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## Studies of the genus *Anthelephila* Hope, 1833 (Coleoptera, Anthicidae)

### 9. Descriptions of five new species from the Oriental region

by Zbyněk Kejval

**Abstract.** Five species of *Anthelephila* Hope, 1833 are newly described: *A. cineracea* sp.nov. (Thailand, Vietnam), *A. degener* sp.nov. (China, Thailand, Laos), *A. horaki* sp.nov. (Thailand), *A. limaria* sp.nov. (Nepal, India), *A. solita* sp.nov. (Thailand).

**Key words.** Coleoptera – Anthicidae – *Anthelephila* – taxonomy – new species – Oriental region – Palaearctic region

### Introduction

*Anthelephila* Hope, 1833 is a large Old World genus, with the bulk of species distributed in the tropics of southeastern Asia and Africa. Judging by the material from the Oriental region that has accumulated over the past decade, the total number of currently known species (about 400) is far from representative of the actual total.

This paper follows my previous contributions to knowledge of *Anthelephila*; all are listed in KEJVAL (2006). The paper presents descriptions of five new species from Thailand, Laos, China, India and Nepal.

### Material and Methods

The specimens examined are deposited in the following collections:

|      |   |
|------|---|
| ADBC | Augusto Degiovanni collection, Bubano, Italy                              |
| BMNH | Natural History Museum, London, England                                   |
| DCDC | Donald S. Chandler collection, Durham, New Hampshire, U. S. A.            |
| DTRC | Dmitry Telnov collection, Riga, Lettland                                  |
| GUPC | Gerhard Umann collection, Pressath, Germany                               |
| HNHM | Hungarian Natural History Museum, Budapest, Hungary                       |
| MHNG | Muséum d'Histoire Naturelle, Genève, Switzerland                          |
| MNHN | Museum National d'Histoire Naturelle, Paris, France                       |
| NHMB | Naturhistorisches Musem, Basel, Switzerland                               |
| NHMW | Naturhistorisches Museum, Vienna, Austria                                 |
| NMPC | National Museum, Prague, Czech Republic                                   |
| SMNS | Staatliches Museum für Naturkunde, Stuttgart, Germany                     |
| ZIN  | Institute of Zoology, Russian Academy of Sciences, St. Petersburg, Russia |
| ZKDC | Zbyněk Kejval collection, Domažlice, Czech Republic                       |

Author's comments on the type material are to be found in square brackets [p = printed; h = handwritten]. Separate labels are indicated by backslashes (\).

The terminology for body setation follows WERNER & CHANDLER (1995).

## Taxonomy

### *Anthelephila cineracea* sp.nov. (Figs 1–5, 29, 33, 34)

**Type locality.** Thailand, Thong Pha Phum, 14°43'N 98°39'E.

**Type specimens.** Holotype, ♂: "THAI, 13.–15.IV.1991 THONG PHA PHUM 150m 14°43'N 98°39'E Vít Kubáň leg. \ Thailand 1991 "Thanong Thon Chai" D. Král & V. Kubáň" (NMPC).

Paratypes: 2 ♂♂, 3 ♀♀, the same data as holotype (ZKDC); 2 ♂♂, 1 ♀, the same data as holotype, except: "P. Pacholatko leg.", 2nd label lacking (NHMB, DTRC); 1 ♂, 2 ♀♀: "THAILAND KANCHANABURY SAI YOK n.p. 27.–29.IV.1999 KLÍCHA M. Lgt." (ZKDC); 1 ♀: "Thailand, Kanchanaburi distr, Namtok env., 1.vi.1994, J. Horák lgt." (ZKDC); 4 ♂♂, 2 ♀♀: "THAILAND occ. 08.–12.04.1991 Sangkhlaburi Jan Farkač leg." (NHMB, DTRC); 1 ♀: "S-VIETNAM Nam Cat Tien Nat. Park 1.–15.5.1994 Pacholatko & Dembicky \ Formicomus asphaltinus Krekich det. G. Uhmann 1996" (GUPC).

**Description** (male, holotype). Head and pronotum black, in places with brownish tinge; elytra brown-black; antennae and palpi black; legs dark brown to brown-black, especially basal portion of femora paler.

Head 1.2 times as long as wide, unevenly rounded posteriorly; tempora distinctly narrowing posteriad, posterior temporal angles at most moderately indicated (Fig. 29); base of head somewhat produced medially and less distinctly differentiated from short neck in lateral view. Eyes medium, rather convex and protruding. Surface matt, largely conspicuously corrugated, especially dorsally; dorsal wrinkles forming net-like sculpture; dorsal punctures distinct, thought somewhat obscured by corrugation, rather evenly spaced. Setation pale to whitish, mostly subdecumbent, with scattered longer, erect setae. Antennae long, distinctly exceeding elytral humeri, moderately enlarged in distal third; antennomere X 1.5 times as long as wide, antennomere XI 2.7 times as long as wide.

Pronotum 1.3 times as long as wide, slightly narrower than head including eyes, nearly evenly rounded anteriorly, narrowing posteriad and shallowly impressed laterally immediately before base in dorsal view; entire dorsal outline more or less convex in lateral view; dorsal surface rather evenly shaped, without impressions or bulges, somewhat more sharply sloping before base. Surface less lustrous to matt; dorsal surface coarsely corrugated and punctured (Fig. 33), except for small, somewhat uneven area closely before pronotal base, wrinkles somewhat more longitudinal and punctures denser than on head; lateral surfaces becoming progressively impunctate and unwrinkled, but finely microreticulated towards coxal cavities, postero-lateral impressions unwrinkled and adjacent basal area somewhat rugose and more coarsely punctured. Setation as on head.

Mesosternum rather evenly vaulted medially; metasternum simply shaped.

Elytra less elongate, 1.6 times as long as wide, conjointly rounded apically; humeri protruding; postscutellar impression indistinct. Surface less lustrous, distinctly and rather densely punctured; punctuation coarser (as on head) and sparser near base, becoming finer towards elytral apices, punctures surrounded by several minute impressions (Fig. 34). Setation bicoloured, pale and whitish, generally moderately longer than on head, mostly subdecumbent, with scattered erect setae; whitish setae covering apical third of elytra and forming wide transverse band in basal half.

Metathoracic wings fully developed.

Forelegs modified (Fig. 1); fore-femora with narrow, obliquely projecting, blunt process; fore-tibiae moderately enlarged at about mid-length and narrowed in distal half; penultimate tarsomere flattened distally, with terminal tarsomere articulated dorsally in all tarsi. Setation normally developed.

Abdominal sternum VII with posterior margin sharply cut out and long setose medially (Fig. 2). Tergum VII simply shaped, widely rounded apically. Sternite VIII clearly differentiated into five parts (Fig. 3); paired prongs dorso-laterally flattened, armed with conspicuous, pointed process ventro-laterally at about mid-length, their dorsal margin lobe-like dilated; ventral surface of prongs, except scattered setae, with a dense row of about eighteen long, stiff setae implanted on longitudinal, protruding edge, ventral margin of pointed process long, densely setose. Tergite VIII composed of a pair of flattened sclerites, unevenly rounded apically, with narrow median connection (Fig. 4).

Apical portion of tegmen of aedeagus 0.8 times as long as basal piece, narrowing towards flattened and rounded apex, with small lateral dilatation closely beyond mid-length (Fig. 5).

Female. In most external characters identical with male, but differing as follows: forelegs simply shaped; both sternum and tergum VII subtriangular, narrowing posteriad, rounded apically.

Variability. Insignificant.

Body length (♂♀): 3.3–4.7 mm (holotype 4.7 mm).

**Distribution.** Thailand, Vietnam.

**Derivatio nominis.** From the Latin *cineraceus* (grey); named in reference to the greyish reflection from the body surface.

**Differential diagnosis.** *Anthelephila cineracea* sp.nov. resembles *A. semirugosa* (Pic, 1914) from Myanmar (“Tenasserim”) in the coarse sculpture of the dorsal surface of head and pronotum, character of elytral punctuation and setation (punctures surrounded by minute impressions, presence of setose band). It is, however, more robust, darker coloured and less lustrous than the latter species, and differs in numerous morphological characters, mainly in the base of the head somewhat unevenly rounded at most, with nearly indistinct posterior temporal angles (head widely rounded posteriorly, with quite distinct angles in *A. semirugosa*), and in characteristics of corrugation on the head and pronotum (e.g. absence of long, coarse postero-lateral wrinkles in pronotum), and by much wider setose band of elytra.

***Anthelephila degener* sp.nov.** (Figs 6–10, 30)

**Type locality.** Yunnan, Weibaoshan mts, 25°11'N 100°24'E.

**Type specimens.** Holotype, ♂: “YUNNAN 2000–2800m 25.11N 100.24E, WEIBAOSHAN mts. W slope, 25–28/6.1992, Vít Kubáň leg.” (NMPC).

Paratypes: 1 ♂, 2 ♀♀, “YUNNAN 2800–3000m 25.12N 100.24E, WEIBAOSHAN mts. 29–30/6.1992, Vít Kubáň leg.” (ZKDC); 1 ♀, “CHINA, Yunnan prov. WEIBAOSHAN Mts. vii.1993, C. Holzschuh lgt.” (ZKDC); 4 ♂♂, 3 ♀♀: “YUNNAN, 2300 m JIZU MTS. 18.–20.JUL 1995 BOLM lgt.” (NHMB, DTRC); 2 ♀♀: “YUNNAN 2800–3000m 25.12N 100.24E, WEIBAOSHAN mts. W slope, 29–30/6.92, David Kral leg.” (NHMB, DTRC); 1 ♂, 1 ♀, “China, Yunnan, 8.–9.VII. LUGU LAKE-Luo Shui 27.45N 100.45E E. Jendek leg.” (NHMB, DTRC).

1992" (ZKDC); 3 ♂♂, "China-Yunnan, 90 km NW of Kunming, Wuding env., 24.vii.1995, Z. Jindra lgt." (ZKDC); 1 ♂, "Yunnan 1500–3200m 26.07N 103.14E DONGCHUAN 28/6–3/7 1994 Vít Kubáň leg." (ZKDC); 1 ♂, "China, W Hubei, 26.V.BADONG N env. + 10.VII 31.1N 110.4E, stream valley Jaroslav Turna leg., 2003" (ZKDC); 2 ♂♂, 1 ♀: "CHINA-E. SECHUAN Nanjiang 21–23.5.2002 Lgt. E. Kučera" (ADBC); 1 ♀, "NW-THAILAND, Mae Hong Son prov. SOPPONG env. v.1995 Vít Kubáň leg." (ZKDC); 1 ♂, "THAI, N, Mae Hong Son prov., SE of Soppong, 1500m, 19°27'N, 98°20'E, 23–27.v.1999, M. Říha lgt." (ZKDC); 1 ♂, same data, except: "D. Hauck leg." (ZKDC); 4 ♂♂, 3 ♀♀, "CHINA – Yunnan 1992 Lijiang, 23.6.–21.7. 26°53'N 100°18'E 1800m, leg. E. Jendek \ Formicomus gloriae Krekich det. G. Uhlmann 1996" (NHMW); 1 ♂, "CE-LAOS, 1–18.v.2001 Boli Kham Xai prov., BAN NAPE (8 km NE) 19°21'N 105°08'E, ca 600 m, P. Pacholátko lgt." (ZKDC); 12 ♂♂, 6 ♀♀, "LAOS centr., Khammouan prov. NAKAI env., 17°43', 105°09'E 22.V.–8.VI.2001, alt. 500–600 m, E. Jendek & O. Šauša leg." (ZKDC, 1 spec. each in BMNH, DCDC, GUPC, HNHM, MHNG, MNHN).

**Description** (male, holotype). Head dark brown, in places with rufous tinge; pronotum rufous brown; elytra largely dark brown, basal fourth to third rufous, humeri darkened (Fig. 30); antennae and palpi rufous brown, legs brown, basal narrowed portion of femora paler, rufous brown.

Head 1.3 times as long as wide, strongly narrowing posteriorly; tempora nearly straightly narrowing posteriad, posterior temporal angles absent (Fig. 30); base moderately produced medially and somewhat less distinctly differentiated from short neck. Eyes medium, rather convex and protruding. Surface lustrous, somewhat uneven anteriorly on frons, finely corrugated dorsally near median margins of eyes, and distinctly punctured; dorsal punctuation uneven, rather distinct mesally, becoming finer and sparser towards base. Setation pale, generally somewhat more raised, decumbent, with scattered long, erect setae. Antennae long, moderately exceeding elytral humeri, moderately enlarged in distal third; antennomere X 1.6 times, antennomere XI 2.2 times as long as wide.

Pronotum 1.5 times as long as wide, distinctly narrower than head including eyes, evenly rounded anteriorly, narrowing posteriad, moderately but distinctly impressed laterally shortly before base; dorsal outline more or less convex over entire length, at most somewhat flattened (not impressed) in posterior half in lateral view; dorsal surface evenly shaped, without impressions or bulges. Surface lustrous, largely smooth, distinctly punctured dorsally, impunctate near coxal cavities; postero-lateral impressions wrinkled and adjacent basal area somewhat rugose (coarsely punctured); postero-dorsal area with some transverse wrinkles shortly before base, interconnecting lateral corrugations/rugosities; dorsal punctuation similar to that of head. Setation as on head.

Mesosternum moderately and almost evenly vaulted medially, rather flattened postero-medially before intercoxal process; metasternum simply shaped.

Elytra 1.8 times as long as wide, conjointly rounded apically; humeri protruding; postscutellar impression slightly indicated. Surface lustrous, distinctly punctured; punctuation simple, about as coarse as that on the head, but sparser, especially near base, becoming finer towards elytral apices. Setation unicoloured pale, generally moderately longer than on head, decumbent, with numerous longer erect setae.

Metathoracic wings fully developed.

Forelegs modified (Fig. 6); fore-femora with conspicuously long, narrow process, somewhat truncate and shortly setose apically; fore-tibiae slightly dilated on inner side in distal third; penultimate tarsomere flattened distally, with terminal tarsomere

articulated dorsally in all tarsi. Hind tibiae somewhat longer and more raised setose on inner side distally.

Abdominal sternum IV with a pair of small, admedian tufts of short setae immediately before posterior margin. Sternum VII impressed/hollowed medially, its posterior margin emarginate and projecting medially into conspicuous, apically rounded process, slightly exceeding lateral lobes of emargination (Fig. 7); lateral margins of median process with some longer setae subapically. Tergum VII simply shaped, widely rounded posteriorly. Sternite VIII clearly differentiated into five parts (Fig. 8); paired prongs of rather complicated morphology, bulging dorso-laterally at mid-length, bearing two long, setose processes laterally, and flattened, angulate lobe apically, with pointed apex and narrow appendage-like process. Tergite VIII composed of a pair of flattened sclerites with narrow median connection (Fig. 9); sclerites evenly rounded apically, their dorsal side with fine, rib-like edge, separating apical portion.

Apical portion of tegmen of aedeagus 0.6 times as long as basal-piece, subparallel, abruptly truncate and then narrowing towards rounded apex (Fig. 10).

Female. In most external characters identical with male, but differing as follows: forelegs simply shaped; sternum IV lacking paired tuft of setae; sternum VII simply shaped, evenly rounded posteriorly; tergum VII subtriangular, evenly rounded apically.

Variability. Moderately variable in colouration and characters of body punctuation and setation; dark paired spot/band on humeri conspicuous, extending towards suture, to nearly absent; basal narrowed portion of pronotum longitudinally corrugated and more distinctly punctured dorso-laterally.

Body length (♂♀): 3.9–4.7 mm (holotype 4.3 mm).

**Distribution.** China (Yunnan, Hubei, Sichuan), Thailand, Laos.

**Derivatio nominis.** From the Latin *degener* (false, renegade); given in reference to a somewhat obscured relationship to *A. taliana* and its close relatives.

**Differential diagnosis.** *Anthelephila degener* sp.nov. is probably close to *A. taliana* (Pic, 1913) and its relatives (addressed by KEJVAL (2002)), as suggested by similar body form, modification of male sternum IV and rib-like edges of male tergite VIII. Externally, it especially resembles *A. sinica* Kejval, 2002 in sharing similar colouration of elytra (base more extensively pale coloured, dark places without bluish reflection) and longer median process of male sternum VII. It differs clearly in the long and slender male profemoral process and in the morphology of male sternite VIII, which is surprisingly dissimilar to that found in members of the mentioned species-group.

***Anthelephila horaki* sp.nov.**

(Figs 11–16, 31)

**Type locality.** NW Thailand, Mae Hong Son province, Ban Si Lang.

**Type specimens.** Holotype, ♂: "NW THAILAND, Mae Hong Son, Ban Si Lang, 1200 m, 23.–31.5.1991, J. HORÁK leg." (NMPC).

Paratypes: 2 ♂♂, 1 ♀, same data as holotype (ZKDC); 3 ♀♀, same data as holotype, except: 4–6.V.1991 (ZKDC); 3 ♀♀, same data as holotype, except: 1–8.V.1992 (ZKDC); 9 ♂♂, 8 ♀♀: "NW Thailand, 19.19N, 97.59E Mae Hong Son, 1991 Ban Si Lang, 1200m 23.–31.5. L. Dembický leg." (NHMB, NHMW, DTRC, GUPC); 3 ♂♂, 1 ♀: "NW Thailand, 1–7.V.1992, MAE HONG SON Ban Si Lang 1000 m, S. Bily leg."

(NHMB); 1 ♂: "N Thai, CHIANG DAO env., 21.V.–4.VI.1995, M. Snížek legit." (ZKDC); 3 ♂♂: "NW Thai, Mae Hong Son, Nupa-ah 19.19N, 97.59E 7–9.V.1992, L. Dembický lgt." (ZKDC); 1 ♂, 1 ♀: "NW Thailand, 19.19N, 97.59E, Mae Hong Son, Ban Huai Po, 1600–2000m, 30.4.–4.5.1991, L. Dembický leg." (NHMW); 1 ♀, "NW THAILAND 8–18.V. MAE HONG SON 1992 BAN HUAI PO 1600–2000m J. HORAK LEG." (ZKDC); 1 ♂: "Thai 25.5.1991 PANG [= Fang] 300m 19°55'N 99°12'E David Kral lgt." (NHMB); 2 ♀♀, "THAI, 17.–24.V.1991 CHIANG DAO 1000m 19°25'N 98°52'E Vít Kubáň leg. \ Thailand 91 "Thanong Thong Chai" D. Král & V. Kubáň" (ZKDC); 1 ♂: "N-THAILAND, 2004 72 km N Chiang Mai Chiang Dao env., F. Pavel leg., 26–29.4." (ZKDC).

**Description** (male, holotype). Head and pronotum pale rufous brown; elytra largely dark brown, with rufous base, suture and lateral margins in basal fourth to third, and with dark brown, humeral and somewhat paler (than rufous base) posthumeral spot/band, both moderately obliquely directed postero-mediad (Fig. 31); antennae and palpi rufous, antennomere IX somewhat darkened, antennomere X and basal half of antennomere XI dark brown; legs rufous, hind femora and all tibiae rather brown.

Head 1.3 times as long as wide, strongly narrowing posteriorly; tempora nearly straightly narrowing posteriad, posterior temporal angles absent (Fig. 31); base of head produced and nearly fluently passing into short neck. Eyes medium, rather convex, moderately protruding. Surface lustrous, somewhat uneven/corrugated anteriorly on frons, and finely punctured; dorsal punctuation uneven, sparse, less conspicuous, especially posteriorly. Setation pale, fine, subdecumbent, with sparsely scattered, much longer, erect setae. Antennae moderately exceeding elytral humeri, moderately but distinctly enlarged in distal third; antennomere X 1.3 times as long as wide, antennomere XI twice as long as wide.

Pronotum 1.4 times as long as wide, moderately narrower than head including eyes, evenly rounded anteriorly, narrowing posteriad, rather strongly impressed laterally shortly before base and thus somewhat constricted in dorsal view; dorsal outline more or less convex, at most somewhat flattened (not impressed) in posterior half in lateral view; dorsal side evenly shaped, without impressions or bulges. Surface lustrous, largely smooth, distinctly punctured dorsally, impunctate near coxal cavities; postero-lateral impressions coarsely wrinkled and adjacent latero-basal area somewhat rugose (coarsely punctured), postero-dorsal area with some transverse wrinkles immediately before base, interconnecting lateral wrinkles/rugosities; dorsal punctuation similar to that of head, somewhat more distinct, denser medially. Setation as on head.

Mesosternum with moderate median longitudinal bulge, passing into sharp edge posteriorly; metasternum simply shaped.

Elytra less elongate, 1.6 times as long as wide, conjointly rounded apically; humeri somewhat less protruding; postscutellar impression moderately indicated. Surface lustrous, distinctly punctured; punctuation simple, coarser and sparser than on head, especially near base. Setation unicoloured pale, distinctly longer than on head, mostly decumbent, with sparsely scattered erect setae.

Metathoracic wings fully developed.

Forelegs modified (Fig. 11); fore-femora with bluntly pointed, dent-like process; fore-tibiae with moderately protruding edge in distal half; penultimate tarsomere flattened distally, with terminal tarsomere articulated dorsally in all tarsi. Setation normally developed.

Sternum VII with posterior margin rather deeply and widely emarginate medially, bearing conspicuous process that is attached dorsally and separable without damaging of sternum (Fig. 12); median process terminating in paired, contiguous lobes, each armed with three narrow, pointed projections, middle projections shortly bifurcate apically. Tergum VII widely rounded posteriorly and slightly produced medially into bluntly pointed apex. Sternite VIII clearly differentiated into five parts (Figs 13, 14); paired prongs slender, terminating in long, pointed process, moderately bent laterad in dorsal view, and with another long, pointed process in apical third ventrally; surface of prongs long setose on lateral/median side and at base of apical process dorsally. Tergite VIII composed of a pair of flattened sclerites, somewhat truncate apically, with narrow median connection (Fig. 15).

Apical portion of tegmen of aedeagus 0.6 times as long as basal piece, subparallel, truncate and moderately emarginate apically (Fig. 16).

Female. In most external characters identical with male, but differing as follows: forelegs simply shaped; sternum VII strongly produced postero-medially into rounded apex; tergum VII triangular, strongly narrowed, bluntly pointed and somewhat upturned apically.

Variability. Elytra in some specimens (probably teneral) somewhat more elongate, with more prominent humeri. In addition, moderately variable in coloration and characters of body punctuation and setation.

Body length (♂♀): 3.1–4.3 mm (holotype 4.3 mm).

**Distribution.** Thailand.

**Derivatio nominis.** Dedicated to Jan Horák (Prague, Czech Republic), collector of the holotype specimen and a well-known specialist in the Mordellidae.

**Differential diagnosis.** *Anthelephila horaki* sp.nov. seems to be related to *A. solita* sp.nov., as suggested by nearly the same body form, coloration, and similarities in male characters, e. g. sternum VII with long median process, sternite VIII with narrow, transverse median sclerite. It differs in the less convex eyes (less protruding from lateral outline of head), the finer and sparser punctuation of dorsal median surface of pronotum, less protruding, blunt process of male fore-femora and in the form of median process of male sternum VII, prongs of male sternite VIII and tegmen of aedeagus.

***Anthelephila limaria* sp.nov.** (Figs 17–23, 32, 35)

**Type locality.** Nepal central, Chitawan District, Chitwan National Park, Sauraha-Thati-Bagh Mara.

**Type specimens.** Holotype, ♂: “Nepal Centr., Narayani Zone, Chitawan Distr., Chitawan Nat.P., Sauraha-Thati-Bagh Mara, 200–500m, 17–21.v.1996, P. Čechovský lgt.” (NMPC).

Paratypes: 1 ♀, same data as holotype (ZKDC); 1 ♂: Nepal Centr. Narayani Zone, Chitwan Distr. Chitwan Nat.P. \ Sauraha-Thati-Bagh Mara, 200–500 m, 2.5.–3.5.2000 leg. Jaroslav DALIHOD leg. Jana DALIHODOVA (ZKDC); 1 ♂, 1 ♀: “E.Nepal Arun V. M.BRANCUCCI \ Arun R. – Tumlingtar 26.V.83 450m” (NHMB, DTRC); 1 ♀: “Loc.no.12, CHITWAN Rapti River, 277 m, 25.04.2000 27°28.79' N, 84°52.54' E \ NEPAL Expedition A.Konstantinov, S.Lingafelter and M.Volkovitsh 2000” (ZIN); 1 ♂: NEPAL Prov. Bheri Distr. Dailekh, Dailekh, S Katia Khola 800m 31.V.1995 leg. A.Weigel \ Formicomus montivagus Krek. det.G.Uhmann 1996 (GUPC); 1 ♀: “INDIA, Uttar Pradesh Haridwar, Chila 330 m, 9–14.viii.1994, M. Snížek lgt.” (ZKDC).

**Description** (male, holotype). Head black; pronotum reddish-brown; elytra black, with slight bluish reflection; antennae black, basal antennomeres partly with brownish tinge; palpi brown-black; legs brown-black, tibiae darker, basal narrowed portion of femora distinctly paler, rufous brown.

Head 1.3 times as long as wide, strongly narrowing posteriorly; tempora nearly straightly narrowing posteriad, posterior temporal angles absent (Fig. 32); base produced medially, but distinctly differentiated from short neck, especially in lateral view. Eyes medium, rather convex and protruding. Surface lustrous, distinctly punctured; dorsal punctuation somewhat uneven, finer and sparser near base, with intermixed larger punctures (bearing erect setae). Setation generally rather long and raised, dark, mostly decumbent, with scattered, conspicuously long, erect setae. Antennae long, distinctly exceeding elytral humeri, feebly enlarged in distal third; antennomere X 2.1 times, antennomere XI 2.7 times as long as wide.

Pronotum robust (Fig. 32), 1.4 times as long as wide, slightly narrower than head including eyes, evenly rounded anteriorly, narrowing posteriad, rather strongly impressed postero-laterally and thus somewhat constricted in dorsal view; dorsal outline more or less convex, at most somewhat flattened posteriorly (not impressed) in lateral view; dorsal side rather evenly shaped, without impressions or bulges. Surface lustrous, conspicuously punctured dorsally; dorsal punctuation uneven, similar to that of head in anterior third, becoming distinctly coarser and sparse towards base (medially); rear, narrower portion of pronotum with longitudinal strip of densely spaced punctures and wrinkles on each side dorso-laterally (Fig. 35), and with an indication of transverse wrinkles dorsally, immediately before base; lateral surfaces largely impunctate, especially near coxal cavities; postero-lateral impressions smooth, unwrinkled, and adjacent basal area more distinctly punctured (rather dorso-laterally). Setation similar to that of head, subdecumbent in anterior half, more raised postero-medially, with scattered, conspicuously long, erect setae; dense setae of posterior dorso-lateral strips of punctures pointing against anterior setae.

Mesosternum with sharp, median longitudinal edge, passing posteriorly, at base of intercoxal process of mesosternum, into small, dent-like, pointed protrusion; metasternum simply shaped.

Elytra less elongate, 1.5 times as long as wide, rather convex, conjointly rounded apically; humeri at most moderately indicated; postscutellar impression absent. Surface lustrous, distinctly punctured; punctures about as large as those on head, distinctly sparser in basal half, becoming somewhat finer posteriorly. Setation distinctly longer than on head, decumbent to suberect, with numerous long, erect setae.

Metathoracic wings well developed.

Forelegs modified (Figs 17, 18); fore-femora with strong, obliquely projecting process, the outer edge bearing a dense row of short, stiff setae; fore-tibiae rather distinctly dilated inwards immediately beyond mid-length; penultimate tarsomere flattened distally, with terminal tarsomere articulated dorsally in all tarsi. Setation generally somewhat more conspicuous, longer, bristly, especially on middle and hind tibiae; inner margin of basal, narrowed portion of femora with some long, erect setae; fore-tibiae with small tuft of black setae on outer side near base.

Abdominal sternum VI with small, blunt process medially, immediately before posterior margin. Sternum VII with posterior margin deeply emarginate and projecting medially into long process; median process transversely wrinkled (file-like) on ventral and with some longer setae on dorsal side (Fig. 19). Tergum VII with posterior margin rather widely rounded and very slightly emarginate medially. Sternite VIII clearly differentiated into five parts (Fig. 20, 21); paired prongs strong, somewhat laterally flattened and projecting straight, narrowing almost evenly towards rounded apex distally in lateral view, with conspicuous median margin/edge and two narrow, lobe-like projections medio-basally; lateral side of prongs conspicuously long setose, and with numerous shorter stiff setae arranged in a longitudinal strip distally, median margin of prongs with dense row of rather long, stiff, pointed setae. Tergite VIII composed of a pair of flattened sclerites, rounded apically, with rather wide median connection (Fig. 22).

Apical portion of tegmen of aedeagus 0.3 times as long as basal piece, subparallel, with small lobe on each side of truncate apex, its dorso-lateral surfaces with several longer setae (Fig. 23).

Female. In most external characters identical with male, but differing as follows: forelegs simply shaped; median longitudinal edge of mesosternum rather fine over entire length, base of intercoxal process somewhat raised, but lacking protrusion; sternum VI lacking median process; sternum VII simply shaped, slightly produced apically; tergum VII triangular, strongly narrowing towards obtuse and slightly incised apex, shallowly impressed in median line subapically.

Variability. Insignificant.

Body length (♂♀): 4.9–5.8 mm (holotype 4.9 mm).

**Distribution.** Nepal, India (Uttaranchal).

**Derivatio nominis.** From the Latin *limarius* (file-maker); named in reference to the file-like median process of male sternum VII.

**Differential diagnosis.** *Anthelephila limaria* sp.nov. is undoubtedly very close to *A. antiqua* (Krekich-Strassoldo, 1919) and its relatives, as suggested by similar coloration, form of head and pronotum, nearly the same morphology of male sternite VII (including peculiar median process), tegmen of aedeagus, and by wider median connection of male tergite VIII. Within this species-group, it may easily be recognized by darker coloured elytra, antennae and legs, more robust appearance, ovoid elytra with less prominent humeri, and by male/female characters of mesosternum, front legs and abdominal segments. Furthermore, it may resemble the widespread *A. ruficollis* Saunders, 1836 in sharing similar habitus and coloration, but differs mainly in head strongly narrowing posteriorly (somewhat widely rounded in *A. ruficollis*), larger and more convex eyes, coarse dorsal punctation of pronotum, as well as in all male/female characters.

*Anthelephila solita* sp.nov.

(Figs 24–28, 34)

**Type locality.** NW Thailand, Mae Hong Son province, Ban Si Lang.

**Type specimens.** Holotype, ♂: "NW THAILAND MAE HONG SON BAN SI LANG 1–8.V.1992 1200m J.HORAK LEG." (NMPC).

Paratypes: 11 ♂♂, 21 ♀♀, the same data as holotype (ZKDC, 1 spec. each in BMNH, DCDC, GUPC, HNHM, MHNG, MNHN, SMNS); 1 ♀, the same data as holotype, except: 4–6.V.1991 (ZKDC); 1 ♂, 7 ♀♀: "NW Thailand, 1.–7.V.1992, MAE HONG SON Ban Si Lang 1000m, S.Bily leg." (NHMB); 1 ♂: "NW-THAILAND, Mae Hong Son, Ban Huai Po 9.–16.V.1991 1600–2000m, leg. J. Horák" (ZKDC); 1 ♀, "NW THAILAND 8–18.V. MAE HONG SON 1992 BAN HUAI PO 1600–2000m J. HORAK LGT." (ZKDC); 2 ♀♀: "NE Thailand, 1–15.1991, Mae Hong Son Ban Huai Po, 800–1600m, S.Bily leg." (ZKDC); 2 ♂♂, 2 ♀♀: "NW Thailand, 19.19N, 97.59E, Mae Hong Son, Ban Huai Po, 1600–2000m, 30.4.–4.5.1991, L. Dembický leg." (NHMW); 1 ♂, "NW-THAILAND, Mae Hong Son prov., BAN HUAI PO, 19°19'N 97°59'E 1.–5.v.1992, L. Dembický lgt." (ZKDC); 2 ♂♂, 1 ♀♀: "NW Thailand, 19.19N, 97.59E Mae Hong Son, Ban Si Lang, 1200m 23.–31.5.1991 L. Dembický leg." (NHMW); 1 ♀, "NW-THAILAND, Mae Hong Son Prov., SUAN PU, 19.19N 97.59E 18.v.1992, L. Dembický lgt." (ZKDC); 1 ♀, "NW-THAILAND, Mae Hong Son prov., 19°19'N 97°59'E HUAI SUA TAO, 11.–17.v.1992, L. Dembický lgt." (ZKDC).

**Description** (male, holotype). In coloration and most external morphological characters identical with *A. horaki* sp.nov., but differing as follows: antennae at most slightly darkened apically, posthumeral pale band of elytra usually wider and more conspicuous; eyes somewhat larger and more protruding from lateral outlines of head; antennae less enlarged in distal third; dorsal surface of pronotum more distinctly/coarsely punctured, finely longitudinally wrinkled in median line, especially posteriorly, before transverse corrugation; median longitudinal bulge of mesosternum passing into rounded edge posteriorly; elytra more elongate and narrowed, somewhat tapering apically, 1.8 times as long as wide; process of fore-femora distinctly protruding and sharply pointed (Fig. 24); distal inner edge of fore-tibiae nearly inconspicuous; median process of abdominal sternum VII simply shaped, narrowed immediately beyond mid-length, moderately widened and evenly rounded apically in ventral view (Fig. 25); tergum VII widely rounded, its posterior margin slightly incised/impressed medially.

Abdominal sternite VIII clearly differentiated into five parts (Fig. 26); paired prongs slender, projecting straight, moderately lobed dorsomedially, bluntly pointed apically; surface of prong, among others, with a cluster of very long setae laterally in distal third, and with three shorter, but very thick, subapical setae. Tergite VIII composed of a pair of flattened sclerites, narrowed and rounded apically, with narrow median connection (Fig. 27).

Apical portion of tegmen of aedeagus 0.8 times as long as basal piece, narrowing almost evenly, with slightly enlarged (laterally flattened), in lateral view upturned and rounded, apex (Fig. 28).

Female. In most external characters identical with male, but differing as follows: forelegs simply shaped; sternum VII moderately produced into blunt apex postero-medially; tergum VII subtriangular, evenly rounded posteriorly.

Variability. Moderately variable in coloration and characters of body punctuation and setation.

Body length (♂♀): 3.4–4.2 mm (holotype 3.7 mm).

**Distribution.** Thailand.

**Derivatio nominis.** From the Latin *solitus* (ordinary, normal); named with reference to the simply shaped median process of male sternum VII (in comparison with related *A. horaki* sp.nov.).

**Differential diagnosis.** *Anthelephila solita* sp.nov. is similar and probably related to *A. horaki* sp.nov. For differences, see the above-described characters and the differential diagnosis of the latter species.

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### References

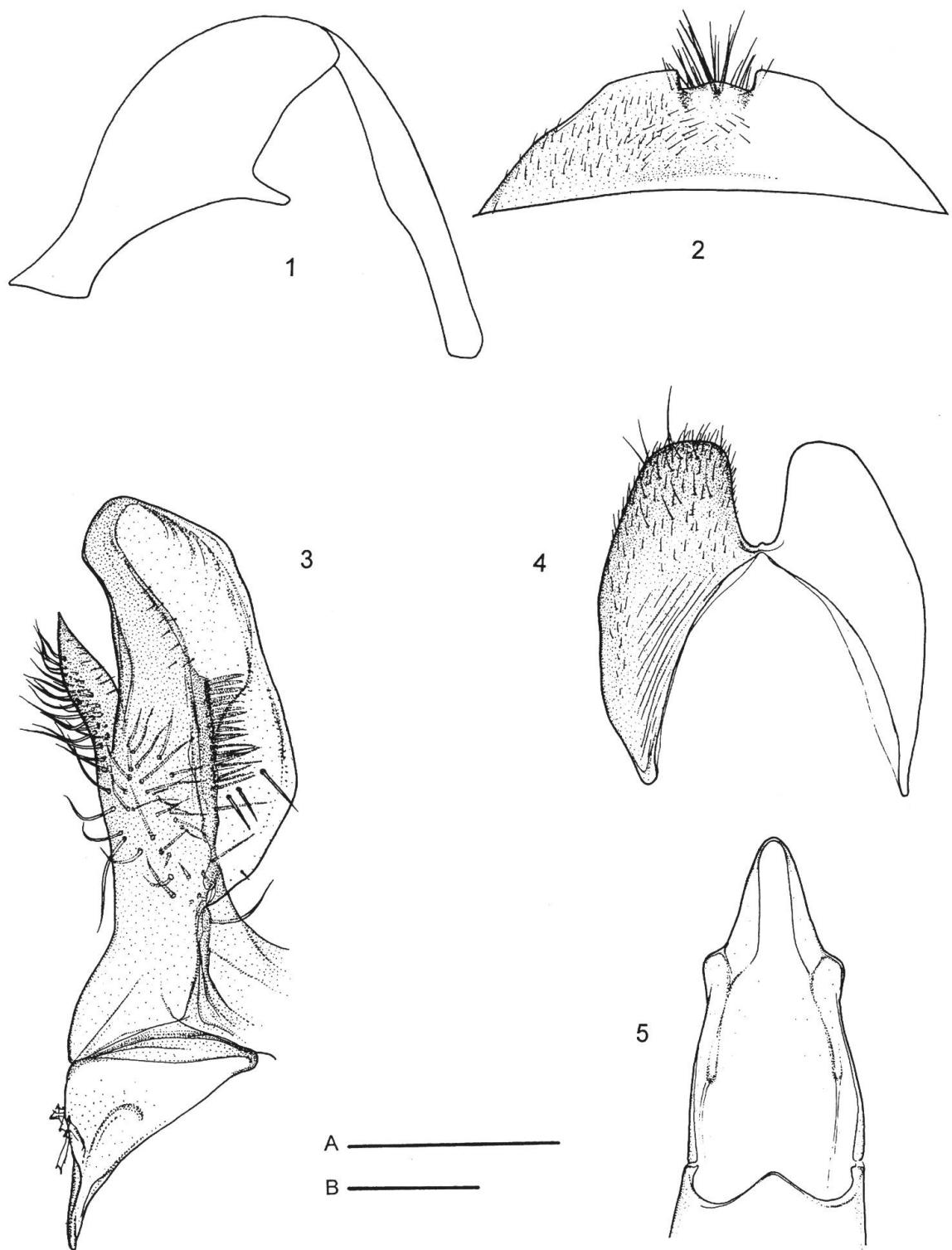
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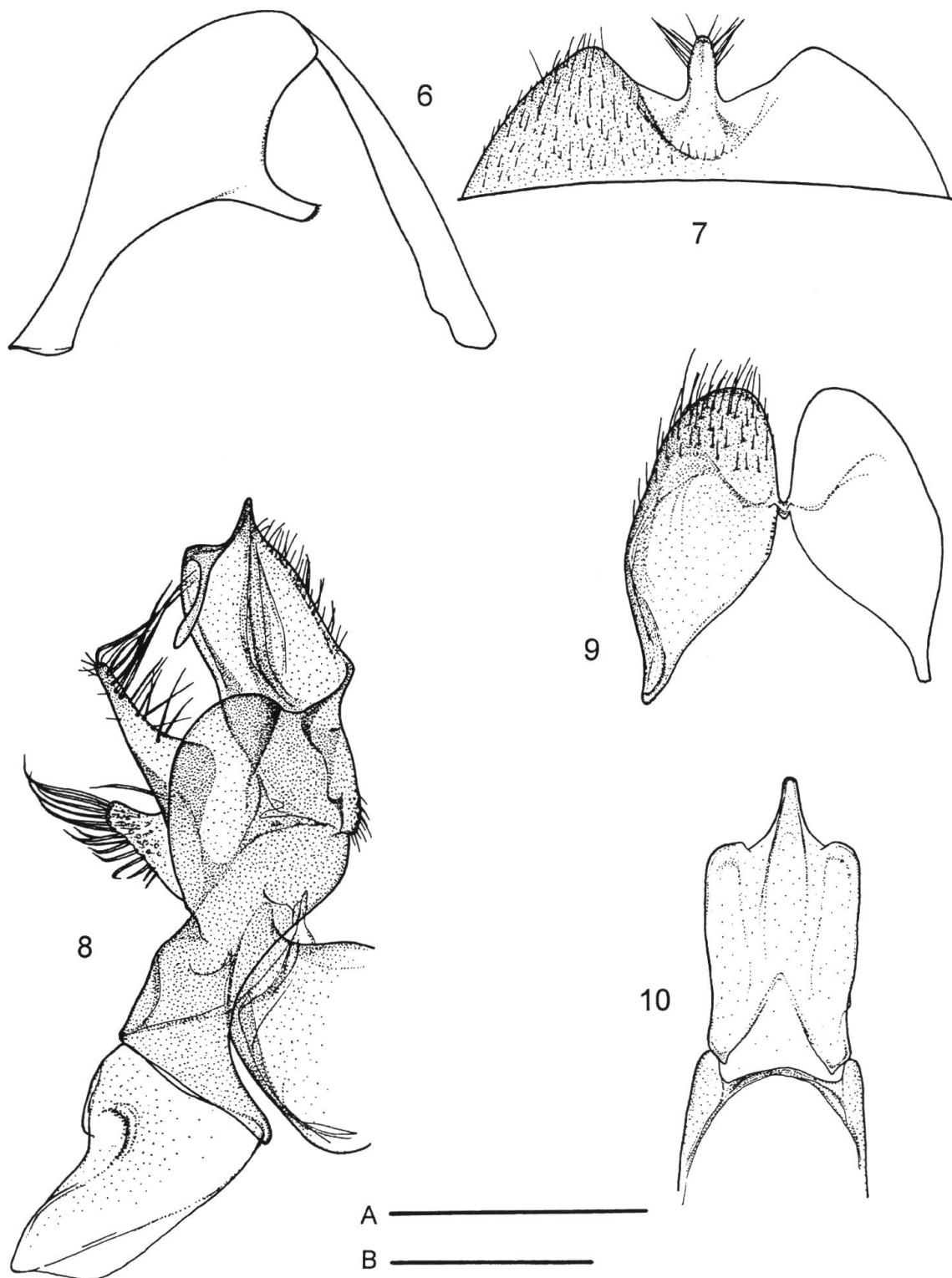
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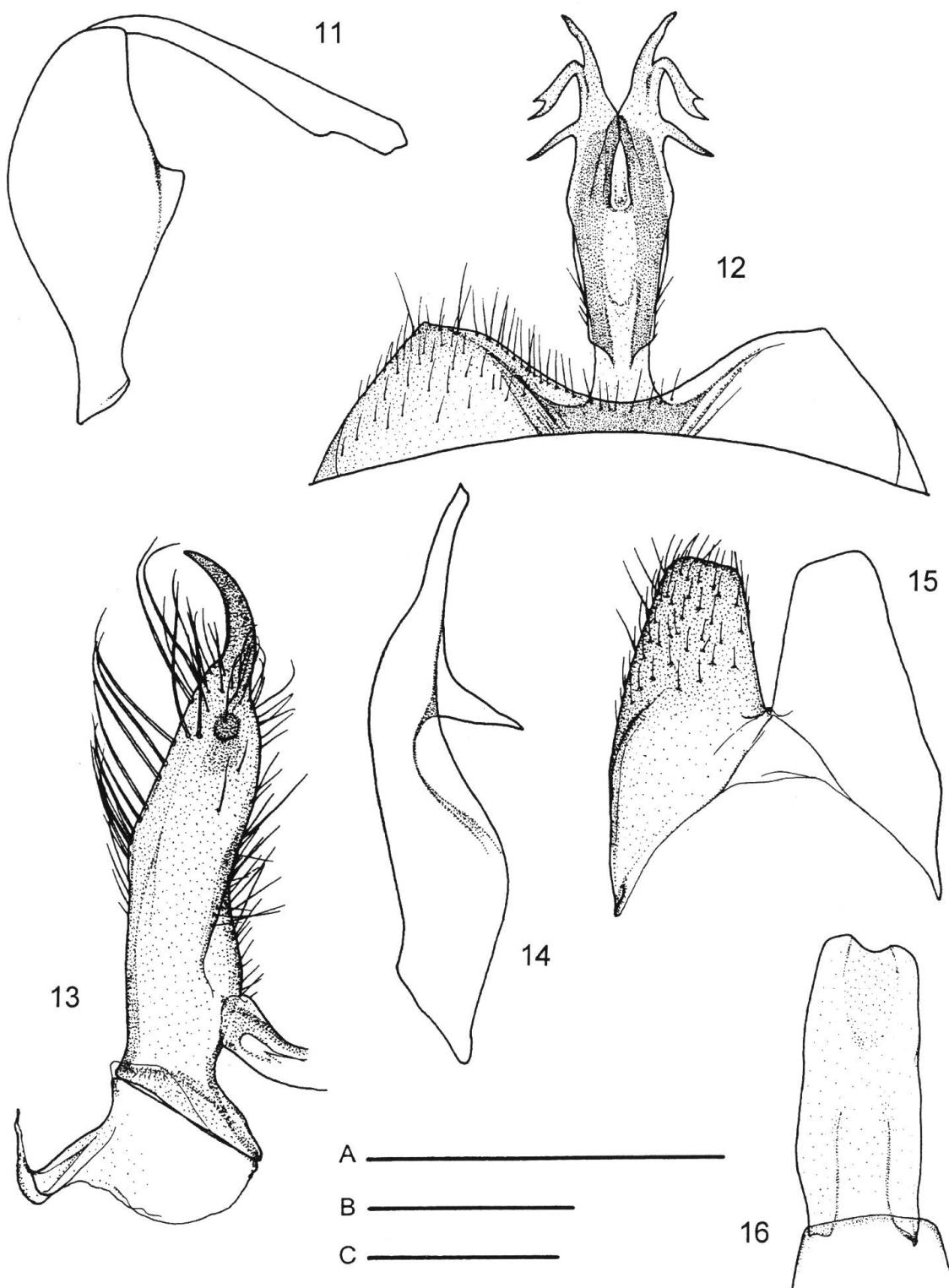
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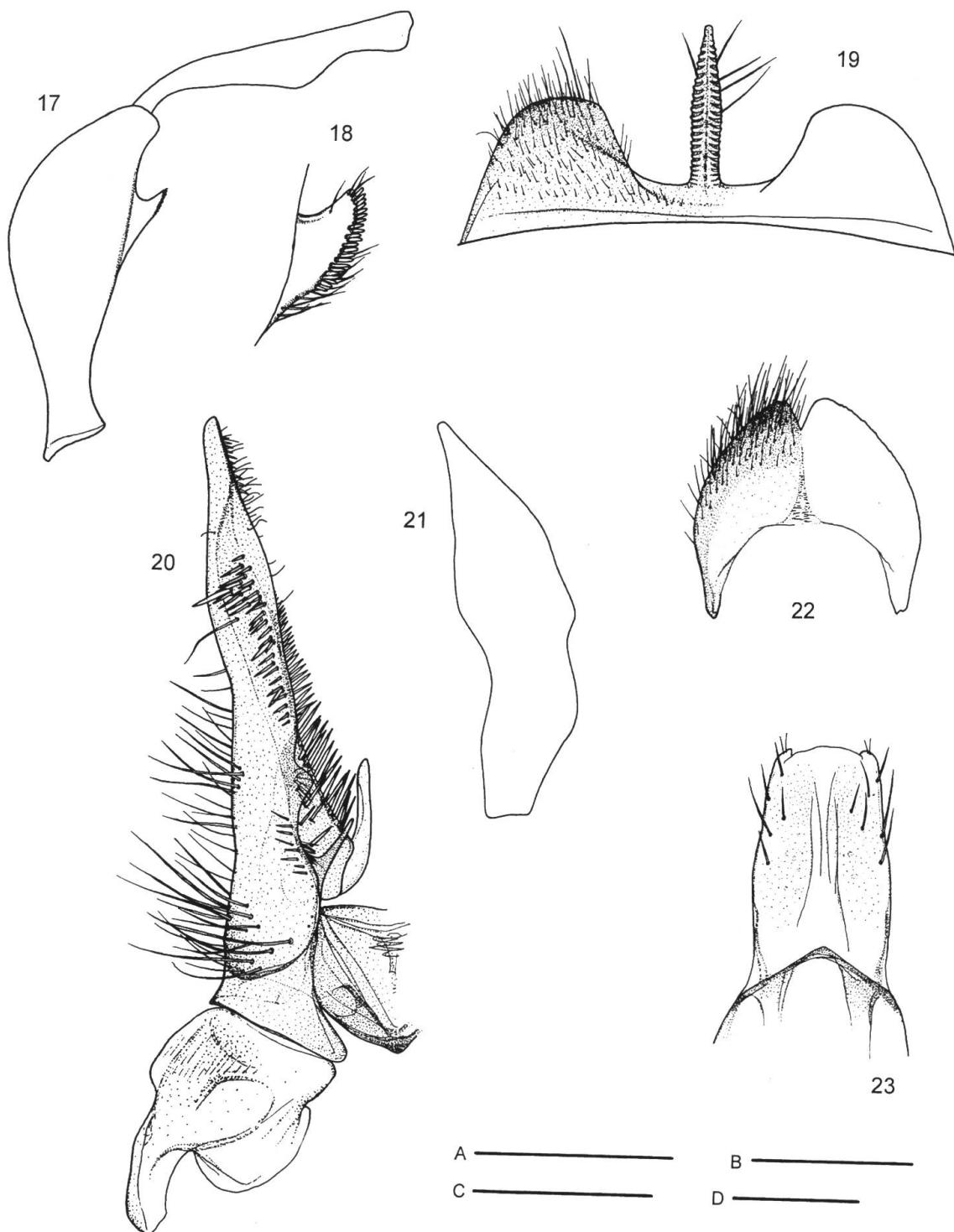
**Figs 1–5.** *Anthelephila cineracea* sp.nov., male: 1, fore-femur and tibia; 2, sternum VII; 3, sternite VIII (half); 4, tergite VIII; 5, apical portion of tegmen of aedeagus. Scale (0.2 mm): A – Figs 3, 5; B – Figs 2, 4. (0.5 mm): A – Fig. 1.



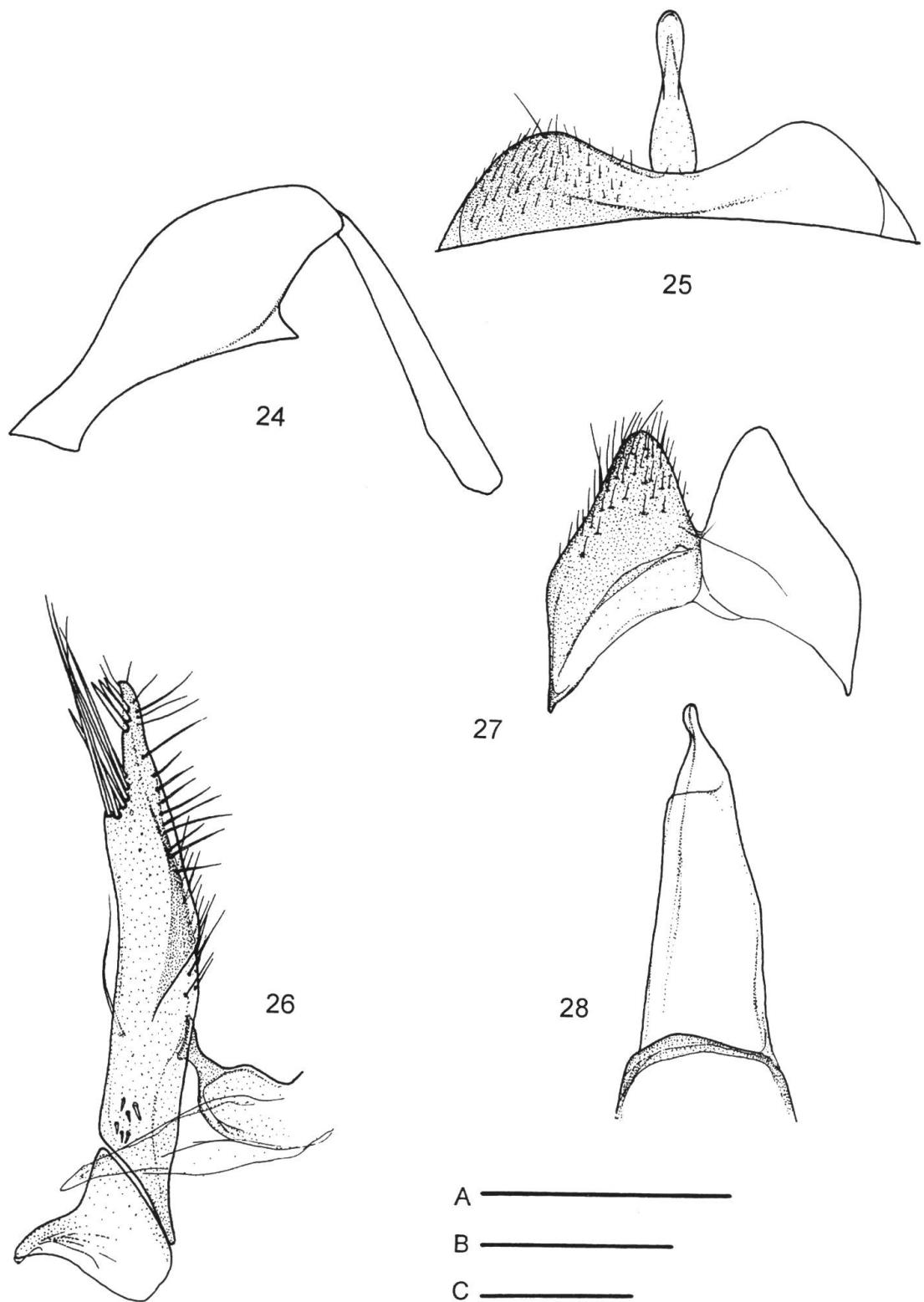
**Figs 6–10.** *Anthelephila degener* sp.nov., male: 6, fore-femur and tibia; 7, sternum VII; 8, sternite VIII (half); 9, tergite VIII; 10, apical portion of tegmen of aedeagus. Scale (0.5 mm): A – Figs 6, 7, 8. (0.2 mm): B – Figs 8, 10.



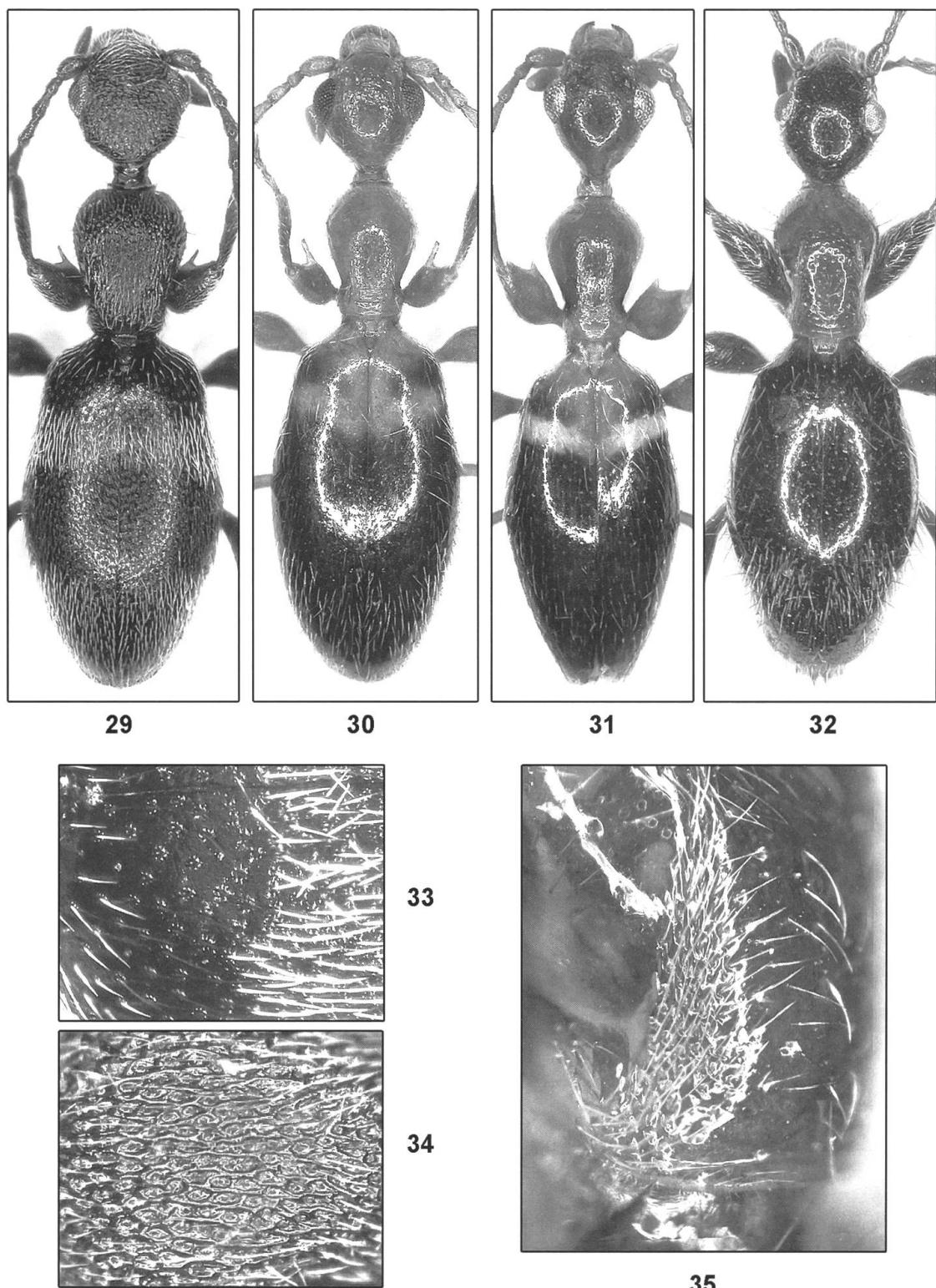
**Figs 11–16.** *Anthelephila horaki* sp.nov., male: 11, fore-femur and tibia; 12, sternum VII; 13, sternite VIII (half); 14, outline of prong of sternite VIII in lateral view; 15, tergite VIII; 16, apical portion of tegmen of aedeagus. Scale (0.5 mm): A – Fig. 12; B – Fig. 11. (0.2 mm): C – Figs 13–16.



**Figs 17–23.** *Anthelephila limaria* sp.nov., male: 17, fore-femur and tibia; 18, process of fore-femur; 19, sternum VII; 20, sternite VIII (half); 21, outline of prong of sternite VIII in lateral view; 22, tergite VIII; 23, apical portion of tegmen of aedeagus. Scale (0.5 mm): A – Fig. 19; B – Figs 17, 22, (0.2 mm): A – Fig. 20; B – Fig. 21; C – Fig. 23; D – Fig. 18.



**Figs 24–28.** *Anthelephila solita* sp.nov., male: 24, fore-femur and tibia; 25, sternum VII; 26, sternite VIII (half); 27, tergite VIII; 28, apical portion of tegmen of aedeagus. Scale (0.5 mm): A – Fig. 24. (0.2 mm): A – Fig. 26; B – Fig. 28; C – Figs 25, 27.



**Figs 29–35.** 29–31, Body in dorsal view: 29, *Anthelephila cineracea* sp.nov.; 30, *A. degener* sp.nov.; 31, *A. horaki* sp.nov. 32, *A. limaria* sp.nov. 33–34, *A. cineracea* sp.nov.: 33, detail of punctuation and setation of elytra (in basal third); 34, dorsal sculpture of pronotum. 35, *A. limaria* sp.nov., basal portion of pronotum in dorso-lateral view.

