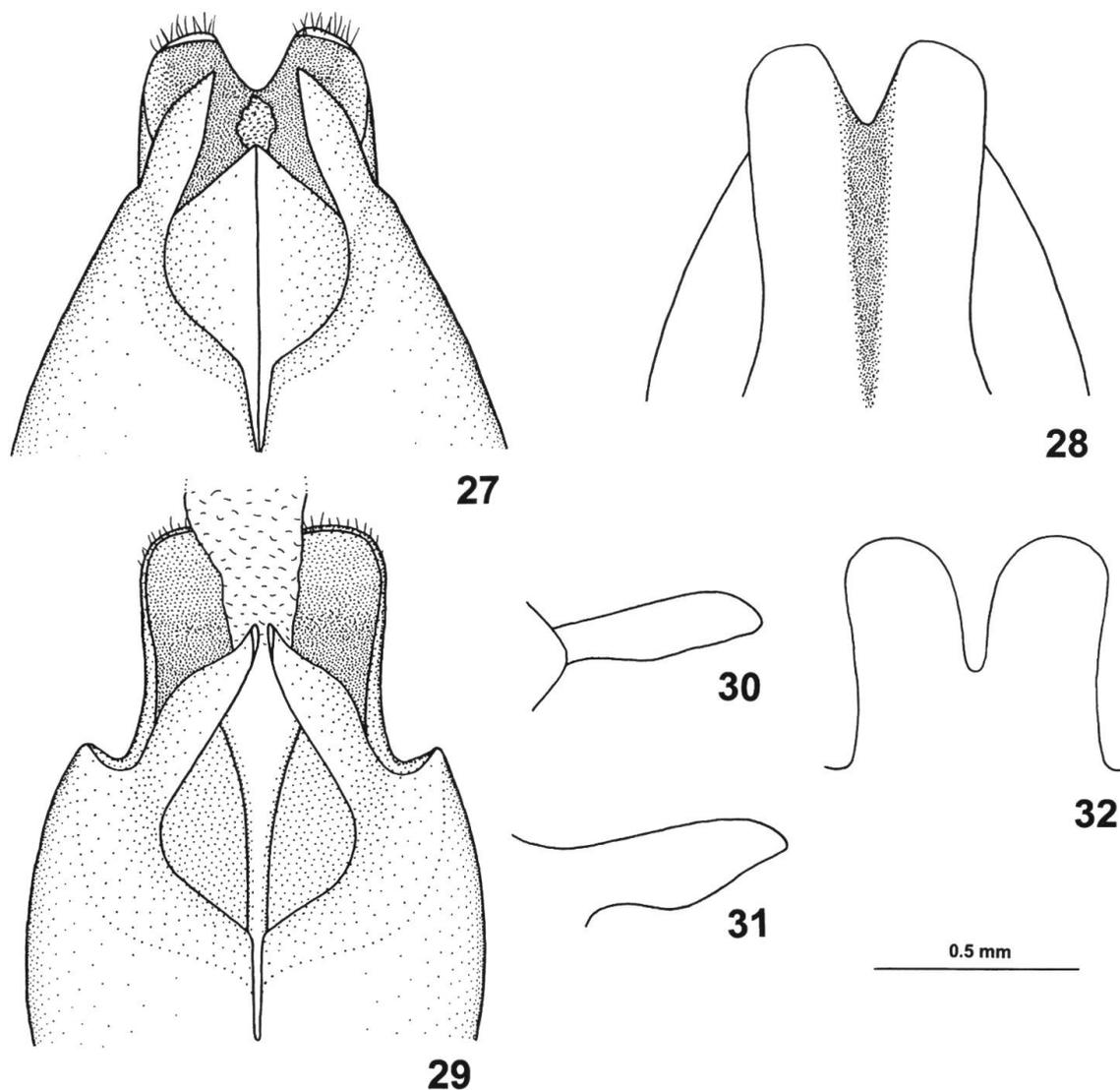
Male. Eyes comparatively small but protruding, head across eyes as wide as pronotum, head beyond eyes almost straight, narrowing posteriorly. Antennae moderately exceeding three-fourths of elytral length. Surface of head very finely and very densely punctate, finely and sparsely brown pubescent, matt, vertex semilustrous. Pronotum about one-fourth wider than long, its anterior margin very widely rounded, nearly straight, anterior corners rounded, lateral margins arcuate, moderately sinuate beyond centre, posterior corners obtuse, posterior margin widely rounded, slightly sinuate at centre. Surface of pronotum very finely and sparsely punctate and yellow pubescent, lustrous. Elytra nearly parallel-sided, their surface finely rugulose-lacunose, sparsely and finely yellow pubescent, semilustrous, almost lustrous basally. Elytral nervation slight but distinct. Aedeagus – Figs 29–32. Female unknown.

Length ♂: 5.6 mm.

Distribution. China: Nei Mongol prov.

Derivatio nominis. Dedicated to its collector, Ondřej Šafránek (Děčín).

Differential diagnosis. *Rhagonycha ondreji* sp.nov. is closely related to *R. mongolica* Wittmer, 1971, from which it differs in narrower paramere, wider and more rounded divided portions of dorsal part of the aedeagus and in entirely black antennae and legs (cf. WITTMER 1971).



Figs 27–32. 27–28, *Rhagonycha schneideri* sp.nov.: 27, aedeagus, ventral view; 28, dorsal part of aedeagus. 29–32, *R. ondreji* sp.nov.: 29, aedeagus, ventral view; 30, paramere, lateral view; 31, ditto, ventrolateral view; 32, dorsal part of aedeagus.

***Rhagonycha satoi* sp.nov.**

(Figs 33–35)

Type locality. China, Gansu prov., Ponggartang, 120 km SW of Lanzhou.

Type material. Holotype, ♂, “China, Gansu prov., PONGGARTANG, 120 km SW Lanzhou, 30.vi.–2.vii.1992, Jaroslav Turna leg.” [printed] (NMPC).

Description. Coloration. Entirely sooty, only mandibles and claws chestnut-brown.

Male. Eyes comparatively small but protruding, head across eyes slightly wider than pronotum, head beyond eyes almost straight, narrowing posteriorly. Antennae

reaching ca. two-thirds of elytral length. Surface of head very finely and very densely punctate, finely and sparsely yellow pubescent, matt. Pronotum moderately wider than long, its anterior margin rounded, anterior corners rounded, lateral margins straight, slightly diverging posteriorly, posterior corners obtuse, posterior margin rounded. Surface of pronotum punctate and pubescent like that of head, matt. Elytra slightly dilated posteriorly, their surface finely rugulose-lacunose, sparsely and finely yellow pubescent, semilustrous. Elytral nervation absent. Aedeagus – Figs 33–35; two longitudinal, triangular depressions are situated on the dorsal part in dorsal view. Female unknown.

Length ♂: 6.4 mm.

Distribution. China: Gansu prov.

Derivatio nominis. This species is dedicated to late Prof. Masataka Satô, a well-known specialist in the family Cantharidae.

Differential diagnosis. *Rhagonycha satoi* sp.nov., which was erroneously reported by myself as *R. kurilica* Wittmer, 1971 (ŠVIHLA 1995), is closely related to this species, from which it differs in wider and almost parallel-divided portions of the dorsal part of the aedeagus, longer and apically rounded paramere and in entirely sooty antennae and legs (cf. WITTMER 1971).

***Rhagonycha kazakhstanica* sp.nov.** (Figs 36–38)

Type locality. E Kazakhstan, S Tarbagatay mts., range, Blagodamoye.

Type material. Holotype, ♂, “E. Kazakhstan, S Tarbagatay, Mt. Range [sic!], N. Tselikov [lgt.] / Blagodamoye, 20.–26.v.[19]91“ [printed]”; paratypes, same data, 2♂♂ (all NMPC).

Description. Coloration. Head and prothorax black, mandibles sienna, rest of body including palpi sooty.

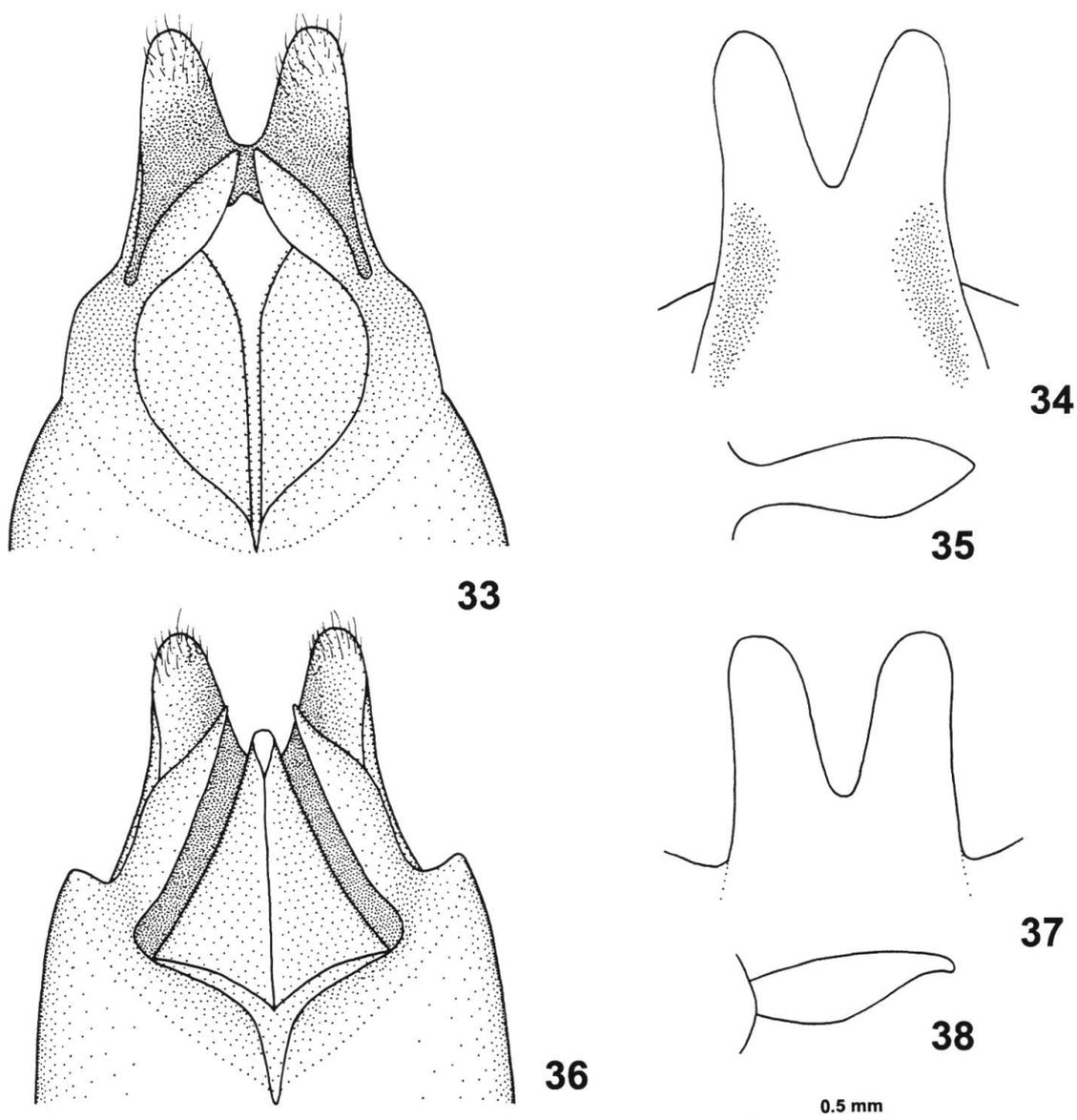
Male. Eyes comparatively small but protruding, head across eyes as wide as pronotum, head beyond eyes almost straight, narrowing posteriorly. Antennae reaching ca. two-thirds of elytral length. Surface of head very finely and very densely punctate, finely and sparsely yellow pubescent, matt. Pronotum about one-fifth wider than long, its anterior margin very widely rounded to slightly sinuate at centre, anterior corners rounded, lateral margins slightly arcuate, slightly sinuate before obtuse posterior corners, posterior margin widely rounded. Surface of pronotum very finely and sparsely punctate and yellow pubescent, matt, disc semilustrous. Elytra distinctly dilating posteriorly, their surface finely rugulose-lacunose, sparsely and finely yellow pubescent, semilustrous, sometimes almost lustrous basally. Elytral nervation absent. Aedeagus – Figs 36–38. Female unknown.

Length ♂: 5.2–5.6 mm.

Distribution. E Kazakhstan: Tarbagatay mts.

Derivatio nominis. Named after its country of occurrence.

Differential diagnosis. *Rhagonycha kazakhstanica* sp.nov. is very closely related to *R. atrovarya* Wittmer, 1971, from which it differs in significantly shorter dorsal part of the



Figs 33–38. 33–35, *Rhagonycha satoi* sp.nov.: 33, aedeagus, ventral view; 34, dorsal part of aedeagus; 35, paramere, ventrolateral view. 36–38, *R. kazakhstanica* sp.nov.: 36, aedeagus, ventral view; 37, dorsal part of aedeagus; 38, paramere, ventrolateral view.

aedeagus and apically wider paramere, the apex of which is not turned in ventral view (cf. WITTMER 1971 and KAZANTSEV 1994).

***Rhagonycha balcanica* Pic, 1901**

- Rhagonycha balcanica* Pic, 1901: 57.
- Rhagonycha helleni* Dahlgren, 1968: 119, **syn.nov.**
- Cratosilis osmana* Wittmer, 1972: 76, **syn.nov.**

Type material examined. *R. helleni*: holotype, ♂, “Bulgaria, Nessebar, 28.v.1963, Wolter Hellén [printed]“ / HOLOTYP, RHAGONYCHA HELLENI, G. DAHLGREN [handwritten] / Mus. Zool. Hifors, Spec. typ. No 15255, Rhagonycha helleni Dahlgren [printed and handwritten]” (UZMH). *C. osmana*: holotype, ♂, “Orman Belgrad [handwritten] / Türkei, 30.v.[19]67, W. Wittmer [printed and handwritten] / HOLOTYPUS [red label, printed] / *C. osmana* Wittm., det. W. Wittmer [handwritten and printed]” (NHMB). Type material of *R. balcanica* was examined and redescribed by DAHLGREN (1976).

Comments. *R. balcanica* is a species with a wide colour variation; it has therefore been described three times in the following colour forms:

- variety *osmana*: pronotum entirely yellow, elytra from entirely yellow to dark, narrowly yellow-bordered laterally.
- variety *balcanica*: pronotum orange with more or less large brown spots, elytra entirely dark.
- variety *helleni*: both pronotum and elytra entirely dark.

More or less paler or darker coloration of the body is accompanied by paler or darker coloration of antennae and legs. Aedeagi of all the types examined show only a small degree of variability in the shape of the dorsal part and/or parameres. Except for this, the common occurrence of the above-mentioned forms, including transitions, has been noted throughout examined material, which is rich, for example: *balcanica* + *helleni* (Bulgaria, Pirin mts., Begovica); *osmana* + *balcanica* + *helleni* (Turkey, Prov. Kırklareli, Demirköy). It can be said that, in general, the completely dark form occurs at high altitudes in the Bulgarian mountains (Pirin, Rila, Rodopy), but rarely occurs at lower altitudes. Towards the east and at lower altitudes, paler forms prevail.

Distribution. S Bulgaria, NW Turkey.

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