



Revision of the genus *Eulichas* Jacobson, 1913 (Coleoptera: Eulichadidae) I. Introduction, morphology of adults, key to subgenera and species groups, and taxonomy of *E. funebris* species group

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Abstract

The predominantly Oriental genus *Eulichas* Jacobson, 1913, family Eulichadidae, is reviewed in part. The *Eulichas funebris* species group is revised. A brief history of classification of the genus, as well as the general morphology of the adults, is presented. The following nine new species are described: *E. birmanica* Hájek, **sp. nov.** (Myanmar: Tenasserim), *E. haucki* Hájek, **sp. nov.** (Thailand), *E. jaechi* Hájek, **sp. nov.** (Malaysia), *E. janbezdeki* Hájek, **sp. nov.** (Laos); *E. kubani* Hájek, **sp. nov.** (Laos, Vietnam), *E. meghalayensis* Hájek, **sp. nov.** (India: Meghālaya), *E. minuta* Hájek, **sp. nov.** (Sumatra, Nias, Siberut), *E. strbai* Hájek, **sp. nov.** (Malaysia), and *E. tanahrata* Hájek, **sp. nov.** (Malaysia). A lectotype is designated for *E. mediocris* (Pic, 1921) (Sumatra).

Key words: Coleoptera, Eulichadidae, *Eulichas*, *Eulichas funebris* species group, taxonomy, new species, Palaearctic, Oriental, identification key

Introduction

The small elateriform family Eulichadidae comprises only two genera worldwide: the monotypic genus *Stenocolus* LeConte, 1853, with the species *S. scutellaris* LeConte (1853) occurring in California, and the predominantly Oriental genus *Eulichas* Jacobson, 1913 (formerly *Lichas* Westwood, 1853) with 21 described species, arranged in two subgenera, occurring from Nepal, north India and southern China through continental south-eastern Asia, and reaching the Greater Sunda Islands (Sumatra, Java, Borneo), and the Philippines in the east.

Larvae of both genera are aquatic. Larvae of *Eulichas dudgeoni* Jäch from Hong Kong have been collected in a stream with a sandy substrate (Jäch 1995), and their gut contents were found to include wood particles (Costa & Vanin 1998). Larvae of *S. scutellaris* have been recorded from substrate or leaf packs in lowland streams and rivers, where they feed on rotting detritus or roots (Shepard 1993). Adults are considered to be short lived (Shepard 2002). They can be collected on vegetation near streams, and *Eulichas* species in particular are often attracted to light.

Although the average length of adult *Eulichas* species is about 2.5 cm, making them “very large beetles”, the family Eulichadidae was overlooked for a long time. More recently, Jäch (1995) has catalogued the family and reviewed the species from China, Laos and Vietnam, Ivie & Jäch (2002) added a new species from Vietnam, and Costa & Vanin (1998) described the larva of *Eulichas*. Nevertheless, a comprehensive revision is still missing and the phylogenetic position of the family remains unresolved.

The study of a large quantity of material deposited in various institutional and private collections (see the list in the Material section), as well as material recently collected during numerous expeditions to south-eastern Asia, enable me to introduce briefly the morphology of adult *Eulichas*, to revise the alpha-taxonomy of the genus, and to describe several new species.

History of classification

The genera *Lichas*, and *Stenocolus* were both described in the same year. While Westwood (1853) placed his genus in the family Elateridae (although with reservations), LeConte (1853) placed *Stenocolus* in the family Atopidae (= Dascillidae). Subsequently Lacordaire (1857) transferred *Lichas* to the Dascillidae, where both genera remained for nearly 70 years (e.g. Pic 1914). Jacobson (1913) observed that Westwood’s *Lichas* was a junior homonym of *Lichas* Dalman, 1827 (Trilobita) and *Lichas* Steininger, 1837 (Mollusca), and thus established the replacement name *Eulichas*. Descriptions of several additional species of *Eulichas* were the exclusive work of French entomologists (Bourgeois 1891; Deyrolle & Fairmaire 1878; Fairmaire 1891, 1898; Pic 1911, 1913, 1915, 1921, 1923, 1924, 1933, 1939). One species, *E. obscura* Pic, 1923 was subsequently transferred to the genus *Epilichas* White, 1859 (family Ptilodactylidae) by Delève (1971).

After a gap of more than 50 years, interest on taxonomy of the family Eulichadidae was renewed. Jäch (1995) published a first comprehensive work about the family – catalogued the genus *Eulichas*, described new subgenus *Forficulichas*, revised the taxa from China, Laos and Vietnam and added several new species from these countries. Later, Ivie & Jäch (2002) described one additional new species from Vietnam, and Palaearctic *Eulichas* species were catalogued by Jäch & Hájek (2006).

The larva of *Eulichas* was first illustrated as an “aberrant” Ptilodactylidae by Böving and Craighead (1931). Leech & Chandler (1956) introduced the larva of *Stenocolus scutellaris*. Lawrence (1991) published formal descriptions of the larvae of both genera. Costa & Vanin (1998) described largely the larva of the Chinese species *E. dudgeoni*.

Forbes (1926) first separated the family Lichadidae (together with the family Zenoidae, = now Callirhipidae (cf. Lawrence & Newton 1995)) based on wing venation and folding. However this nomenclatorial change was largely overlooked (cf. Pic 1933, 1939, Wu 1937), until Crowson (1973) re-established it, corrected the name to Eulichadidae, and placed the family within the superfamily Dryopoidea. Additional morphological and anatomical characters for the family Eulichadidae were subsequently introduced by Kasap & Crowson (1975), Crowson (1978), and Lawrence & Newton (1982), who all classified the family Eulichadidae as basal Dryopoidea. Later, Lawrence (1988) placed the family Eulichadidae into the new superfamily Psephenioidea, and Lawrence & Britton (1991) and Lawrence & Newton (1995) added the family Eulichadidae to their expanded superfamily Byrrhoidea. Beutel (1995) made a phylogenetic analysis of the series Elateriformia based on larval characters, and recognised a monophyletic group comprising the family Eulichadidae and the family Ptilodactylidae. Lawrence et al. (1995) suggested a clade formed by the families Ptilodactylidae, Chelonariidae, Callirhipidae and Eulichadidae. Costa et al. (1999) noted that the monophyly of the superfamily Byrrhoidea sensu Lawrence & Newton (1995) is not supported by any synapomorphy, and placed the families Eulichadidae and Callirhipidae as incertae sedis within the series Elateriformia. Thus the relationships of the family Eulichadidae with other families remain somewhat ambiguous, the family is usually clustered with the family Callirhipidae and/or families Ptilodactylidae, Chelonariidae and Psephenidae. Grebennikov & Scholtz (2003) suggested again the hypothesis of phylogenetic relationships between the family Eulichadidae and the family Dascillidae. Most recently, brief reviews of the family were presented by Lawrence et al. (1999a, b), Shepard (2002) and Ivie (2005).

Materials and methods

In each description I give only diagnostic characters usable for identification of species and variability as compared with the general description of the genus. The classification is based on males only, because the diagnostic characters predominantly apply to male external genitalia.

The figures of external as well as external genital characters were traced from photographs. The shape of the aedeagus was studied dry, because of the membranous part of the parameres, which could be damaged when dipped. When the aedeagus is retracted, the parameres closely fit the median lobe. For studying (and drawing) the exact shape of the median lobe, the parameres were withdrawn. Thus, the angle between the parameres and the median lobe should be regarded as artificial. The male genitalia were preserved dry on the same card as the beetles, or on separate card beneath the beetle, if it is direct-pinned.

The spelling of geographical names and their co-ordinates were unified according to “MICROSOFT ENCARTA WORLD ATLAS 2000”. Exact label data are cited for the type material. A forward slash (/) separates different lines and a double slash (//) different labels of data. Additional remarks are in square brackets. Holotypes of newly described species are provided with one red label with the printed text: “HOLOTYPE / EULICHAS (s. str.) ♂ / “name of the species” sp. nov. / Jiří Hájek det. 2006”. Each paratype is provided with a red label similar to that of the holotype, except “PARATYPE” instead of “HOLOTYPE”, and the relevant sex symbol and collection number.

Material studied is deposited in the following institutional and private collections (the acronyms are arranged according to Arnett et al. (1993)):

BMNH	The Natural History Museum (former British Museum), London, Great Britain (Maxwell V. L. Barclay);
DEIC	Deutsches Entomologisches Institut, Müncheberg, Germany (Lothar Zerche);
FSCA	Florida State Collection of Arthropods, Gainesville, USA (Paul E. Skelley);
ISNB	Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium (Jerome Constant);
JHOP	Jan Horák collection, Praha; Czech Republic;
MHNG	Muséum d'histoire naturelle, Geneva, Switzerland (Giulio Cuccudoro);
MNHN	Muséum Nationale d'Histoire naturelle, Paris, France (Thierry Deuve, Azadeh Taghavian);
MTEC	Montana Entomology Collection, Montana State University, Bozeman, USA (Michael A. Ivie);
MZMB	Moravské zemské muzeum, Brno, Czech Republic (Vítězslav Kubáň);
NHMB	Naturhistorisches Museum Basel, Switzerland (Eva Sprecher, Michel Brancucci);
NHMW	Naturhistorisches Museum Wien, Austria (Manfred A. Jäch);
NKME	Naturkundemuseum Erfurt, Germany (Matthias Hartmann);
NMPC	Národní muzeum, Praha, Czech Republic (Jiří Hájek);
SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany (Wolfgang Schawaller);
SMTD	Staatliches Museum für Tierkunde, Dresden, Germany (Olaf Jäger);
VKCZ	Vít Kabourek collection, Zlín, Czech Republic;
ZMAS	Zoological Institute, Russian Academy of Science, Sankt Petersburg, Russia (Alexander G. Kirejtshuk);
ZMHB	Museum für Naturkunde der Humboldt-Universität, Berlin, Germany (Manfred Uhlig).

Systematics

Eulichas Jacobson, 1913

(Figs. 1–74)

Lichas Westwood, 1853: 236 (original description, Hong Kong) gender feminine, type species *Lichas funebris* Westwood, 1853 (by monotypy) [preoccupied by Dalman 1827: 287 (Trilobita); preoccupied by Steininger 1837: 231 (Mollusca)]; Lacordaire 1857: 264 (description); Gemminger & Harold 1869: 1614 (catalogue)

Eulichas Jacobson, 1913: 726 (replacement name); Pic 1914: 11 (catalogue); Jäch 1995: 361 (description)

Lychas Pic, 1913: 108 (incorrect subsequent spelling)

Lycas Pic, 1915: 7 (incorrect subsequent spelling)

Type species: *Lichas funebris* Westwood, 1853 (by monotypy).

Description (modified from Jäch (1995) and Ivie (2005)). Elongate, fusiform, elaterid-like in general appearance. Body colouration varies from brownish-red to dark brown or blackish. Most of the body surface is covered with recumbent setation. Setation usually bicoloured, dark setae of the same colour as the cuticle, and pale setae which makes typical body pattern “ocellation” in most species. Colouration and density of setation could vary in some species, e.g. *E. funebris* (Figs. 51–53).

Measurements. Body length 14–38 mm., width: 5.0–14.2 mm. Females generally larger than males.

Head. Nearly prognathous. Frons between eyes with shallow depression, on surface with numerous irregularly distributed large setigerous punctures. Ocelli and fronto-clypeal suture absent. Position of suture is marked by transverse depression. Compound eyes large, hemispherical, entirely fine faceted. Antennae angled in front of eyes, under frontal ridge. Antenna with 11 antennomeres. Scape robust, clubbed, pedicel

short, almost globular. Antennomeres 3–10 flattened, distinctly serrate, covered with densely distributed microtrichia and several setae. Last antennomere rectangular, or widened (especially in male) to trapezoidal or drop shaped (see Figs. 35–50). If last antennomere widened, then usually with numerous, most probably sensory tubercles on ventral side. Female antenna generally less modified, shorter and more slender. Labrum free, subquadrate, widest anteriorly, basal membrane wide and clearly visible (Fig. 1). Mandible elongate, outer side regularly rounded with coarse setigerous punctures, apex scooplike; inner side with distinct mola, and prostheca with brush of long setae (Fig. 2). Maxilla with separate, similarly-shaped, elongate lacinia and galea, each with apical portion membranous and covered with brush of curved setae (Fig. 3). Maxillary palps tetramerous, palpomere 1 very short, palpomeres 2–4 clubbed, elongate; apical palpomere often widened, distally truncated and with deep excavation. Labium with mentum subtriangular, twice as wide as long; ligula extending anteriorly to palpifers, medially divided into broad membranous lobes that bear brush of short to long setae that reach anterior edge of closed mandibles (Fig. 4). Labial palps trimerous, palpomeres clubbed, elongate; apical palpomere often widened, distally truncated and with deep excavation. Gular sutures distinct, separate. Cervical sclerites distinct.

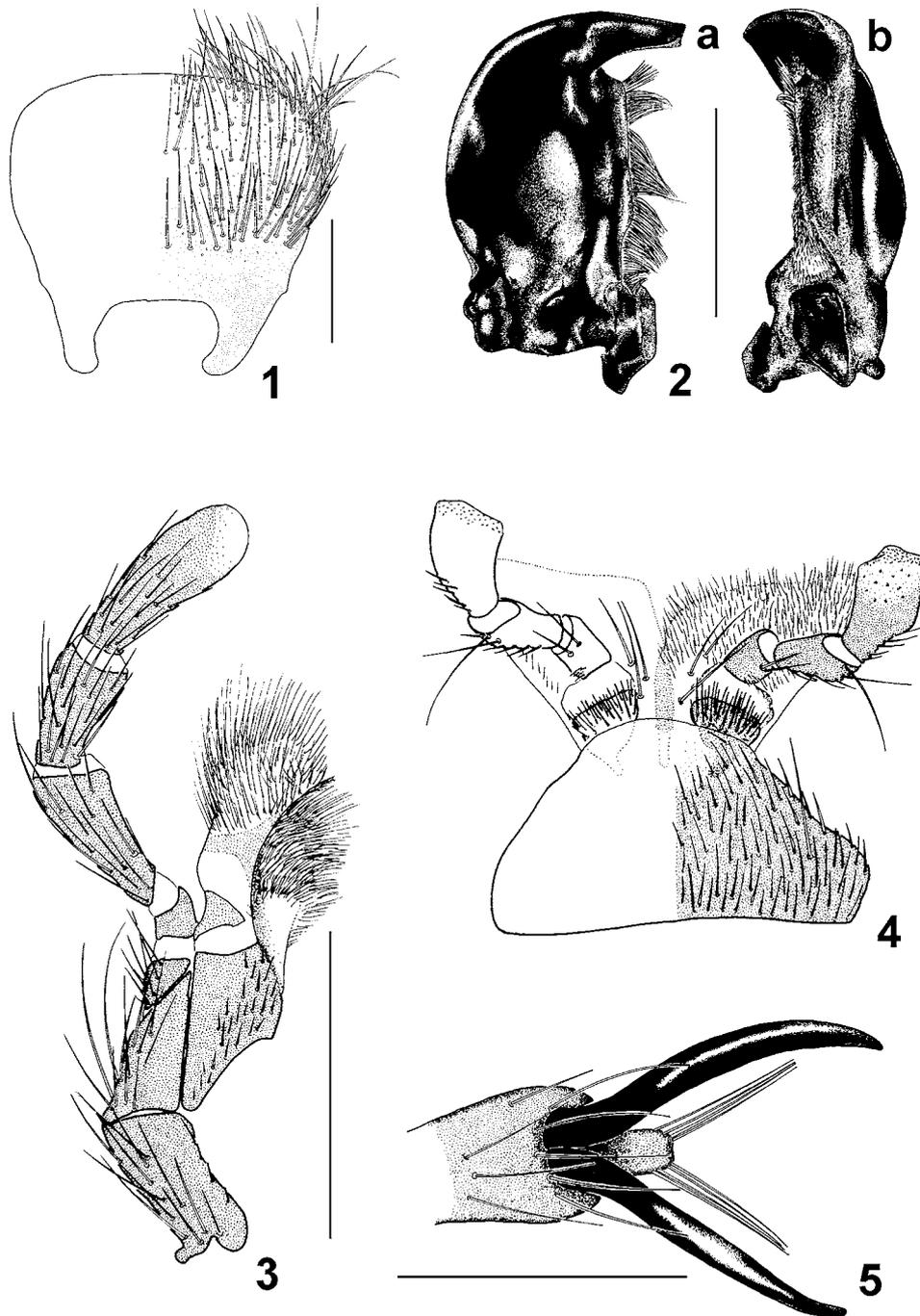
Thorax. Pronotum transverse, trapezoidal. Anterior and lateral margins distinctly bordered. Lateral margin regularly rounded, angled or bisinuate (see Figs. 15–18), basal margin bisinuate and crenulate. Pronotal disc concave or slightly depressed dorsoventrally with two shallow circular depressions. Dorsal surface covered with fine to large setigerous punctures, usually sparsely distributed on disc, and densely in lateral parts. Prosternum transverse, prosternal process elongate with almost parallel sides and rounded apex (Fig. 7). Lateral margins bordered in basal two thirds of its length. Procoxal cavity open posteriorly. Scutellum almost semicircular with anterior margin straight or crenulate, and posterior margin rounded. Its surface covered with setigerous punctures, usually much densely near margins. Elytron elongate, laterally bordered, with apical margin rounded, and short sutural spine. Humeral bulge well developed. Elytral surface with large setigerous punctures arranged into fairly distinct rows (9–12 rows between suture and humeral bulge). Very fine punctures are inserted irregularly between large punctures. Epipleura wide basally, sinuously narrowing to one third of elytral length, then very narrow to the apex. Metathoracic wing well developed with typical elongate, vertically closed radial cell (Fig. 6). Mesothorax and metathorax connate (Fig. 8). Most of surface covered with setigerous punctures. Punctures are usually fine and sparse medially and become somewhat larger and denser laterally. Mesoventrite transverse, narrow, with deep groove medially to receive prosternal process. Mesocoxal cavity closed. Metaventrite without transverse suture. Discrimen (median suture) long and deep. Metaventral process projects between mesocoxae and is fused with mesoventrum. Legs with transverse coxae (mesocoxae rather triangular). Trochantin large and exposed in procoxae and mesocoxae. Coxal posterior face excavated (especially metacoxae) to receive femora in retracted position. Trochanter triangular, offset, strongly attached to femora. Femur and tibia elongate. Tibia apically with two short calcars. Tarsi pentamerous. Tarsomere 5 almost as long as previous four tarsomeres together. All tarsomeres (predominately 1–4) with short setal brushes on ventral surface. Claws robust, equal. Plurisetose empodium well developed (Fig. 5).

Abdomen. Five ventrites (sternites 3–7). Ventrites 1–3 connate, but separate by distinct sutures. Ventrite 1 with long and acute process separating metacoxae. Its anterior margin excavated and bordered to close metacoxal cavity posteriorly. All ventrites densely covered with setigerous punctures, and laterally with fairly distinct, often smooth tubercles indicated insertion of tergo-sternal muscles (Fig. 9). Sternite 8 in female with long anterior median strut and pair of slightly shorter anterolateral struts (Fig. 11). Sternite 9 in male elongate, rounded apically, tergite 9 divided fully into two lateral lobes (Fig. 10). Tergite 10 well developed.

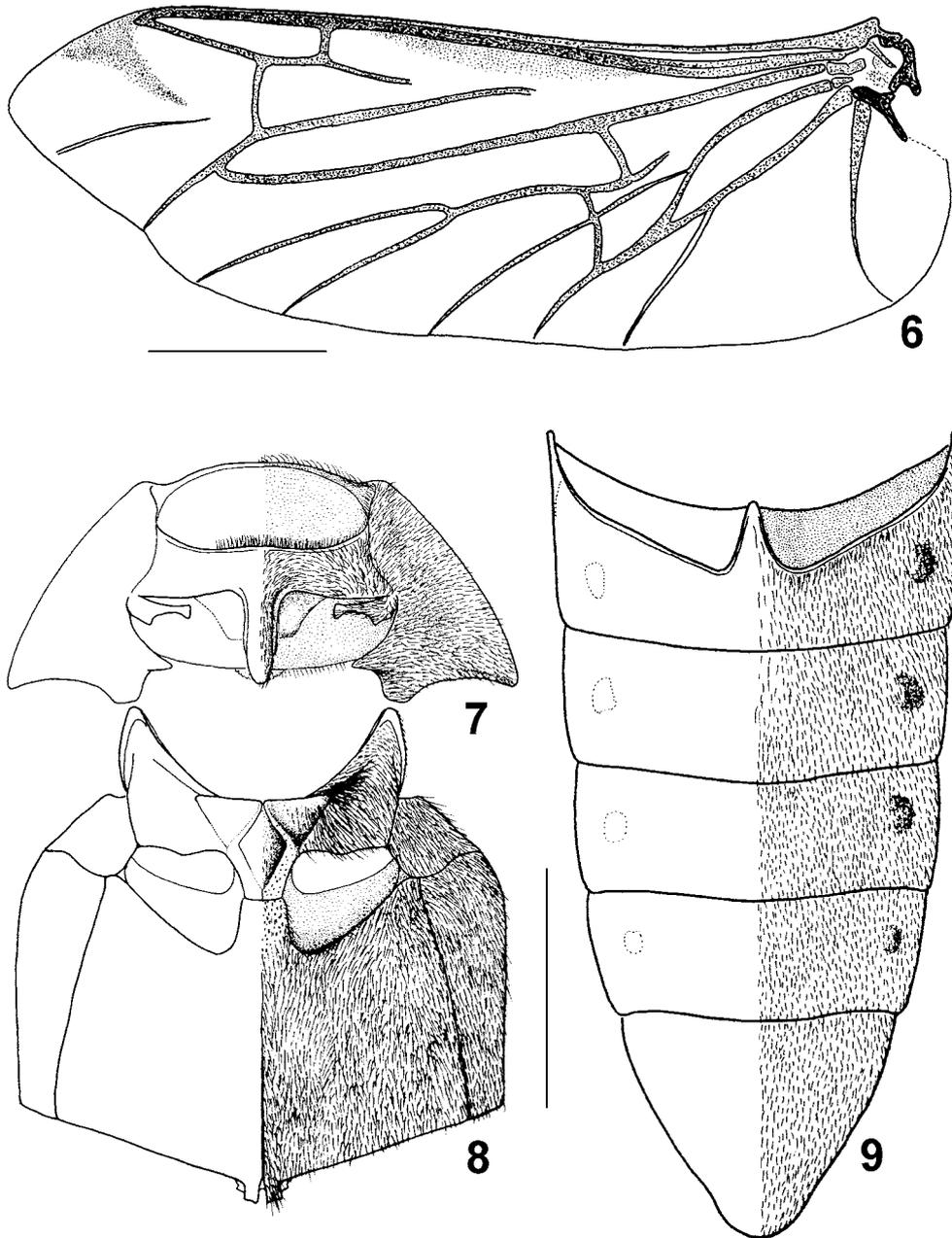
Male external genitalia. Aedeagus well sclerotised, trilobate, symmetrical. Phallobase (basal piece) of variable length, incised basally. Median lobe (penis) long, subparallel or lanceolate, usually with pair of basal spines, slightly longer than parameres (subgenus *Eulichas*) (Fig. 12), or short and stout, distinctly shorter than parameres (subgenus *Forficulichas*) (Fig. 13). Median lobe divided longitudinally, ventral sac, fibula and

corona present. Parameres long and slender (subgenus *Eulichas*) or short and broad (subgenus *Forficulichas*), generally with well sclerotised basal apophysis, and ventral subbasal and subapical hooks. Subbasal parameral hooks match to penile basal spines and fix aedeagus closed when retracted.

Female external genitalia. Ovipositor elongate, well sclerotised. Paraprocta very long and slender. Coxites divided, with very short, button like articulated styli (Fig. 14).



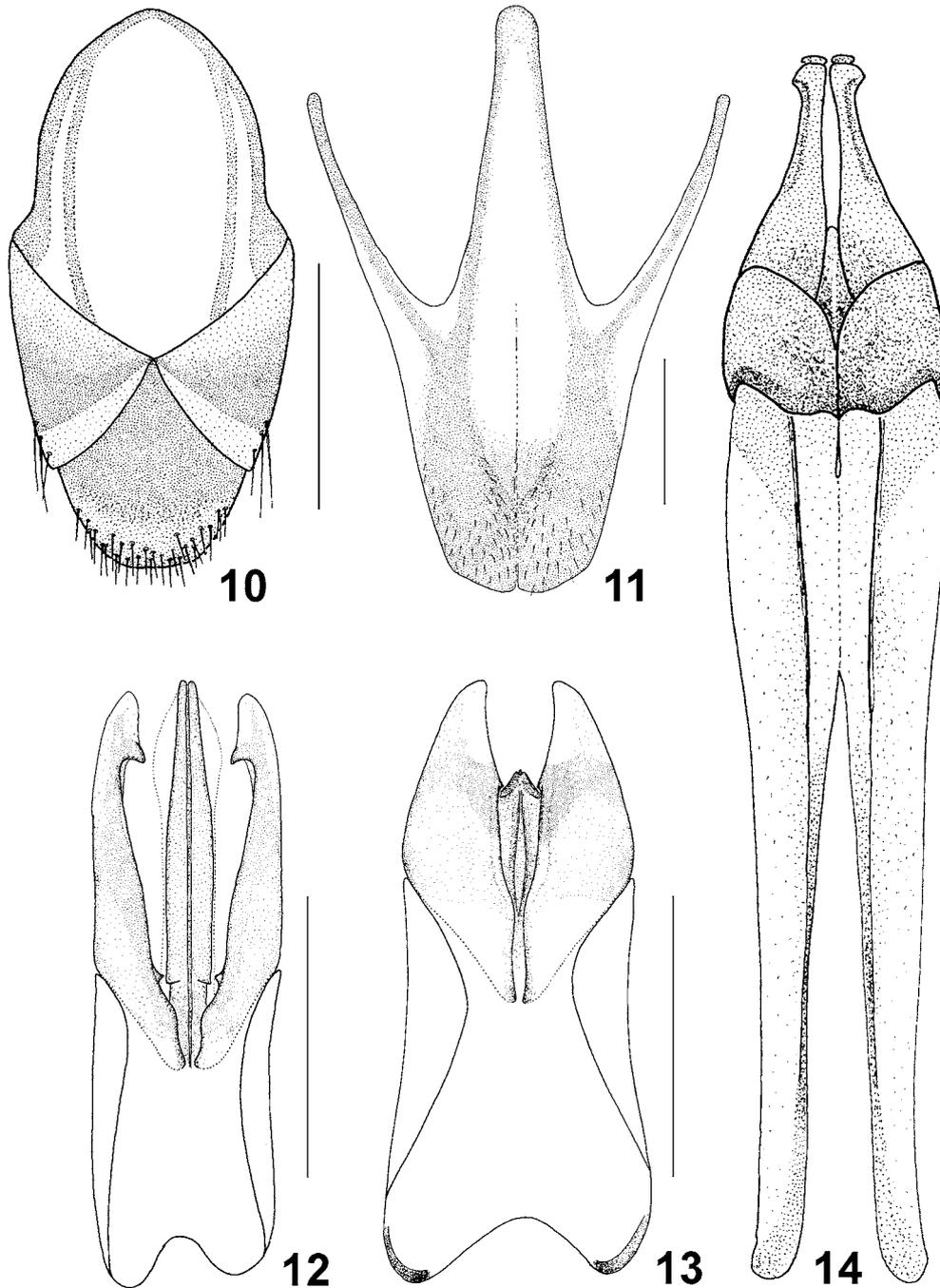
FIGURES 1–5. Details of *Eulichas*. 1–4: *E. kubani* **sp. nov.**, paratype; 5: *E. undulata* (Pic). 1. – labrum; 2 – mandible (a – dorsally; b – ventro-laterally); 3 – maxilla; 4 – labium; 5 – apical part of protarsomere V, with claws and empodium. Scale bar 1 mm.



FIGURES 6–9. Details of *Eulichas*. 6–9: *E. phoca* (Bourgeois). 6 – hind wing; 7 – prosternum; 8 – meso- and metaventrite; 9 – abdomen ventrally. Scale bar 5 mm.

A key to *Eulichas* subgenera and species groups (males only) (modified from Jäch (1995))

1. Aedeagus slender. Parameres about the same length, or slightly shorter than median lobe ... subgenus *Eulichas* 2
- Aedeagus short and broad. Parameres surpassing median lobe (Fig. 13).....subgenus *Forficulichas*
2. Phallobase of aedeagus long and slender, generally longer than parameres. Basal parameral apophysis long (Fig. 19) *Eulichas funebris* species group
- Phallobase of aedeagus broader, approximately as long as parameres, or slightly shorter. Basal parameral apophysis short (Fig. 12)*Eulichas dudgeoni* species group



FIGURES 10–14. Details of *Eulichas*. 10: *E. tanahrata* **sp. nov.**, paratype; 11, 13–14: *E. phoca* (Bourgeois); 12: *E. dudgeoni* Jäch. 10 – male abdominal tergites IX–X; 11 – female abdominal sternite VIII; 12–13 – aedeagus in dorsal view; 14 – ovipositor. Scale bar 2 mm.

The *Eulichas funebris* species group

The *E. funebris* species group is characterised by the long and slender phallobase, which is distinctly longer than the parameres, and by the long basal parameral apophysis. In addition, most of the species (except for the *E. mediocris* species complex) have the pronotum largely transverse with sides almost regularly rounded, at least in the basal half; the last maxillary palpomere expanded and nearly as wide as long; last antennomere

widened (except *E. tenuicornis*), usually trapezoidal or drop shaped, in male with numerous small tubercles on its inner side.

The group contains 16 species, mainly distributed in continental south-eastern Asia – only three species reach the border with the Palearctic region in north-eastern India, and southern China respectively, and two species occur in Sumatra and the surrounding small Islands (Belitung, Nias, Siberut).

Checklist and distribution of the species

The *E. funebris* species complex

- | | |
|---|---|
| 1. <i>Eulichas funebris</i> (Westwood, 1853) | China: Fujian, Guangdong, Guangxi, Hong Kong, Jiangxi, Zhejiang |
| 2. <i>Eulichas meghalayensis</i> Hájek, sp. nov. | India: Meghālaya |
| 3. <i>Eulichas tenuicornis</i> Jäch, 1995 | China: Hainan Isl. |
| 4. <i>Eulichas tonkinensis</i> Jäch, 1995 | Vietnam: “Annam”, “Tonkin” |
| 5. <i>Eulichas undulata</i> (Pic, 1911) | Vietnam: “Tonkin”, China: Yunnan |

The *E. pacholatko*i species complex

- | | |
|--|---|
| 6. <i>Eulichas haucki</i> Hájek, sp. nov. | Thailand: Loei |
| 7. <i>Eulichas kubani</i> Hájek, sp. nov. | Laos: Boli Kham Xai, Hua Phan; Vietnam: Ha Tinh |
| 8. <i>Eulichas pacholatko</i> i Jäch, 1995 | Vietnam: Lam Dong |

The *E. jaechi* species complex

- | | |
|--|--|
| 9. <i>Eulichas birmanica</i> Hájek, sp. nov. | Myanmar: Tenasserim |
| 10. <i>Eulichas jaechi</i> Hájek, sp. nov. | Malaysia: Kelantan, Pahang, Perak |
| 11. <i>Eulichas strbai</i> Hájek, sp. nov. | Malaysia: Johor, Kelantan, Pahang, Perak, Selangor |
| 12. <i>Eulichas tanahrata</i> Hájek, sp. nov. | Malaysia: Pahang, Perak, Selangor |

The *E. milleri* species complex

- | | |
|---|-------------------------------|
| 13. <i>Eulichas janbezdeki</i> Hájek, sp. nov. | Laos: Boli Kham Xai, Hua Phan |
| 14. <i>Eulichas milleri</i> Ivie & Jäch, 2002 | Vietnam: Da Nang |

The *E. mediocris* species complex

- | | |
|---|--|
| 15. <i>Eulichas mediocris</i> (Pic, 1921) | Indonesia: Sumatra Isl., Belitung Isl. |
| 16. <i>Eulichas minuta</i> Hájek, sp. nov. | Indonesia: Sumatra Isl., Nias Isl., Siberut Isl. |

A key to the species

1. Pronotum laterally rounded, at least in the basal third (Figs. 15–16). Last antennomere usually widened, trapezoidal or drop shaped (except in *E. tenuicornis*). Species of variable length (males: 17–29 mm). Continental south-eastern Asia 2

- Pronotum laterally parallel in basal half, or slightly incised with hind angles prominent (Figs. 17–18). Last antennomere not widened, nearly rectangular (Figs. 49–50). Small species (males: 14–19 mm). Sumatra and surrounding small islands.....*E. mediocris* species complex ... 15
- 2. Parameres slender and simple. Parameral subbasal and subapical hooks developed or absent..... 3
- Parameres widened distally with developed medio-ventral parameral process, which is attenuating apically to short or long acute hook (Figs. 31–32). Subbasal parameral hook developed, but the subapical one is absent.....*E. milleri* species complex ... 14
- 3. Subbasal parameral hook well developed, subapical parameral hook developed or absent. Penile subbasal spines orientated laterally. North-eastern India, China, Thailand, Laos and Vietnam..... 4
- Subbasal parameral hook reduced (Figs. 27–30). In some species, it can be preserved as an indistinct carina or angle. Penile subbasal spines turned dorso-laterally. Malay Peninsula
.....*E. jaechi* species complex ... 11
- 4. Parameres almost parallel sided, its subapical hook well developed. Penis narrowly lanceolate.....
.....*E. funebris* species complex ... 5
- Parameres slightly widened behind the middle, its subapical hook very small or reduced into the indistinct angle (Figs. 24–26). Penis very narrow, almost parallel sided .*E. pacholatko*i species complex ... 9
- 5. Antennomeres very long and slender, last antennomere ca. 8–9 times as long as wide (Fig. 37). Endemic to Hainan Island, China.....*E. tenuicornis*
- Antennomeres shorter and robust, last antennomere more or less widened, trapezoidal or drop shaped 6
- 6. Body setation yellowish. Last antennomere slender, ca. 1.88–2.33 times as long as wide (Figs. 35–36). North-eastern India, and China 7
- Body setation grey-whitish. Last antennomere broader, ca. 1.47–1.90 times as long as wide (Figs. 38–39). “Tonkin”, northern Vietnam..... 8
- 7. Parameres relatively longer. Median lobe narrowly subparallel in full length (Fig. 19). Larger species, male body length 20–23 mm. China*E. funebris*
- Parameres relatively shorter. Median lobe parallel in basal two thirds of its length, then narrowed shortly to apex (Fig. 20). Smaller species, male body length 17–20 mm. Meghalaya, north-eastern India
.....*E. meghalayensis* sp. nov.
- 8. Punctuation of pronotal disc sparse and shallow, punctures usually separated by more than their diameter. Pronotum largely transverse, ca. 2.07–2.22 times as wide as long. Apical part of parameres (between apex and subapical hook) longer (Fig. 23). Larger species, male body length 24–29 mm.....
.....*E. undulata*
- Punctuation of pronotal disc coarse and dense, punctures usually separated by less than their diameter. Pronotum less transverse, ca. 1.76–1.90 times as wide as long. Apical part of parameres shorter (Fig. 22). Smaller species, male body length 19–24 mm*E. tonkinensis*
- 9. Parameres contracted before the midlength, its subapical hook very small, but distinct (Fig. 24). Thailand.....*E. haucki* sp. nov.
- Parameres not contracted near the midlength, its subapical hook indistinct or reduced to obtuse angle.....10
- 10. Subapical parameral hook almost indistinct (Fig. 26). Habitus elongate, body setation light brown and whitish. Southern Vietnam.....*E. pacholatko*i
- Subapical parameral hook reduced to an indistinct angle (Fig. 25). Habitus more convex, body setation blackish and greyish. Central Laos and Vietnam.....*E. kubani* sp. nov.
- 11. Last antennomere only weakly widened, drop shape (Figs. 43–44). Smaller species, male body length 16–20 mm..... 12
- Last antennomere strongly widened, trapezoidal (Figs. 45–46). Larger species, male body length 18–25 mm..... 13

12. Median lobe narrowly lanceolate, without distinct lateral processes (Fig. 27). Last antennomere ca. 3.00–3.25 times as long as wide (Fig. 43). Tenasserim, Myanmar..... *E. birmanica* sp. nov.
- Median lobe broadly lanceolate, projecting to large lateral processes (Fig. 28). Last antennomere ca. 2.47–3.00 times as long as wide (Fig. 44). Malaysia..... *E. jaechi* sp. nov.
13. Habitus fairly convex dorso-ventrally, shorter. Last antennomere with distinct elongation apically (Fig. 45). Parameres rather robust, with large apical part (between apex and subapical hook). Median lobe narrowly lanceolate (Fig. 29)..... *E. strbai* sp. nov.
- Habitus elongate. Last antennomere without elongation (Fig. 46). Parameres slender, its apical part short. Median lobe largely lanceolate (Fig. 30)..... *E. tanahrata* sp. nov.
14. Parameral medio-ventral process very long and acute. Median lobe subparallel (Fig. 32). Vietnam.....
..... *E. milleri*
- Parameral medio-ventral process short and slightly curved. Median lobe broadly lanceolate (Fig. 31). Laos..... *E. janbezdeki* sp. nov.
15. Pronotum with sides nearly parallel in basal half (Fig. 17). Last antennomere more than three times as long as wide (Fig. 49). Parameres short, curved, with subbasal hook moved medially. Median lobe broadly lanceolate (Fig. 33)..... *E. mediocris*
- Pronotum with sides slightly incised subbasally, hind angles prominent (Fig. 18). Last antennomere about 2.5 times as long as wide (Fig. 50). Parameres almost parallel. Median lobe narrowly lanceolate (Fig. 34)..... *E. minuta* sp. nov.

The *Eulichas funebris* species complex

The species complex contains five species from, more or less, the Palaearctic-Oriental transitional zone area. Their characteristics agree without exception with the definition of the group: pronotum distinctly transverse with sides regularly rounded in basal half; last antennomere enlarged (the prolonged thin last antennomere of *E. tenuicornis* is considered as a secondary modification); parameres simple, with distinct subbasal and subapical hooks.

Eulichas funebris (Westwood, 1853)

(Figs. 15, 19, 35, 51–53)

Lichas funebris Westwood, 1853: 238 (original description, Hong Kong); Gemminger & Harold 1869: 1614 (catalogue)

Lichas davidis Deyrolle & Fairmaire, 1878: 111 (original description, central China)

Eulichas davidi (Deyrolle & Fairmaire, 1878): Jacobson 1913: 727 (subsequent incorrect spelling, catalogue)

Eulichas davidis (Deyrolle & Fairmaire, 1878): Pic 1914: 11 (catalogue); Wu 1937: 504 (catalogue); Jäch 1995: 364 (lectotype designation, in synonymy)

Eulichas funebris (Westwood, 1853): Jacobson 1913: 727 (catalogue); Pic 1914: 11 (catalogue); Wu 1937: 504 (catalogue); Jäch 1995: 364 (lectotype designation, description)

Eulichas impressicollis Pic, 1939: 2 (original description, China: Yaosan); Jäch 1995: 364 (lectotype designation, in synonymy)

Eulichas sp. (Guangxi A) cf. *funebris* et *undulata*: Jäch 1995: 370 (partim, description)

Type locality. “China, prope Hong Kong” [Hong Kong Island, see also Jäch (1995: 364)] (*E. funebris*); “Chine centrale” (*E. davidis*); “Chine: Yaosan” [Dayaoshan, Guangxi, China] (*E. impressicollis*).

Type material. *Lichas funebris*: Lectotype ♂ (BMNH), designated by Jäch (1995), labelled: “Hong / Kong [round label, handwritten] // Eulichas / funebris [handwritten] // LECTOTYPUS / Eulichas / funebris WESTW. / des. M. Jäch 1992 [red label, handwritten]”. *Lichas davidis*: Lectotype ♂ (MNHN), designated by Jäch (1995), labelled: “Chine / A. DAVID [printed] // Lycas / Davidis / nsp [handwritten] // Ex-Musaeo /

Mniszech [black frame, printed] // TYPE [red label, printed] // Museum Paris / ex Coll. / R. Oberthur [yellow label, printed] // LECTOTYPUS / *Eulichas / davidis* DEYR. & FAIR. / des. M. Jäch 1994 [red label, handwritten] // *Eulichas / funebris* WESTW. / det. Jäch 1994 [printed]”. *Lichas impressicollis*: Lectotype ♂ (MNHN), designated by Jäch (1995), labelled: “Bup. no. 3 / Yaosan (Kwangsi) / 10.VII.34 / H.G.Tao [handwritten] // P. / 455 [typewritten] // type [handwritten] // Museum Paris / Coll. M. Pic [printed] // TYPE [red label, printed] // *impressicollis / nsp* [handwritten] // LECTOTYPUS / *Eulichas / impressicollis* PIC / des. M. Jäch 1993 [red label, handwritten] // *Eulichas / funebris* WESTW. / det. Jäch 1994 [printed]”.

Additional material studied (only precisely localised material is presented). 79 specimens — **CHINA**: 8♂♂, Guangxi A.R., Nanning [ca. 22°49'N 108°18'E], coll. Le Moul (ISNB, NHMW); 1♂, Guangxi A.R., Jaochan, vii.1928, G. Sin leg. (ZMHB); 1♂, Guangxi A.R., Yaosan, 8.vii.[19]34, H.G. Tao leg. (MNHN); 3♂♂, Guangxi A.R., Dayao Shan [Mts.], Jingxiu, 100 km SE Liuyhou, 23°45'N 109°45'E, 1200 m, iv.2005, team of V. Siniaev leg. (NMPC); 1♂, Guangdong prov., Canton [Guangzhou], v.–vii.1911, S.V. Mell leg. (ZMHB); 1♂, Guangdong prov., Canton [Guangzhou], Su Liu Kum, vii.1911, S.V. Mell leg. (NMPC); 6♂♂ 5♀♀, Guangdong prov., Tsha-jiu-san, 1400 m; v.–vi.[19]12, S.V. Mell leg. (NMPC, ZMHB); 3♂♂ 2♀♀, Hong Kong (MNHN, SMTD, ZMHB); 1♂, Hong Kong, 1912, P. Kibler leg. (SMNS); 2♀♀, Hong Kong, vi.1927 (MNHN); 1♂, Hong Kong, Krulun [mt.], 7.v.1903, S.G. Kreyenberg leg. (ZMHB); 1♂, Hong Kong, Lo Fau [most probably = Lau Fau, ca. 22°17'N 113°56'E], vii.1912, S.V. Mell leg. (ZMHB); 1♂, Hong Kong, Tai Po Kau [ca. 22°27'N 114°10'E], Dudgeon leg. (NHMW); 1♂, Hong Kong, New Territories, Lam Tsuen river, 25.vi.1992, M.A. Jäch leg. (NHMW); 1♂ 2♀♀, Fujian prov. (MNHN); 1♂ 2♀♀, Fujian prov., Yun-ling-shan, coll. G. Hauser (NMPC, ZMHB); 1♂, Fujian prov., Kienning [Jian'ou, ca. 27°02'N 118°18'E], coll. G. Hauser (ZMHB); 1♂ 1♀, Fujian prov., Amoy [Xiamen, ca. 24°27'N 118°04'E] (BMNH); 1♂ 2♀♀, Fujian prov., Foochow [Fuzhou, ca. 26°04'N 119°18'E] (MNHN); 1♀, Fujian prov., Foochow [Fuzhou], San Chiang, 1927, C.H. Pope leg. (BMNH); 13♂♂ 6♀♀, Fujian prov., Kuantun, iv.–vi.1946, Tshung Sen leg. (NHMW, NMPC, ZMHB); 1♀, Fujian prov., Kuantun [ca. 27°40'N 117°40'E], 29.vii.[19]46, Tschung-Sen leg. (MNHN); 1♂, Fujian prov., Kuantun, 15.viii.[19]46, Tschung-Sen leg. (MNHN); 1♂, Fujian prov., Shaowu env. [ca. 27°20'N 117°28'E], 23.–27.vi.1991 (NHMW); 1♂, Fujian prov., Sangang env. [ca. 27°45'N 117°40'E], 3.–5.vii.1991 (NMPC). 1♀, Shanghai prov., Shanghai (MNHN). The following specimens were identified with doubt: 3♂♂ 1♀, China, Guangxi A.R., Nanning, coll. Le Moul (ISNB, NHMW).

Description. Habitus elongate, fusiform. Body colouring brown-blackish. Pale part of setation consists of recumbent yellowish setae forming typical ocellations on pronotum, elytra and abdominal ventrites, where setae are darker and sparser (Fig. 51). In some specimens, the pale setae cover uniformly whole dorsal surface (Fig. 52).

Measurements. Males: 20–23 mm; females: 20–28 mm.

Head punctuation consists of irregularly distributed large setigerous punctures. Punctures sparse on frons, but become somewhat smaller and densely distributed on vertex. Antenna robust, last antennomere 1.88–2.33 times as long as wide (Fig. 35), its ventral side smooth with numerous small tubercles.

Pronotum transverse, ca. 1.92–2.07 times as wide as long. Sides almost regularly rounded in basal half, and skewed and straight anteriorly (Fig. 15). Dorsal surface convex. Punctuation consists of moderately large setigerous punctures on the disc, which become coarser and denser laterally.

Elytra with numerous longitudinal rows of large setigerous punctures, and very fine interstitial punctures.

Ventral part almost uniformly densely punctured with fine punctures. Last abdominal ventrite with indistinct sinuation before apex.

Male. Aedeagus with phallobase longer than parameres. Parameres short, parallel and simple, their sub-basal and subapical hook well developed. Median lobe narrow, subparallel (Fig. 19).

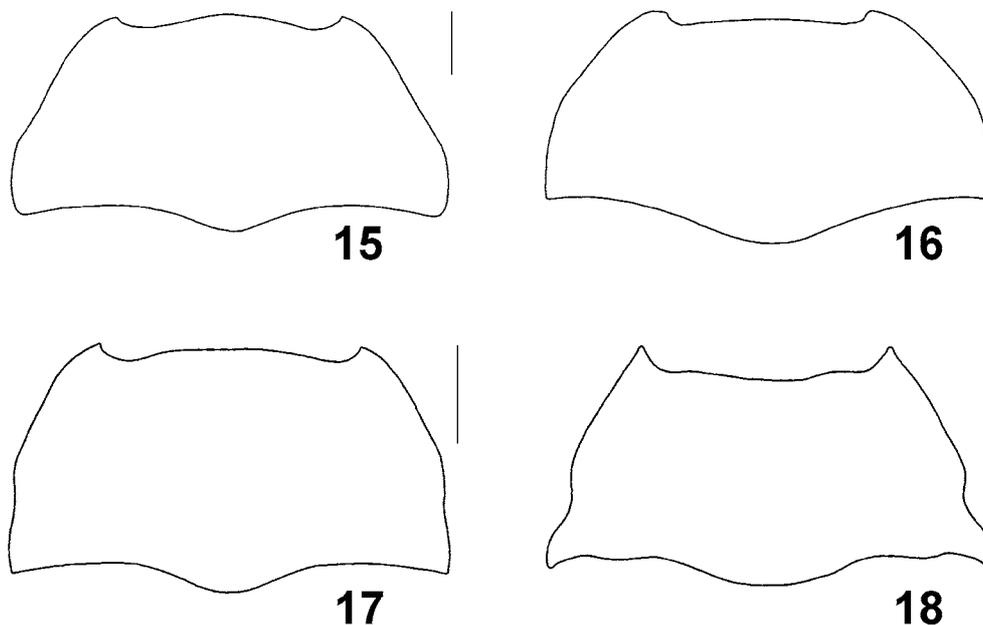
Female. Similar to male in habitus, but on average larger. Antenna shorter and more slender.

Remarks. The four specimens from Guangxi (Fig. 53) were listed by Jäch (1995: 370) as “*Eulichas* sp. (Guangxi A) cf. *funebris* et *undulata*”. They fit well with the sympatrically occurring typical *E. funebris* in

habitus and body setation, but differ in their body length (males: 25–28 mm; female: 32 mm). Also the proportion of the last antennomere (1.68–1.80) falls behind the lowest extreme in *E. funebris*. Finally, parameres are comparatively longer than phallobase, thus more closely resembling *E. undulata*, than *E. funebris*. However, mainly because only four specimens are known and *E. funebris* is a very variable species, I have found no strong argument to refer these specimens to a separate taxon, and instead believe, that the characters mentioned may change allometrically with body length.

Collection circumstances. Imagoes collected mostly at light. One specimen from Hong Kong was captured on a tree trunk near the river (M.A. Jäch pers. comm., 2006). The larvae have been collected in a stream with sandy substrate (Jäch 1995).

Distribution. The species occurs predominately in south-eastern China (Fujian, Guangdong, Guangxi, Hong Kong, Jiangxi, Zhejiang). There are also old records without precise localities from northern and central China.



FIGURES 15–18. Pronotum of *Eulichas*. 15 – *E. funebris*; 16 – *E. undulata*; 17 – *E. mediocris*; 18 – *E. minuta* sp. nov. Scale bar 1 mm.

***Eulichas meghalayensis* Hájek, sp. nov.**

(Figs. 20, 36, 54)

Type locality. India, Meghālaya, W Garo Hills, Tura.

Type material. 5 specimens — Holotype ♂ (NHMW), labelled: “NE INDIA: Meghalaya / W Garo Hills / Tura, ca. 700 m // 25°30.7’N 90°13.9’E / 29.–31.5.1996 / leg. Jendek & Sausa [printed]”. Paratypes: 3♂♂ (nos. 1–3), same label data as holotype (NHMW, NMPC); 1♂ (no. 4), “Khasia [= Khāsi Hills, Meghālaya, India] / Nat. Coll [printed] // MUSÉUM PARIS / 1952 / COLL. R. OBERTHUR [yellow label, printed]” (MNHN).

Description. Habitus elongate, fusiform. Body colouring brown-blackish in recently collected material, and brownish-red in old specimen from “Khasia”. Pale part of setation consists of recumbent yellowish setae forming typical ocellations on pronotum, elytra and abdominal sternites, where setae are darker and sparser (Fig. 54).

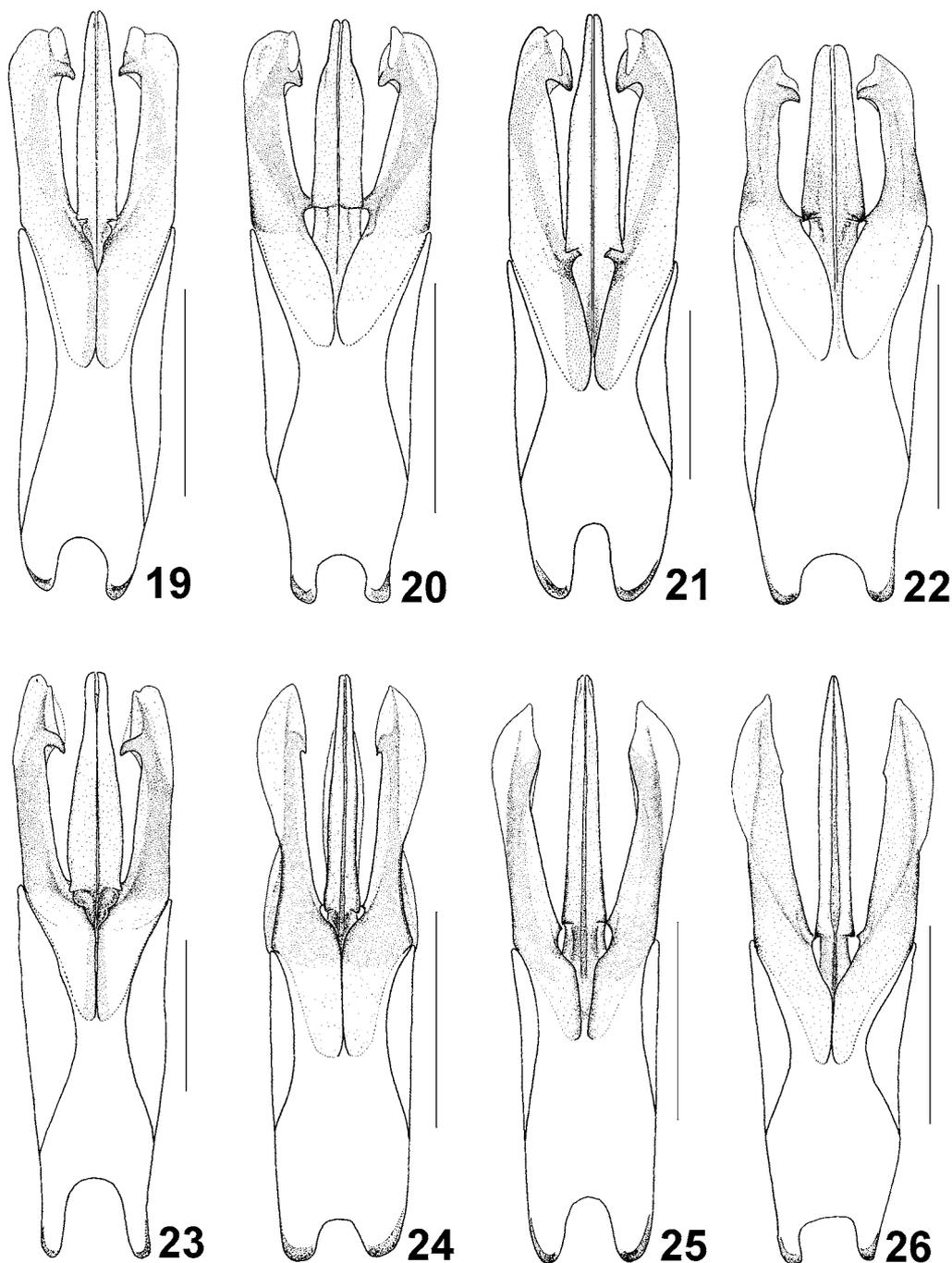
Measurements. Males: 17–20 mm (holotype 20 mm).

Head punctation consists of irregularly distributed moderately large setigerous punctures. Punctures sparse on frons, but become somewhat densely distributed on vertex. Antenna robust, last antennomere 2.00–2.13 times as long as wide (Fig. 36), its ventral side smooth with numerous small tubercles.

Pronotum transverse, ca. 2.10–2.18 times as wide as long. Sides almost regularly rounded. Dorsal surface with two shallow depressions. Punctation consists of moderately large setigerous punctures on the disc, which become coarser and denser laterally.

Elytra with numerous longitudinal rows of large setigerous punctures, and very fine interstitial punctures.

Ventral part almost uniformly densely punctured with fine punctures. Last abdominal ventrite laterally rounded regularly to apex.



FIGURES 19–26. Aedeagus of *Eulichas* in dorsal view. 19 – *E. funebris*; 20 – *E. meghalayensis* sp. nov.; 21 – *E. tenuicornis*; 22 – *E. tonkinensis*; 23 – *E. undulata*; 24 – *E. haucki* sp. nov.; 25 – *E. kubani* sp. nov.; 26 – *E. pacholatkoii*. Scale bar 1.5 mm.

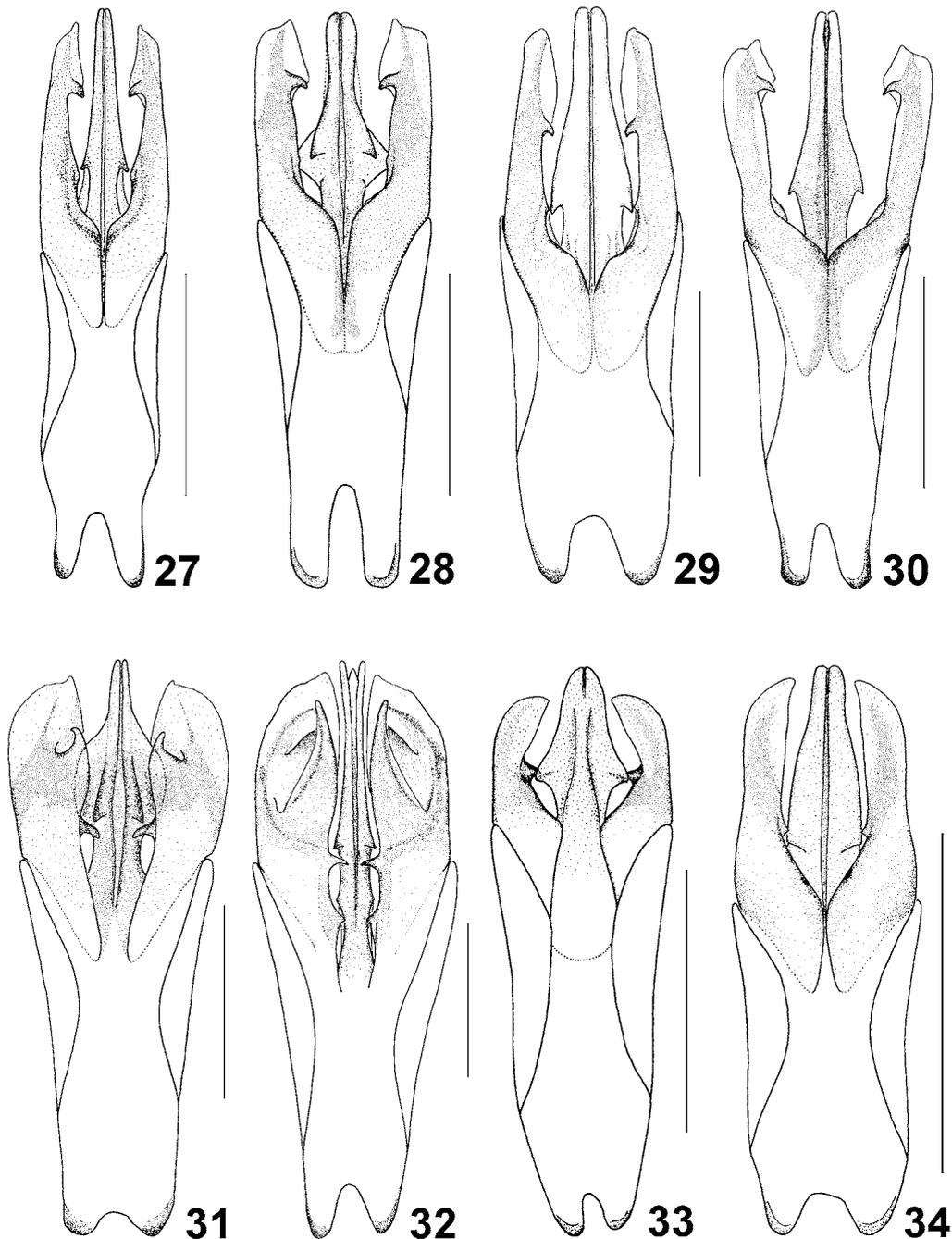
Male. Aedeagus with phallobase longer than parameres. Parameres short, parallel and simple, their sub-basal and subapical hook well developed. Median lobe parallel in basal two thirds of its length and then narrowing shortly to apex (Fig. 20).

Female. Unknown.

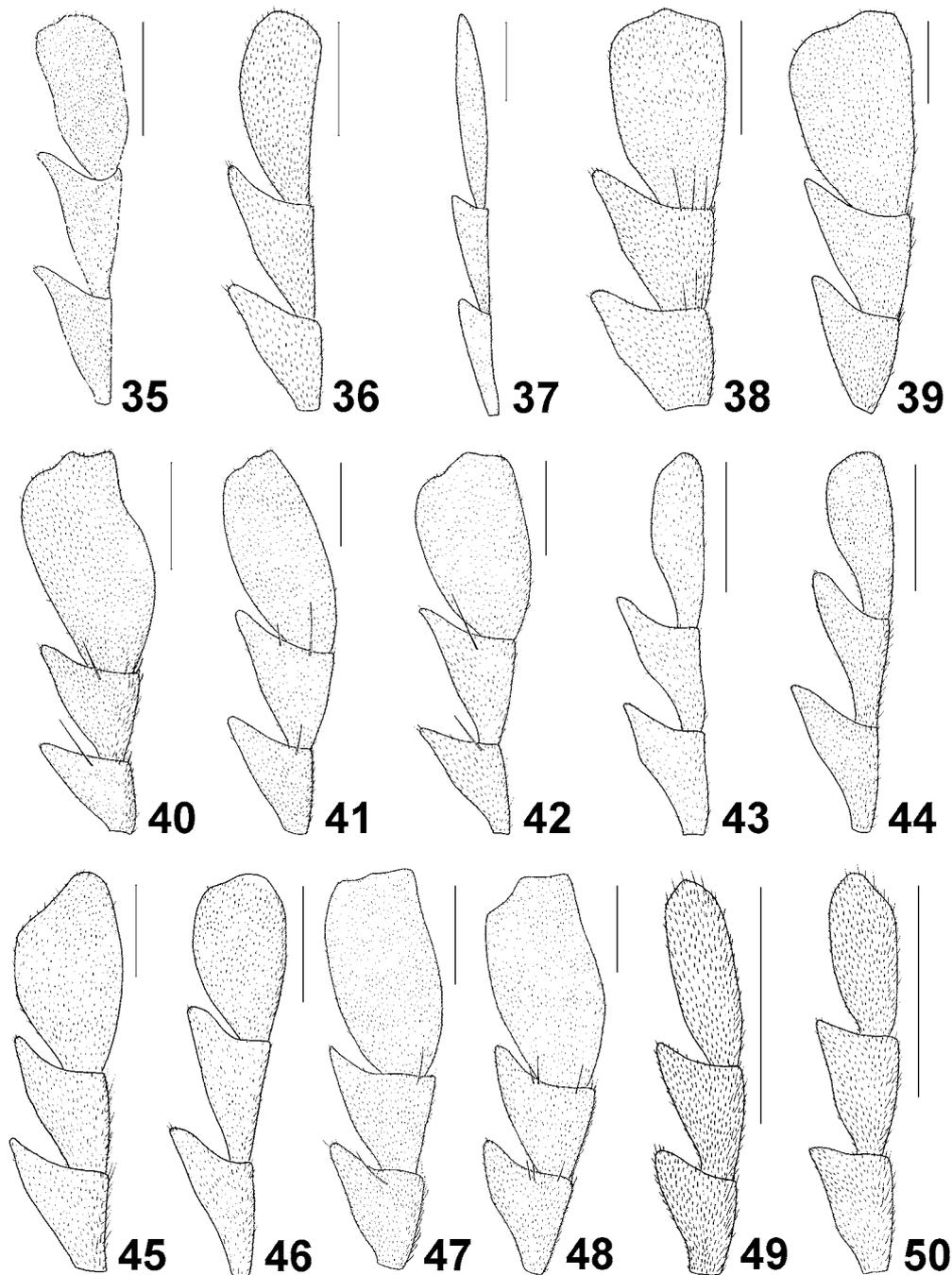
Differential diagnosis. In habitus, the new species is the most similar to *E. funebris*, from which it should be distinguished by the different shape of the aedeagus. In *E. meghalayensis* **sp. nov.** the median lobe is parallel in basal two thirds of its length and then narrowing shortly to apex.

Distribution. So far known only from the type locality in Meghālaya, north-eastern India.

Etymology. The new species is named after Meghālaya state, where the type locality is located.



FIGURES 27–34. Aedeagus of *Eulichas* in dorsal view. 27 – *E. birmanica* **sp. nov.**; 28 – *E. jaechi* **sp. nov.**; 29 – *E. strabai* **sp. nov.**; 30 – *E. tanahrata* **sp. nov.**; 31 – *E. janbezdeki* **sp. nov.**; 32 – *E. milleri*; 33 – *E. mediocris*; 34 – *E. minuta* **sp. nov.** Scale bar 1.5 mm.



FIGURES 35–50. Male antennomeres IX–XI of *Eulichas*. 35 – *E. funebris*; 36 – *E. meghalayensis* **sp. nov.**; 37 – *E. tenuicornis*; 38 – *E. tonkinensis*; 39 – *E. undulata*; 40 – *E. haucki* **sp. nov.**; 41 – *E. kubani* **sp. nov.**; 42 – *E. pacholatko*; 43 – *E. birmanica* **sp. nov.**; 44 – *E. jaechi* **sp. nov.**; 45 – *E. strbai* **sp. nov.**; 46 – *E. tanahrata* **sp. nov.**; 47 – *E. janbezdeki* **sp. nov.**; 48 – *E. milleri*; 49 – *E. mediocris*; 50 – *E. minuta* **sp. nov.** Scale bar 1 mm.

***Eulichas tenuicornis* Jäch, 1995**

(Figs. 21, 37, 55–56)

Eulichas tenuicornis Jäch, 1995: 369 (original description, China: Hainan)

Type locality. “Hainan, southern China”.

Type material. Holotype: 1♂ (MNHN), labelled: “I. Hainan / J. Whitehead [printed] // Museum Paris / ex Coll. / R. Oberthur [yellow label, printed] // HOLOTYPE / Eulichas / tenuicornis sp.n. / des. M. Jäch '95 [red label, printed]”; paratype 1♂, same label data as holotype (NHMW).

Additional material studied. 5 specimens — **CHINA:** 3♂♂ 1♀, Hainan Island, J. Whitehead (BMNH, NMPC); 1♀, Hainan Isl., Diao Lao Shan, polydominant trop. forest, 900 m, 26.–30.vii.2000, N.L. Orlov leg. (ZMAS).

Description. Habitus elongate, fusiform. Colouration of head, pronotum and ventral part testaceous to brown-blackish, elytra testaceous. Pale part of setation consists of recumbent greyish setae forming indistinct ocellations on pronotum and elytra, where setae are darker and sparser (Figs. 55–56).

Measurements. Males: 21 mm; females: 26–29 mm.

Head punctuation consists of coarse setigerous punctures. Antenna long and slender, reaching beyond half of the body length. Antennomeres 3–10 narrowly serrate, last antennomere very long and thin, ca. 8.29–9.15 times as long as wide (Fig. 37), without any tubercles on its ventral side.

Pronotum largely transverse, ca. 2.20–2.39 times as wide as long. Sides almost rounded with indistinct angle near the middle. Punctuation consists of fine, sparse setigerous punctures distributed almost regularly on its dorsal surface.

Elytra with numerous longitudinal rows of large setigerous punctures, and poorly visible fine interstitial punctures.

Ventral part with fine punctures, which are sparse medially and become larger and denser laterally. It is covered with greyish setation. Last abdominal ventrite laterally regularly rounded in basal two thirds, and then narrowed distinctly to apex.

Male. Aedeagus generally similar to that of *E. funebris* species complex. Subapical parameral hook well developed, median lobe subparallel basally, and narrowed to the apex (Fig. 21).

Female. Similar to male in habitus, but larger. Greyish colouration more distinct than in male. Antenna short and slender, last antennomere only 3.42–3.50 times as long as wide. Last abdominal ventrite laterally regularly rounded to apex.

Collection circumstances. According to the label data, the recently collected female was captured in polydominant tropical forest.

Distribution. A species endemic to Hainan Island, south-eastern China.

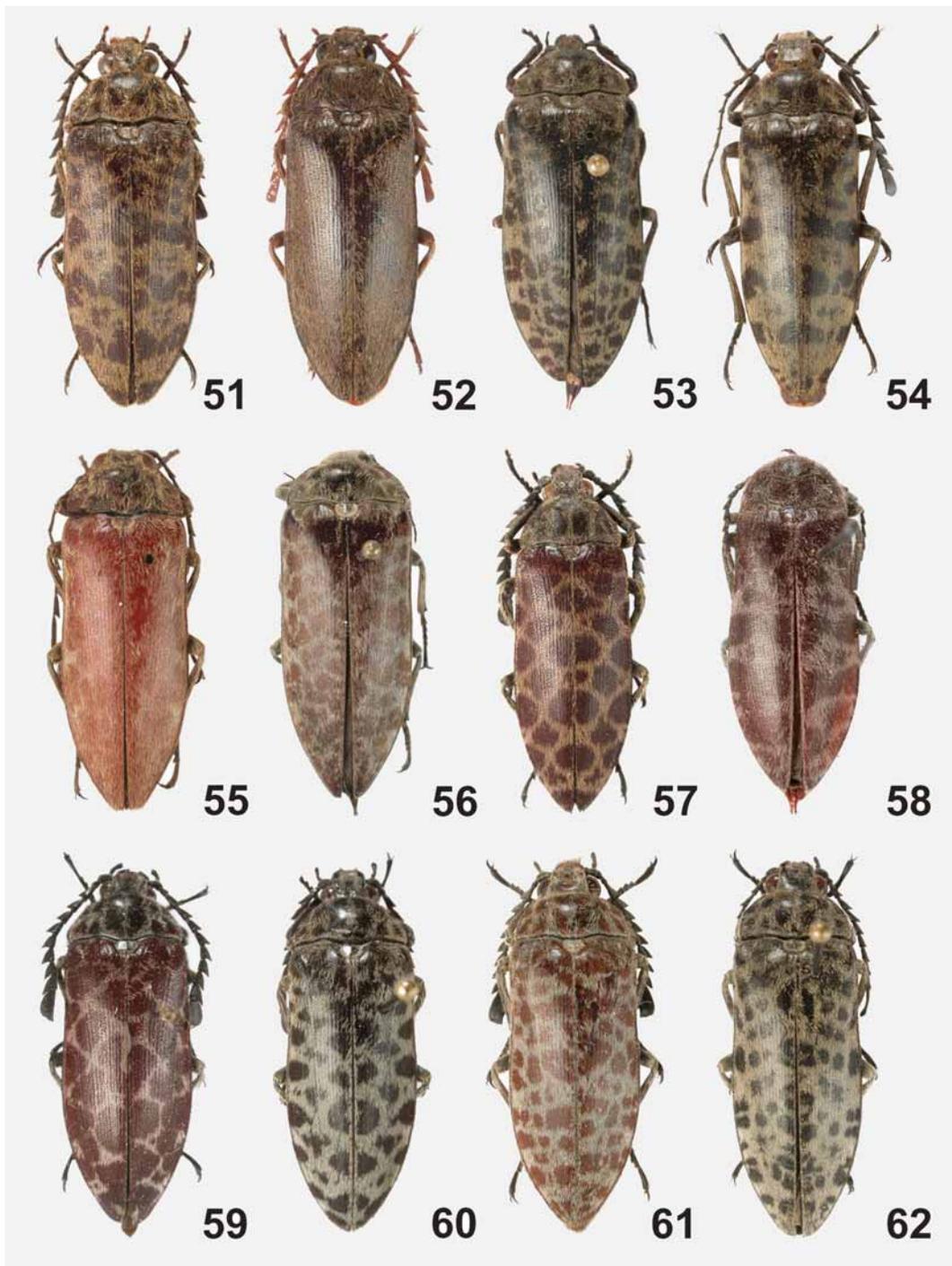
***Eulichas tonkinensis* Jäch, 1995**

(Figs. 22, 38, 57–58)

Eulichas tonkinensis Jäch, 1995: 366 (original description, Vietnam: Tam Dao National Park)

Type locality. “Tam Dao National Park, 75 km northwest of Hanoi, northern Vietnam”.

Type material. Holotype ♂ (NHMW), labelled: “N-Vietnam 15.V.–16.VI. / TAM DAO N.P. / 75 km NW Hanoi / leg. E. Jendek 1991 [printed] // HOLOTYPUS / Eulichas / tonkinensis sp. n. / des. M. Jäch 1993 [red label, printed]” Paratypes: 1♀, same label data as holotype (NHMW); 9♂♂ 4♀♀, “Tonkin / Montes Mauson / April, Mai 2–3000' / H. Fruhstorfer [printed]” (MNHN, NHMW); 1♂, “Lang Son / (Tonkin) [handwritten] // Museum Paris / Coll. M. Pic [printed] // TYPE [red label, printed] // PARALECTOTYPUS / Eulichas / undulatus PIC / des. M. Jäch 1993 [red label printed]” (MNHN); 2♂♂, “Tonkin / Than-Moi / Juni-Juli / H. Fruhstorfer [printed]” (MNHN, NHMW); 2♀♀, “H¹.Tonkin / N.O.de Bao-Lac / D¹.Battarel / 1897–1898 [black frame, printed // Museum Paris / ex Coll. / R.Oberthur [yellow label, printed] (MNHN)”; 1♂, “♀ [handwritten] // Tonkin [handwritten] // MUSÉUM PARIS [printed] / Coll / J. Bourgeois [handwritten]” (MNHN); 1♂, “HUÉ / Annam [printed] // MUSÉUM PARIS / Coll. E. FLEUTIAUX [printed]”; 1♂, “Vietnam / Tam – Dao / 6.–23.V.1990 / B. Makovský lgt [printed]” (NMPC).



FIGURES 51–62. Habitus of *Eulichas*. 51 – *E. funebris* ♂ (Fujian); 52 – *E. funebris* ♂ (Guangdong); 53 – *E. funebris* ♀ (Guangxi); 54 – *E. meghalayensis* **sp. nov.** ♂ (paratype, Tura); 55 – *E. tenuicornis* ♂ (paratype); 56 – *E. tenuicornis* ♀ (Diao Lao Shan); 57 – *E. tonkinensis* ♂ (Tam Đảo); 58 – *E. tonkinensis* ♀ (Sa Pa); 59 – *E. undulata* ♂ (Tam Đảo); 60 – *E. undulata* ♂ (Thanh Moi); 61 – *E. haucki* **sp. nov.** ♂ (holotype); 62 – *E. kubani* **sp. nov.** ♂ (holotype).

Additional material studied. 49 specimens — **VIETNAM:** 1♂, Tonkin, Backan [Bắc Cạn, ca. 22°09'N 105°49'E], 1907–08, P. Lemée leg. (MNHN); 3♂♂, Tonkin, Chiêm Hóa, viii.–ix., H. Fruhstorfer (NMPC, ZMHB); 6♂♂ 1♀, Tonkin, Montes Mauson [Tam Đảo], 2–3000', iv.–v., H. Fruhstorfer (NMPC, ZMHB); 1♂, mountains near Tam Đảo, 900 m, 29.vii.1962, Kabakov leg. (ZMAS); 1♂, Vinh Phuc prov., Tam Đảo [ca. 21°27'N 105°39'E], 900 m, 2.–11.vi.1985, V. Kubáň leg. (NMPC); 1♂, same label data, but 27.v.–2.vi.1986, J. Rybníček leg. (NHMB); 1♂, same label data, but 3.–11.vi.1985, A. Olexa leg. (NMPC); 1♂, same label

data, but 12.–24.v.1989, P. Pacholátko leg. (NHMB); 8♂♂, same label data, but 5.–10.vi.1989, S. Brantlová leg. (NHMB, NMPC); 1♂, same label data, but 17.–21.v.1990, J. Horák leg. (JHOP); 1♂, same label data, but 2.–11.vi.1990 (VKCZ); 8♂♂ 7♀♀, same label data, but 20.–28.vi.1990, J. Strnad leg. (NHMB, NMPC); 1♂, same label data, but Blažíček leg. (NHMB); 1♂, same label data, but A. Olexa leg. (NHMB); 1♀, same label data, but vi.1993 (NHMW); 1♂, same label data, but 900–1200 m, 1.–8.vi.1996, P. Pacholátko & L. Dembický leg. (NHMB); 1♂, same label data, but 900–1100 m, 2.–5.vi.1999, Ahrens, Jäger & Fabrizzi leg. (NKME); 1♂, Tonkin, Chapa, [Sa Pa, ca. 22°20'N 103°50'E, Lao Cai prov.], v.1916, R. Vitalis de Salvaza (MNHN); 1♂, Chapa, 30.vi.1917, Jeanvoine leg. (MNHN).

Description. Habitus elongate, fusiform. Body colouring blackish in old material, and brownish-red in recently collected specimens. Pale part of setation consists of recumbent whitish setae forming typical ocellations on pronotum, elytra and abdominal sternites, where setae are darker and sparser (Figs. 57–58).

Measurements. Males: 19–24 mm; females: 24–26 mm.

Head punctation consists of coarse setigerous punctures. Antenna robust, last antennomere 1.78–2.05 as long as wide (Fig. 38), its ventral side smooth with numerous small tubercles.

Pronotum transverse, ca. 1.76–1.96 times as wide as long. Sides almost regularly rounded. Dorsal surface convex. Punctation consists of densely distributed large setigerous punctures on the disc, which become even coarser and denser laterally.

Elytra with numerous longitudinal rows of large setigerous punctures, and very fine interstitial punctures.

Ventral part almost uniformly densely punctured with fine punctures. Last abdominal ventrite slightly inflexed before apex.

Male. Aedeagus with phallobase longer than parameres. Parameres short and simple, their subbasal and subapical hook well developed. Median lobe nearly parallel sided (Fig. 22).

Female. Similar to male in habitus but on average larger. Antenna shorter and more slender.

Collection circumstances. Collected at light.

Distribution. Known only from “Tonkin” and “Annam”, northern to central Vietnam.

Eulichas undulata (Pic, 1911)

(Figs. 16, 23, 39, 59–60)

Lichas undulatus Pic, 1911: 142 (original description, Tonkin)

Eulichas undulata (Pic, 1911): Pic 1914: 11 (catalogue); Jäch 1995: 365 (lectotype designation, description)

Type locality. “Tonkin” [Montes Mauson, = Tam Đảo, Vinh Phuc prov., northern Vietnam].

Type material. Lectotype ♂ (MNHN), labelled: “Tonkin / Montes Mauson / April, Mai 2–3000' / H. Fruhstorfer [printed]” // “Museum Paris / Coll. M.Pic [printed]” // “TYPE [red label, printed]” // “LECTOTYPUS / Eulichas / undulatus PIC / des. M. Jäch 1993 [red label, printed]”. Paralectotypes: 2♂♂ 1♀, same label data as lectotype (MNHN); 1♂, “CHAPO prov. de / Laokay.Ht-Tonkin [printed] // COLL^{on} LE MOULT / Naturaliste, Paris [printed] // Museum Paris / Coll. M.Pic [printed]” (MNHN).

Additional material studied. 380 specimens — **CHINA:** 1♀, Yunnan prov., Junnan-Sen [Xiangyun, ca. 25°28'N 100°32'E], J. Clermont (MNHN). **VIETNAM:** 31♂♂ 5♀♀, Montes Mauson, 2–3000', iv.–v., H. Fruhstorfer (DEIC, ISNB, MNHN, NHMW, NMPC, SMTD); 2♂♂ 2♀♀, Tam Đảo [Vinh Phuc prov., ca. 21°27'N 105°39'E], 1100–1300 m, coll. Le Mout (ISNB, MNHN); 3♂♂ 3♀♀, mountains near Tam D?o, 900 m, 14.–15.v.1962, Kabakov leg. (ZMAS); 1♀, Tam Đảo, 24–25.v.1985 (NMPC); 9♂♂ 2♀♀, same label data, but 26.–31.v.1985 (SMNS); 11♂♂, same label data, but 2.–11.vi.1985, J. Picka leg. (NHMB); 4♂♂ 3♀♀, same label data, but V. Kubáň leg. (NHMB); 5♂♂ 1♀, same label data, but A. Olexa leg. (NHMB); 2♂♂, same label data, but 900–1400 m, 3.–11.vi.1985, J. Jelínek leg. (NMPC); 8♂♂, same label data, but V. Švihla leg.

(NMPC); 1♂, same label data, but 27.v.–2.vi.1986, M. Hradský leg. (NMPC); 1♂, same label data, but J. Macek leg. (NMPC); 6♂♂ 1♀, same label data, but J. Rybníček leg. (NHMB); 10♂♂ 1♀, same label data, but 900 m, 13.–24.v.1989, A. Olexa leg. (NHMB); 16♂♂ 5♀♀, same label data, but P. Pacholátko leg. (NHMB, NMPC); 5♂♂ 1♀, same label data, but J. Strnad leg. (NHMB); 36♂♂ 4♀♀, same label data, but 5.–10.vi.1989, S. Brantlová leg. (NHMB); 2♂♂, same label data, but 8.vi.1989, M. Homoláč leg. (NMPC); 4♂♂, same label data, but 6.–9.v.1990, P. Pacholátko leg. (NHMB, NMPC); 1♂, same label data, but 6.–20.v.1990, M. Kalabza & Z. Košťál leg. (VKCZ); 1♀, same label data, but 4.–11.vi.1990, J. Secký leg. (NMPC); 30♂♂ 15♀♀, same label data, but 20.–28.vi.1990, J. Strnad leg. (NHMB, NMPC); 20♂♂ 1♀, same label data, but A. Olexa leg. (NHMB, NMPC); 16♂♂ 2♀♀, same label data, but S. Brantlová leg. (NHMB, NMPC); 4♂♂ 2♀♀, same label data, but 15.v.–16.vi.1991, E. Jendek leg. (NHMW); 1♂, same label data, but 20.v.1991, M. Dudycha leg. (VKCZ); 3♂♂, same label data, but vi.1993 (NHMW); 1♀, same label data, but v.1994, Křeček leg. (VKCZ); 1♂, same label data, but 950 m, 16.–31.v.1995, J. Jaroš & K. Spitzer leg. (NMPC); 6♂♂ 2♀♀, same label data, but 900–1200 m, 1.–8.vi.1996, P. Pacholátko & L. Dembický leg. (NHMB, NMPC); 5♂♂, same label data, but 900–1100 m, 2.–5.vi.1999, Ahrens, Jäger & Fabrizzi leg. (NKME, SMTD); 1♂ 2♀♀, Tonkin, Chapo, prov. de Laokay [Sa Pa, ca. 22°20'N 103°50'E; Lao Cai prov.] (MNHN); 1♂, Lao Cai prov., Sa Pa, 6.–25.v.1990, O. Šauša leg. (NHMB); 1♂, same label data, but v.1990, J. Picka leg. (NHMB); 4♂♂, same label data, but 11.–19.vi.1990, S. Brantlová leg. (NHMB, NMPC); 3♂♂ 2♀♀, same label data, but J. Strnad leg. (NHMB, NMPC); 17♂♂ 6♀♀, same label data, but 25.v.–10.vi.1991, E. Jendek leg. (NHMW); 12♂♂ 1♀, Than–Moi [most probably Thanh Moi, ca. 21°38'N 106°32'E], v.–vi., H. Fruhstorfer (ISNB, MNHN, NMPC, ZMHB); 5♂♂, Quàng Tri [ca. 16°44'N 107°11'E], coll. Le Moul (ISNB); 1♂ 1♀, Rég.[ion] Hà Giang, 1916, S. Olivier (MNHN); 3♂♂ 5♀♀, Phuc Son; 1♀, Hòa Bình [ca. 20°50'N 105°19'E], iv.1913 (ISNB); 1♀, Hòa Bình (MNHN); 1♂ 1♀, Lạc Thô, Hòa Bình, A. de Cooman (MNHN); 1♂, Hòa Bình env., 1919, R.P.A. de Cooman leg. (MNHN); 5♀♀, Hanoi, iii.1936, coll. Le Moul (ISNB); 1♂, same label data, but 1988, K. Drozd leg. (NMPC); 1♂, Hagiang [most probably Hà Giang, ca. 22°50'N 104°58'E], 1914, R. Vitalis de Salvaza (MNHN); 1♂ 1♀, Mont Bavi [most probably Ba Vi, ca. 21°05'N 105°22'E], v.1935, S. Masseyeff leg. (BMNH); 1♀, Tuyêh Quang [ca. 21°49'N 105°12'E], v.1936, S. Masseyeff leg. (BMNH); 1♂ 1♀, Cao Bang prov., Nguen Binh distr., Quang Rhanh vill., v.1998, N.L.Orlov leg. (ZMAS).

Description. Habitus elongate, fusiform. Body colouring blackish in old material, and brownish-red in recently collected specimens. Pale part of setation consists of recumbent whitish setae forming typical ocellations on pronotum, elytra and abdominal sternites, where setae are darker and sparser (Figs. 59–60).

Measurements. Males: 24–29 mm; females: 25–33 mm.

Head punctation consists of coarse setigerous punctures. Antenna robust, last antennomere 1.60–1.85 times as long as wide (Fig. 39), its ventral side smooth with numerous small tubercles.

Pronotum largely transverse, ca. 2.05–2.26 times as wide as long. Sides almost regularly rounded (Fig. 16). The disc with two rounded shallow depressions. Punctation consists of moderately large and sparse setigerous punctures on the disc, and coarser and denser punctures laterally.

Elytra with numerous longitudinal rows of large setigerous punctures, and very fine interstitial punctures.

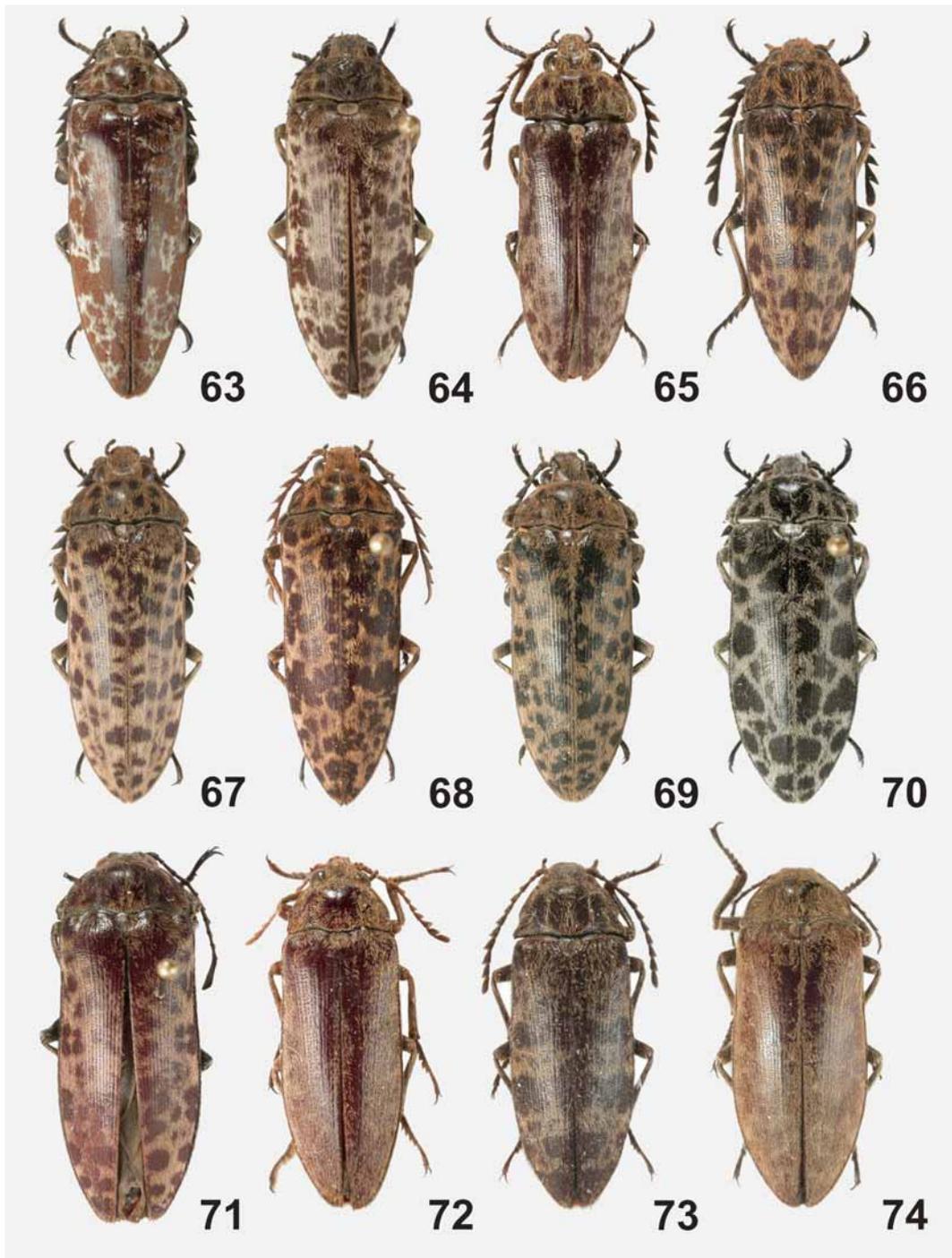
Ventral part almost uniformly densely punctured with fine punctures. Last abdominal ventrite laterally regularly rounded to apex.

Male. Aedeagus with phallobase longer than parameres. Parameres simple, their subbasal and subapical hook well developed. Median lobe subparallel, narrowed slightly to the apex (Fig. 23).

Female. Similar to male in habitus, but on average larger. Antenna shorter and more slender.

Collection circumstances. Collected at light.

Distribution. Known from “Tonkin”, northern Vietnam, and Yunnan province, China.



FIGURES 63–74. Habitus of *Eulichas*. 63 – *E. pacholatko*i ♂ (Đà Lat); 64 – *E. pacholatko*i ♀ (Gia Lai); 65 – *E. birmanica* **sp. nov.** ♂ (holotype); 66 – *E. jaechi* **sp. nov.** ♂ (paratype, Ringlet); 67 – *E. strbai* **sp. nov.** ♂ (paratype, Kampong Kuala Boh); 68 – *E. tanahrata* **sp. nov.** ♂ (paratype, Fraser’s Hills); 69 – *E. janbezdeki* **sp. nov.** ♂ (holotype); 70 – *E. janbezdeki* **sp. nov.** ♂ (Ban Nape); 71 – *E. milleri* ♂ (paratype); 72 – *E. mediocris* ♂ (Belitung); 73 – *E. minuta* **sp. nov.** ♂ (holotype); 74 – *E. minuta* **sp. nov.** ♂ (Nias).

The *Eulichas pacholatko*i species complex

The species complex contains three species of different habitus from Laos, Thailand and Vietnam. They are characterised by the parameres widened behind the middle, and the reduced subapical parameral hook. The

pronotum is largely transverse with sides rounded, and the last antennomere is widened. The median lobe of the aedeagus is very slender and subparallel.

***Eulichas haucki* Hájek, sp. nov.**

(Figs. 24, 40, 61)

Type locality. Thailand, Loei Prov., Phu Kradung Nat. Park.

Type material. Holotype ♂ (NMPC), labelled: “THAI [Thailand], NE, Loei prov., Phu / Kradung N.P., 1000m / 16°52’N, 101°49’E, 16– / 17.v.1999, D.Hauck leg. [printed]”.

Description. Habitus elongate, fusiform. Body colouring dark brown. Setation consists of dominant recumbent light brown setae covering most of dorsal surface, thus the colouration of the body seems to be paler than the colour of integument, and grey setae form ocellations on the pronotum and elytra (Fig. 61). On the abdominal sternites, whitish setae predominate over brown ones.

Measurements. Male: 21 mm.

Head punctation consists of moderately large setigerous punctures. Antenna robust, last antennomere 2.05 times as long as wide (Fig. 40), its ventral side smooth with numerous small tubercles.

Pronotum transverse, 2.32 times as wide as long. Sides almost regularly rounded. Dorsal surface convex. Punctation consists of moderately large setigerous punctures, distributed sparsely on the disc, and densely laterally.

Elytra with numerous longitudinal rows of large setigerous punctures, and very fine interstitial punctures.

Ventral part almost uniformly densely punctured with fine punctures. Last abdominal ventrite laterally regularly rounded to apex.

Male. Aedeagus with phallobase longer than parameres. Parameres simple, narrowed in basal fourth of their length and then widened again to apex. Parameral subbasal hook well developed, but the subapical hook is very small. Median lobe very slender, subparallel (Fig. 24).

Female. Unknown.

Differential diagnosis. *Eulichas haucki* sp. nov. can be easily recognised by the bicoloured light brown and grey body setation, and by the characteristic shape of the aedeagus. The parameres of this species are constricted in the basal quarter of their length, and then widened again to apex. Their subapical hook is very small.

Collection circumstances. Collected at light.

Distribution. So far known only from the type locality in north-eastern Thailand.

Etymology. The new species is dedicated to its collector, my friend David Hauck (Brno, Czech Republic), a specialist on Alleculinae.

***Eulichas kubani* Hájek, sp. nov.**

(Figs. 25, 41, 62)

Type locality. Laos, Boli Kham Xai Prov., 8 km NE of Ban Nape

Type material. 78 specimens — Holotype ♂ (NMPC), labelled: “LAOS-CE, 1–18.v.2001, / Boli Kham Xai prov., / 18°21’N 105°08’E, / BAN NAPE (8 km NE), / ~600m, Vít Kubáň leg. [printed] / Biological expedition / „Laos 2001“ / Moravian Museum Brno / Czech Republic [printed]”. Paratypes: 25♂♂ (nos. 1–25) 13♀♀ (nos. 26–39), same label data as holotype (MZMB, NHMW, NMPC); 19♂♂ (nos. 40–58) 18♀♀ (nos. 59–76), same label data, but “L. Dembický leg.” (NMPC); 1♂ (no. 77), “Vietnam SW / Vinh [Ha Tinh prov.] Kimcuong [= Kim Cuõõng, ca. 18°27’N 105°15’E] / 29 III 1963 Kabakov [handwritten] // Lichas [handwritten]” (ZMAS).

Additional material studied. 3 specimens — **LAOS:** 1♂, Hua Phan prov., 25 km SE Vieng Xai (by road), Ban Kangpabong env., 20°19'N 104°25'E, 14–18.v.2001, D. Hauck leg. (NMPC); 2♂♂, same label data, but J. Bezděk leg. (NMPC).

Description. Habitus elongate, fusiform. Body colouring blackish. Pale part of setation consists of recumbent greyish setae forming typical ocellations on pronotum, elytra and abdominal sternites, where setae are darker and sparser (Fig. 62).

Measurements. Males: 22–28 mm (holotype 24 mm); females: 25–33 mm.

Head punctation consists of coarse setigerous punctures. Antenna robust, last antennomere ca. 1.96–2.22 times as long as wide (Fig. 41), its ventral side smooth with numerous small tubercles.

Pronotum largely transverse, ca. 2.09–2.20 times as wide as long. Sides almost regularly rounded. The disc with two rounded shallow depressions. Punctation consists of moderately large and sparse setigerous punctures on the disc, and somewhat coarser and denser punctures laterally.

Elytra with numerous longitudinal rows of large setigerous punctures, and very fine interstitial punctures.

Ventral part punctured with fine punctures, which are sparse medially and become larger and denser laterally. Last abdominal ventrite laterally regularly rounded to apex.

Male. Aedeagus with phallobase longer than parameres. Parameres simple, their subapical hook is reduced to an indistinct angle. Median lobe slender, subparallel (Fig. 25).

Female. Similar to male in habitus, but on average larger. Antenna shorter, and more slender.

Remarks. Three males from Hua Phan province agree well with typical specimens in habitus, body colouration and shape of last antennomere. However, the parameral subapical hook is not completely reduced in these specimens. As I am not able to resolve whether this is intraspecific variability or a different taxon, I did not designate these specimens as paratypes.

Differential diagnosis. In habitus, the new species is similar to species from the *E. funebris* species complex. However the reduction of parameral subapical hook refer this species to the *E. pacholatko* species complex. *E. kubani* **sp. nov.** differs from that species by the habitus less elongate, blackish body colouration with greyish setation, and the last antennomere longer, than in *E. pacholatko*.

Collection circumstances. Collected at light.

Distribution. So far known only from several localities in the Annam Highlands, on both sides of the Laotian – Vietnamese border.

Etymology. The new species is dedicated to its collector, my friend Vítězslav Kubáň (Brno, Czech Republic), a specialist on Buprestidae.

Eulichas pacholatko Jäch, 1995

(Figs. 26, 42, 63–64)

Eulichas pacholatko Jäch, 1995: 369 (original description, Vietnam: Da Lat: Phu Hua Hotel)

Type locality. “Phu Hoa Hotel, Da Lat City, 11°56'N/108°25'E, 1500 m a.s.l. (collected at light)”.

Type material. Holotype ♂ (NHMW), labelled: “S-VIETNAM / Dalat City / 21. – 27. 4. 1994 / Pacholatko & Dembicky [printed] // HOLOTYPE / Eulichas / pacholatko sp. n. / des. M. Jäch 1994 [red label, printed]”. Paratypes: 2♂♂ 1♀, “S-VIETNAM 28.–30.4. / 12km N Dalat, 1994 / Lang Bian / Pacholatko & Dembicky [printed]” (NHMW).

Additional material studied. 8 specimens — **VIETNAM:** 6♂♂, 12 km N Dalat [Đà Lat], Lang Bian, 12°03'N 108°27'E, 1580–1750 m, 17.–21.iv.1995, P. Pacholátko & L. Dembický leg. (NHMW). The following specimens were identified with doubt: 1♂ 1♀, Vietnam, Gialai [Gia Lai, = Pleiku], Contum [Kon Tum], Tramlap, 20.iv.1995, Govochoh leg. (ZMAS).

Description. Habitus elongate, fusiform. Body colouring brown. Setation consists of dominant recumbent light brown setae covering most of dorsal surface, thus the colouration of the body seems to be paler than the colour of integument, and whitish setae forming ocellations on pronotum and elytra (Fig. 63). On abdominal sternites, whitish setae predominate over brown ones.

Measurements. Males: 25–26 mm; female: 30 mm.

Head punctation consists of sparse fine setigerous punctures. Antenna robust, last antennomere 1.71–2.05 times as long as wide (Fig. 42), its ventral side smooth with numerous small tubercles.

Pronotum largely transverse, ca. 2.25–2.37 times as wide as long. Sides almost regularly rounded. The disc with two rounded shallow depressions. Punctation consists of fine and sparse setigerous punctures on the disc, which become slightly coarser and denser laterally.

Elytra with numerous longitudinal rows of moderately large setigerous punctures, and very fine interstitial punctures.

Ventral part with fine punctures, which are sparse medially and become larger and denser laterally. Last abdominal ventrite laterally regularly rounded to apex.

Male. Aedeagus with phallobase longer than parameres. Parameres simple, their subapical hook is reduced to an indistinct angle. Median lobe slender, subparallel (Fig. 26).

Female. Similar to male in habitus, but larger. Antenna shorter, and more slender.

Remarks. The two specimens from “Gia Lai – Kon Tum” agree with typical material in the shape of last antennal segment and male genitalia. However, they are more robust (male: 27 mm; female: 33 mm), and the body setation consists of dark brown and greyish setae forming ocellations (Fig. 64). While only two specimens are known to me, I have assigned them provisionally to *E. pacholatkoii*. Study of more extensive material may reveal that these specimens represent a separate taxon.

Collection circumstances. Collected at light.

Distribution. So far known only from several localities in southern Vietnam.

The *Eulichas jaechi* species complex

The species complex contains four species from the Malay Peninsula. They should be characterised by the reduction of the parameral subbasal hook, and the turning of the subbasal penile spines dorso-laterally.

Eulichas birmanica Hájek, sp. nov.

(Figs. 27, 43, 65)

Type locality. Myanmar, Tenasserim, Pong Hang.

Type material. 5 specimens — Holotype ♂ (NMPC), labelled: “MYANMAR (Burma) I.2001 / Tenasserim / PONG HANG / local collector leg. (via G. Benzt) [printed] // Eulichadidae [handwritten] / det. C. Wurst 2003 [printed]”. Paratypes: 1 ♂ (no. 1), same label data as holotype (NMPC); 3 ♂♂ (nos. 2–4), “BURMA / Tenasserim / 29.4.1995 / leg. S. Steinke [printed]” (NHMW, NMPC).

Description. Habitus elongate, fusiform. Body colouring brownish-red to brown-blackish. Pale part of setation consists of recumbent grey-yellowish setae forming typical ocellations on pronotum, elytra and abdominal sternites, where setae are darker and sparser (Fig. 65).

Measurements. Males: 16–19 mm (holotype 18 mm).

Head punctation consists of coarse setigerous punctures, larger and sparser on the frons, and smaller and denser on the vertex. Antenna relatively slender, last antennomere drop shaped, ca. 3.00–3.25 times as long as wide (Fig. 43). Its ventral side with setigerous punctures, tubercles almost imperceptible.

Pronotum largely transverse, ca. 2.10–2.16 times as wide as long. Sides almost regularly rounded. Disc convex. Punctuation consists of fine setigerous punctures, distributed sparsely on the disc, and somewhat densely laterally.

Elytra with numerous longitudinal rows of large setigerous punctures, and very fine interstitial punctures.

Ventral part with fine punctures, which are sparse medially and become larger and denser laterally. Last abdominal ventrite laterally regularly rounded to apex.

Male. Aedeagus with phallobase longer than parameres. Parameres relatively long and slender, simple. Subapical parameral hook well developed. The subbasal parameral hook is reduced to an indistinct swelling. Median lobe narrowly lanceolate with subbasal lateral processes indistinct, its subbasal spines turned dorso-laterally (Fig. 27).

Female. Unknown.

Differential diagnosis. *Eulichas birmanica* **sp. nov.** is characterised by a relatively small body length, and last antennomere slender, drop shaped. Among the species of its species complex, *E. birmanica* **sp. nov.** is very similar to *E. jaechi* **sp. nov.**, which it resembles in habitus, body length and colouration. These species can only be distinguished by the male genitalia. The median lobe of *E. birmanica* **sp. nov.** is narrowly lanceolate, without a distinct lateral processes.

Distribution. Known only from “Tenasserim”, southern Myanmar.

Etymology. The name is derived from “Birmania”, Latin name for Burma (currently Myanmar).

Eulichas jaechi Hájek, **sp. nov.**

(Figs. 28, 44, 66)

Type locality. Malaysia, Perak Distr., Cameron Highlands, 40 km SE Ipoh, Ringlet.

Type material. 16 specimens — Holotype ♂ (NMPC), labelled: “MALAYSIA - W PERAK, ~900m; / 40 km SE IPOH; 4°25'N 101°23'E / Cameron Highlands; RINGLET / M. Říha leg.; 25.iv.–5.v.2001 [printed]”. Paratypes: 1♂ (no. 1), “MALAYSIA [Pahang]; Benom Mts.; / 15 km E Kampong Dong; 700 m / 3,53N 102,1E; 1.iv.1998; / Dembický & Pacholátko leg. [printed]” (NHMB); 4♂♂ 1♀ (nos. 2–6), “MALAYSIA, Pahang distr., Cam.Highlands, / KAMPUNG KUALA BOH vill. env., / N 04°27,9', E 101°34,8' / 26.III.–3.IV.2001, 850–1050 m, / P. Šomody leg. [printed]” (NHMW, NMPC); 3♂♂ (nos. 7–9), same label data, but “R. Hergovits leg.” (NMPC); 1♂ (no. 10), same label data, but “K. Bucsek leg.” (NMPC); 1♂ (no. 11), “MALAYSIA 10.–16.iv.1999 / Kelantan prov. / Kampong Raja env. [ca. 5°49'N 102°23'E] / lgt. Vít Kabourek [printed]” (NMPC); 2♂♂ (nos. 12–13), “MALAYSIA W., PERAK / 40 km SE of IPOH, 900 m / Banjaran Titi Wangsa / RINGLET, 29.iii.–15.iv. / 2004 Čechovský Petr lgt. [printed]” (VKCZ); 1♂ (no. 14), “MALAYSIA-Perak / Bukit Larut [ca. 4°48'N 100°44'E] / 23.–25.2.2000 / K. Deneš jun. lgt. [printed]” (NMPC); 1♂ (no. 15), “Malay Penin / Ex Coll: Agr. Dept. / Kuala Lumpur [handwritten] / [on reverse:] Labelled at / Sel: Mus: K.L. [printed] // Ex F.M S. / Museum. / B.M.1955–354 [printed]” (BMNH).

Description. Habitus elongate, fusiform. Body colouring brownish-red to brown-blackish. Pale part of setation consists of recumbent grey-yellowish setae forming typical ocellations on pronotum, elytra and abdominal sternites, where setae are darker and sparser (Fig. 66).

Measurements. Males: 17–22 mm (holotype 18.5 mm); female: 21.5 mm.

Head punctuation consists of coarse setigerous punctures, larger and sparser on the frons, and smaller and denser on the vertex. Antenna relatively slender, last antennomere drop shaped, ca. 2.47–3.00 times as long as wide (Fig. 44), its ventral side with setigerous punctures. Several small tubercles only occur on the central part of the antennomere.

Pronotum largely transverse, ca. 2.04–2.16 times as wide as long. Sides almost regularly rounded. Disc convex. Punctuation consists of fine setigerous punctures, distributed sparsely on the disc, and somewhat densely laterally.

Elytra with numerous longitudinal rows of large setigerous punctures, and very fine interstitial punctures.

Ventral part with fine punctures, which are sparse medially and become larger and denser laterally. Last abdominal ventrite laterally regularly rounded to apex.

Male. Aedeagus with phallobase longer than parameres. Parameres short, simple, their subapical hook well developed. The subbasal parameral hook is reduced to an indistinct denticle. Median lobe broadly lanceolate, the large lateral processes projecting subbasally. Its subbasal spines are turned dorso-laterally (Fig. 28).

Female. In habitus similar to male, but on average larger. Antenna shorter and more slender.

Differential diagnosis. *Eulichas jaechi* **sp. nov.** is characterised by a relatively small body length, and last antennomere slender, drop shaped. It is extremely similar to *E. birmanica* **sp. nov.** from Tenasserim, from which *E. jaechi* **sp. nov.** can only be reliably distinguished by the male genitalia. In *E. jaechi* **sp. nov.** the median lobe is broadly lanceolate with large subbasal lateral processes.

Collection circumstances. Collected at light.

Distribution. Known from several localities on the Malay Peninsula.

Etymology. The new species is dedicated to Manfred A. Jäch (NHMW), my colleague and specialist on Hydraenidae and Dryopoidea.

Eulichas strbai Hájek, **sp. nov.**

(Figs. 29, 45, 67)

Type locality. Malaysia, Endau Rompin Nat. Park, Salendang.

Type material. 23 specimens — Holotype ♂ (NHMW), labelled: “MALAYSIA – Pahang/Johor / Endau Rompin NP, 100m / Salendang, 28.2.–12.3. / leg. Strba & Hergovits 1995 [printed]”; Paratypes: 5 ♂♂ (nos. 1–5), same label data as holotype (NHMW, NMPC); 1 ♂ (no. 6), “MALAYSIA, Pahang distr., / KAMPUNG KUALA BOH will. / 4°27.9'N; 101°34.8'E; / 26.III.–3.IV.2001, 850–1050 m / M. Štrba & R. Hergovits leg. [printed]” (NMPC); 1 ♂ (no. 7), “MALAYSIA Pahang Distr. / 30 km NE RAUB, Lata Lembik / (3°56'N, 101°38'E), 200–400 m / 22.IV.–1.V., 8.–15.V.2002 / E. Jendek & O. Šauša leg. [printed]” (NMPC); 1 ♂ (no. 8), “W - MALAYSIA / Cameron IV. / Highland 1987 [printed]” (NHMW); 3 ♂♂ (nos. 9–11), “MALAYSIA W / CAMERON highl. / TANAH RATA env. [ca. 4°28'N 101°22'E] / 23.–26.3.2000 / Lgt. M. SNÍŽEK [printed]” (NMPC); 3 ♂♂ (nos. 12–14), “MALAYSIA W / CAMMERON [sic.] Highlands / RINGLET env. [ca. 4°24'N 101°23'E], / 15.4.2000 / LGT. M. SNÍŽEK [printed]” (NMPC); 4 ♂♂ (nos. 15–18), “MALAYSIA W., PERAK / 40 km SE of IPOH, 900 m / Banjaran Titi Wangsa / RINGLET, 29.iii.–15.iv. / 2004 Čechovský Petr lgt. [printed]” (NMPC, VKCZ); 3 ♂♂ (nos. 19–21), “MALAYSIA 10.–16.iv.1999 / Kelantan prov. / Kampong Raja env. [ca. 5°49'N 102°23'E] / lgt. Mir. Janalík [printed]” (NMPC, VKCZ); 1 ♂ (no. 22), “MALAY PENIN: / Selangor. / Bukit Kutu [printed] / 3.500 [handwritten] ft. [printed] / 11. 9. 1929 [handwritten] / H.M.Pendlebury / [on reverse:] Ex Coll. F.M.S. / Museums. [printed] // Ex F.M.S. / Museum. / B.M. 1955–354. [printed]” (BMNH).

Description. Habitus elongate, fusiform. Body colouring brown-blackish. Pale part of setation consists of recumbent yellowish setae forming typical ocellations on pronotum, elytra and abdominal sternites, where setae are darker and sparser (Fig. 67).

Measurements. Males: 19–24 mm (holotype 22 mm).

Head punctation consists of moderately large setigerous punctures, larger and sparser on the frons, and smaller and denser on the vertex. Antenna robust, last antennomere ca. 1.71–2.12 times as long as wide (Fig. 45), with distinct elongation apically, its ventral side smooth with numerous small tubercles.

Pronotum largely transverse, ca. 2.05–2.21 times as wide as long. Sides almost regularly rounded. The disc convex. Punctation consists of fine setigerous punctures, distributed sparsely on the disc, and somewhat densely laterally.

Elytra with numerous longitudinal rows of large setigerous punctures, and very fine interstitial punctures.

Ventral part with fine punctures, which are sparse medially and become larger and denser laterally. Last abdominal ventrite laterally regularly rounded to apex.

Male. Aedeagus with phallobase longer than parameres. Parameres simple, their subapical hook well developed. Distal part of parameres very long, about one third of the length of the parameres. The subbasal parameral hook is reduced completely or preserved as very small spine. Median lobe narrowly lanceolate, with subbasal spines turned dorso-laterally (Fig. 29).

Female. Unknown.

Differential diagnosis. The new species differs from other species of the *E. jaechi* species complex by the habitus more convex dorso-ventrally, last antennomere projecting to distinct elongation, and aedeagus with long distal parameral part (between apex and subapical hook).

Collection circumstances. Collected at light.

Distribution. So far known from several localities in Malay Peninsula.

Etymology. The new species is dedicated to one of its collectors, my friend Milan Štrba (Bratislava, Slovakia), a specialist on Cleridae.

***Eulichas tanahrata* Hájek, sp. nov.**

(Figs. 30, 46, 68)

Type locality. Malaysia, Cameron Highlands, Tanah Rata.

Type material. 20 specimens — Holotype ♂ (NMPC), labelled: “V/2000 MALAY [Malaysia] / Cameron Highl.[ands] / Tanah Rata [ca. 4°28'N 101°22'E] 1400 m / L. Černý lgt. [printed]”. Paratypes: 1♂ (no. 1), same label data as holotype (NMPC); 1♂ (no. 2), “MALAYSIA / Perak / Cameron Highlands / Tanah Rata / 13./17.2.1997 / Ivo Jeniš leg. [printed]” (NHMW); 1♂ (no. 3), “MALAYSIA-W; PAHANG / Cameron Highlands; ~1500m; / TANAH RATA (35 km SEE IPOH); / 4°28'N 101°23'E; 19.–31.iii.2003 / Říha M&M Němec leg.; [printed]” (NMPC); 1♂ (no. 4), “MALAYSIA, Pahang distr., Cam.Highlands, / KAMPUNG KUALA BOH vill. env., / N 04°27,9' E 101°34,8' / 26.III.–3.IV.2001, 850–1050 m, / K. Bucsek leg. [printed]” (NMPC); 1♂ (no. 5), “MALAYSIA: Cameron Highland / Tanah Rata 1.–6.4.1990 / leg.A.Riedel [yellow label, printed]” (SMNS); 2♂♂ (nos. 6–7), “MALAYSIA, / BUKIT FRASER [ca. 03°43'N 101°44'E, Pahang] / 1. – 5.5.2003 / B. Makovský lgt. [printed]” (NMPC); 1♀ (no. 8), same label data, but “25.–31.3.2004” (NMPC); 1♂ (no. 9), “W.Malaysia: Pahang / Fraser's Hill, ca 1300m / 17–21.3.[19]93, light trap / Löbl&Calame, #14 [printed]” (MHNG); 1♂ (no. 10), “Bukit Kutu / Selangor / April 1915 / 3457' [printed] // funebris / Westw [handwritten by Pic]” (MNH); 1♂ (no. 11), “MALAY PENIN: / Selangor. / Bukit Kutu [printed] / [on reverse:] EX COL: / F.M.S. [printed] // at light 3500 [handwritten] ft [printed] / April 15th 1926 [handwritten] / H.M.Pendlebury. [printed] / [on reverse:] MUSEUMS. [printed] // Pres.by / Imp.Inst.Ent. / B.M.1933–331 [printed]” (BMNH); 1♂ (no. 12), same label data, but “April 17th” (BMNH); 1♂ (no. 13), same label data, but “3300–3500 ft / 18-3-1931” (NMPC); 1♂ (no. 14), “MALAY PENIN: / Selangor. / Bukit Kutu [printed] / 3.500 [handwritten] ft. [printed] / April 20th 1926 [handwritten] / H.M.Pendlebury / [on reverse:] Ex Coll. F.M.S. / Museums. [printed] // Ex F.M.S. / Museum. / B.M. 1955–354. [printed]” (BMNH); 1♂ (no. 15), “MALAY STATES: / Bukit Kutu. / 3,300 ft. / [printed] / 1920–1925. [handwritten] / A.R.Sanderson. [printed] // Brit. Mus. / 1933-523 [printed]” (BMNH); 1♂ (no. 16), “PAHANG, F.M.S. / Cameron's High- / lands, [printed] Bukit [handwritten] / B/3 5000 [handwritten] ft. [printed] / May 23rd 1931. [handwritten] / H.M. Pendlebury. [printed] // Ex F.M.S. / Museum. / B.M. 1955-354 [printed]” (BMNH); 1♂ (no. 17), same label data, but “4800 ft. / 25.6.1939” (BMNH); 1♀ (no. 18), “MALAY PENINS: PAHANG' F.M.S. / Fraser's Hill [printed] 4200 [handwritten] ft: [printed] / at light / July 2nd 1931 [handwritten] / [on reverse:] H.M.Pendlebury / F. M. S. / Museums. [printed] // Ex F.M.S. / Museum. / B.M.1955-354. [printed]” (BMNH); 1♂ (no.

19), "MALAYA [printed] / Fraser Hill / 4000' / at light / 28 Apr 1966 [handwritten] / H.T.Pagden [printed] // C.I.E.COLL. / A. [printed] 1004 [handwritten] // Pres by / Com. Inst Ent / B M 1966-3 [printed] // Eulichas / sp. / (unnamed in B.M.) [handwritten] / R.Madge det. 1966 [printed]" (BMNH).

Description. Habitus elongate, fusiform. Body colouring brownish-red to brown-blackish. Pale part of setation consists of recumbent yellowish setae forming typical ocellations on pronotum, elytra and abdominal sternites, where setae are darker and sparser (Fig. 68).

Measurements. Males: 18–25 mm (holotype 20 mm); females: 25–26 mm.

Head punctation consists of coarse setigerous punctures. Antenna robust, last antennomere ca. 1.73–1.93 times as long as wide (Fig. 46), its ventral side smooth with numerous small tubercles.

Pronotum largely transverse, ca. 2.00–2.27 times as wide as long, sides almost regularly rounded. The disc convex. Punctation consists of fine setigerous punctures, distributed sparsely on the disc, and somewhat densely laterally.

Elytra with numerous longitudinal rows of large setigerous punctures, and very fine interstitial punctures.

Ventral part with fine punctures, which are sparse medially and become larger and denser laterally. Last abdominal ventrite laterally regularly rounded to apex.

Male. Aedeagus with phallobase longer than parameres. Parameres simple, their subapical hook well developed, but the subbasal hook is reduced to a short protruding carina. Median lobe lanceolate, with subbasal spines turned dorso-laterally (Fig. 30).

Female. Habitually similar to male, but on average larger. Antenna shorter and more slender.

Differential diagnosis. The new species differs from other species of the *E. jaechi* species complex by the slender elongate habitus, last antennomere short and broad without apical elongation, and by shape of the aedeagus, which has the subbasal parameral hook reduced to a short carina, and a lanceolate median lobe.

Collection circumstances. Collected at light.

Distribution. Known from several localities in Cameron Highlands, Malay Peninsula.

Etymology. The new species is named after the type locality "Tanah Rata" in Pahang District, Malaysia. The noun is used in apposition.

The *Eulichas milleri* species complex

The species complex contains two species of very similar habitus from Laos and Vietnam, which differs from other species of the *funebri* group with the parameres very wide and complex: the medio-ventral parameral process attenuating posteriorly to a short or long acute hook; the subbasal parameral hook is well developed, but the subapical parameral hook is absent.

Eulichas janbezdeki Hájek, sp. nov.

(Figs. 31, 47, 69–70)

Type locality. Laos, Hua Phan Prov., 25 km SE Vieng Xai, Ban Kangpabong env.

Type material. 3 specimens — Holotype ♂ (NMPC), labelled: "LAOS - NE; HUA PHAN prov.; / 25 km SE Vieng Xai (by road); / BAN KANGPABONG env.; / 20°19'N 104°25'E; / J. Bezděk leg.; 14–18.v.2001 [printed]". Paratypes: 2♂♂ (nos. 1–2), "LAOS-NE, Hua Phan prov., / 20°19'N 104°25'E, 25km SE / VIENG XAI (by road), / Ban Kangpabong env., / 14–18.v.2001, D. Hauck leg. [printed]" (NHMW, NMPC).

Additional material studied. 4 specimens — **LAOS:** 3♂♂, Boli Kham Xai prov., 8 km NE Ban Nape, 18°21'N 105°08'E, ~600m, 1–18.v.2001, Vít Kubáň leg. (NMPC); 1♂, same label data, but L. Dembický leg. (NMPC).

Description. Habitus elongate, fusiform. Body colouring blackish. Pale part of setation consists of recumbent yellowish setae forming typical ocellations on pronotum, elytra and abdominal sternites, where setae are darker and sparser (Fig. 69).

Measurements. Males: 23–28 mm (holotype 24 mm).

Head punctation consists of irregularly distributed coarse setigerous punctures. Antenna robust, last antennomere ca. 1.88–2.00 times as long as wide (Fig. 47), its ventral side smooth with numerous small tubercles.

Pronotum largely transverse, ca. 2.21–2.39 times as wide as long, its sides almost regularly rounded. The disc with two rounded shallow depressions. Punctation consists of moderately large and sparse setigerous punctures on the disc, which become coarser and denser laterally.

Elytra with numerous longitudinal rows of large setigerous punctures, and very fine interstitial punctures.

Ventral part with fine punctures, which are sparse medially and become larger and denser laterally. Last abdominal ventrite laterally regularly rounded to apex.

Male. Aedeagus with phallobase longer than parameres. Parameres complex, widened apically. Subbasal parameral hook developed, but subapical hook absent. Medio-ventral parameral process, unique for the species complex is short and slightly hooked. Median lobe broadly lanceolate (Fig. 31).

Female. Unknown.

Remarks. The specimens from “Ban Nape” (Fig. 70) agree well in the shape of the aedeagus with typical specimens, however their habitus is almost the same as *E. kubani* sp. nov., which occurs at the same locality. As I am not able to resolve whether this is intraspecific variability or a different taxon, I did not designate these specimens as paratypes.

Differential diagnosis. Based on the shape of the aedeagus, *E. janbezdeki* sp. nov. is closely related to *E. milleri* from Vietnam. Both species can only be distinguished by the male genitalia. *E. janbezdeki* sp. nov. has the parameres with medio-ventral process short and slightly curved, and the median lobe is broadly lanceolate, whereas in *E. milleri* the parameral medio-ventral process is long and acute, and the median lobe is slender and subparallel.

Collection circumstances. The type material was collected at light. Specimens from Ban Nape were swept from a tree crown near a stream in primary forest (V. Kubáň pers. comm., 2002).

Distribution. So far known from only two localities in north-eastern, and central Laos respectively.

Etymology. The new species is dedicated to its collector, my friend Jan Bezděk (Brno, Czech Republic), a specialist on Chrysomelidae.

***Eulichas milleri* Ivie & Jäch, 2002**

(Figs. 32, 48, 71)

Eulichas milleri Ivie & Jäch, 2002: 165 (original description, Vietnam: Hai Van Pass).

Type locality. “Hai Van Pass, 30 km north of Da Nang, Truong Son Mountains, central Vietnam”.

Type material. Holotype ♂ (NHMW): “VIETNAM: Da Nang / Hai Van Pass / UTM Coord. 937918 / 02 JUN 1970, blt / T. H. Dickens [printed] // R.S.Miller / Collection [printed] // HOLOTYPE / *Eulichas* / ♂ *milleri* / Ivie & Jäch [printed]”. Paratypes: 5 ♂♂, same label data as holotype; 25 ♂♂, same label data except “3 JUN 1970” (BMNH, FSCA, MTEC, NHMW [specimens from FSCA and MTEC were not studied]).

Description. Habitus elongate, fusiform. Body colouring brownish-red. Pale part of setation consists of recumbent yellowish setae forming typical ocellations on pronotum, elytra and abdominal sternites, where setae are darker and sparser (Fig. 71).

Measurements. Males: 25–28 mm (holotype 27 mm).

Head punctation consists of coarse setigerous punctures, larger and sparser on the frons, and smaller and denser on the vertex. Antenna robust, last antennomere ca. 2.10 times as long as wide (Fig. 48), its ventral side smooth with numerous small tubercles.

Pronotum largely transverse, ca. 2.25 times as wide as long, its sides almost regularly rounded with only indistinct angle near the middle. Punctation consists of moderately large and sparse setigerous punctures on the disc, and coarser and denser punctures laterally.

Elytra with numerous longitudinal rows of large setigerous punctures, and very fine interstitial punctures.

Ventral part with fine punctures, which are sparse medially and become larger and denser laterally. Last abdominal ventrite laterally regularly rounded to apex.

Male. Aedeagus with phallobase longer than parameres. Parameres complex, widened apically. Subbasal parameral hook developed, but subapical hook absent. Medio-ventral parameral process long, attenuating and acute distally. Median lobe slender and subparallel, apically slightly diverging (Fig. 32).

Female. Unknown.

Distribution. So far known only from the type locality in central Vietnam.

The *Eulichas mediocris* species complex

The complex comprises two species from Sumatra and surrounding small islands, which should be characterised by the pronotum with sides subbasally parallel, or slightly incised with hind angles prominent. Last antennomere almost rectangular, not distinctly widened. Parameres with subbasal hook developed, but the subapical hook is absent. Body length relatively small (males: 14–19 mm, females: 19–26 mm).

Eulichas mediocris (Pic, 1921)

(Figs. 17, 33, 49, 72)

Lichas mediocris Pic, 1921: 21 (original description, Sumatra)

Eulichas mediocris (Pic, 1921): Jäch 1995: 363 (catalogue)

Type locality. “Sumatra” [Pekan Baru, = Pekanbaru, Riau prov.].

Type material. Lectotype ♀ (MNHN) by present designation, labelled: “Corporaal / Siak / 18/12 1919 / Pekan Baru [handwritten] // Muséum Paris / Coll. M. Pic [printed] // TYPE [red label, printed] / Lichas / mediocris n sp [handwritten] // LECTOTYPUS / LICHAS / mediocris Pic, 1921 / Jiří Hájek des. 2002 [red label, printed] // EULICHAS (s. str.) / mediocris (Pic, 1921) / Jiří Hájek det. 2002 [printed]. Paralectotype: 1♀, same label data as lectotype (MNHN). Number of syntypes unknown. I designate a lectotype to fix the identity of this species, as available taxonomic works do not allow an unambiguous identification of specimens.

Additional material studied. 1 specimen — **INDONESIA:** 1♂, Sumatra Selatan, Belitung Isl., 3°S 108°E, xi.1996, (NHMW).

Description. Habitus elongate, fusiform. Body colouring brownish-red. Setation consists of recumbent yellowish-grey setae almost uniformly covering the whole surface, thus ocellation only very indistinct (Fig. 72).

Measurements. Male: 15.5 mm; females: 18–19 mm (lectotype 18 mm).

Head punctation consists of moderately coarse setigerous punctures, larger and sparser on the frons, and smaller and denser on the vertex. Antenna relatively slender, last antennomere rectangular, 3.20 times as long as wide (Fig. 49), its ventral side pubescent, without any tubercles.

Pronotum transverse, ca. 1.80 times as wide as long. Sides parallel in basal half, and skewed and straight anteriorly (Fig. 17). Punctation consists of fine and sparse setigerous punctures.

Elytra with numerous longitudinal rows of large setigerous punctures, and very fine interstitial punctures.

Ventral part with fine punctures, which are sparse medially and become larger and denser laterally. Last abdominal ventrite laterally regularly rounded to apex.

Male. Aedeagus with phallobase longer than parameres. Parameres simple, short, slightly curved. Sub-basal parameral hook moved medially, the subapical parameral hook is absent. Median lobe broadly lanceolate (Fig. 33).

Female. Similar to male in habitus, but larger.

Distribution. So far known only from the type locality in central Sumatra, and Belitung Island.

***Eulichas minuta* Hájek, sp. nov.**

(Figs. 18, 34, 50, 73–74)

Type locality. Indonesia, Sumatra Isl., W Sumatra, Annai Valley, Lapai vill.

Type material. 6 specimens — Holotype ♂ (NMPC), labelled: “W SUMATRA / Annai Valley-Lapai vill. / 600–700 m, 1999 [printed] 26.3. [handwritten] / native collectors lgt. [printed]”. Paratypes: 1 ♂ (no. 1), “W Sumatera Prov. / Annai Valley, 500m / 11–12.2004 [printed]” (NMPC); 1 ♂ (no. 2), “W Sumatra / II.1991 [handwritten]” (NHMW); 1 ♀ (no. 3), “W SUMATRA / Lapai, 30.8.1993 / leg. Widagdo [printed]” (NHMW); 1 ♀ (no. 4), “Sumatra / Occident. // Ex Musaeo / VAN LANSBERGE // MUSÉUM PARIS / 1952 / COLL. R. OBERTHUR [printed]” (MNHN); 1 ♀ (no. 5), “Mentawai Islands / N SIBERUT ISL. / 3–4.2005,50–100m [printed]” (NMPC).

Additional material studied. 2 specimens — **INDONESIA:** 1 ♂, W Sumatera, Harau valley, 700 m, vi.–vii.2004 (NMPC); 1 ♂, W Sumatera, Nias Island, x.1991 (NHMW).

Description. Habitus elongate, fusiform. Body colouring brown-blackish. Pale part of setation consists of recumbent yellowish-gray setae forming typical ocellations on pronotum and elytra, where setae are darker and sparser (Fig. 73).

Measurements. Males: 14–19 mm (holotype 14 mm); females: 19–25 mm.

Head punctuation consists of moderately coarse setigerous punctures, somewhat sparse on the frons, and denser on the vertex. Antenna relatively slender, last antennomere rectangular, ca. 2.39–2.44 times as long as wide (Fig. 50), its ventral side pubescent, without any tubercles.

Pronotum transverse, trapezoidal, ca. 1.88–2.05 times as wide as long. Sides slightly incised in basal half with hind angles prominent, and skewed and straight in anterior half (Fig. 18). Punctuation consists of fine, setigerous punctures, sparse on the disc and coarser and denser towards sides.

Elytra with numerous longitudinal rows of large setigerous punctures, and very fine interstitial punctures.

Ventral part with fine punctures, which are sparse medially and become larger and denser laterally. Last abdominal ventrite laterally regularly rounded to apex.

Male. Aedeagus with phallobase longer than parameres. Parameres simple, short, almost straight, with small subbasal hook. The subapical parameral hook is absent. Median lobe narrowly lanceolate (Fig. 34).

Female. Similar to male in habitus, but on average larger. Antenna shorter and more slender than in male.

Remarks. The two males from Western Sumatra and Nias respectively show slight differences from typical specimens. They have the sides of pronotum only very indistinctly incised, and the body colouration is due to dense setation almost unicolourous light brown (Fig. 74). I have only seen one male from each locality, thus I was not able to view the variability and I did not designate them as paratypes.

Differential diagnosis. In habitus, the new species is very similar to *E. mediocris*, from which it could be distinguished by the trapezoidal shape of pronotum with sides slightly incised subbasally, and hind angles prominent; last antennomere shorter and broader, about 2.5 times as long as wide; and by the aedeagus with median lobe narrowly lanceolate, and parameres almost straight with only small hook subbasally.

Collection circumstances. Collected at light.

Distribution. So far known only from Western Sumatera province in Sumatera Isl., and from surrounding islands Nias and Siberut.

Etymology. The Latin word for “minute” refers to the small length of the species.

Discussion

The genus *Eulichas* represents quite a difficult group for morphological taxonomic study. Jäch (1995) already observed, that most of the species show great variability in both external and genital characters, and most of the species are very similar to each other, so there are only very few characters usable for taxonomy. The body length (females can be twice as long as males), colouration and setation are the most variable characters. I am attracted to the possibility, that the species coexisting at the same locality may form mimetic complexes (e.g. *E. janbezdeki* **sp. nov.** and *E. kubani* **sp. nov.** at the locality “Ban Nape”, or *E. undulata* and *E. tonkinensis* at the locality “Tam Dao”). On the other hand, I believe that some metric characters may change allometrically with increasing body length (e.g. proportion of phallobase and parameres length).

I am using, more or less combination of three characters for taxonomic purpose: (1) shape of the last antennomere – this character should be used also for separation of females of some species, although the female antenna are shorter and more slender, the length/wide proportion of last antennomere stays usually constant; (2) shape of pronotum; and (3) shape of aedeagus – shape of median lobe, and shape of parameres, as well as presence/absence of parameral subbasal and supapical hooks. However, the final shape of the parameres is influenced by variable extent of the membranous parts apically, which show a tendency to warp or reduce after preparation. In some species, general habitus, body punctation and setation may have limited taxonomic application. However all the characters mentioned vary in aberrant specimens, and correct identification of a single specimen is often impossible.

I base my classification of the genus *Eulichas* for the most part on the review of Jäch (1995). The *E. funebris* species group represents the derived group within the subgenus *Eulichas*. Its monophyly is supported by following apomorphy: phallobase of male aedeagus prolonged, distinctly longer than parameres. This condition is connected with the deeper anchorage of the parameres in the phallobase. For taxonomic purposes and for better orientation within the genus, I have added the species complex criteria, which seem, on present knowledge, to represent monophyletic taxa. Their apomorphies are summarised in Table 1.

TABLE 1. Characters of the species complexes of *E. funebris* species group. Apomorphies marked in bold.

	Last antennomere and palpomere	Sides of pronotum in basal half	Penile / parameral sub-basal spines / hook	Subapical parameral hook	Shape of parameres
<i>E. mediocris</i> complex	rectangular	parallel/incised	spines laterally / hook developed	reduced	simple, almost parallel
<i>E. funebris</i> complex	widened –trapezoidal	regularly rounded	spines laterally / hook developed	presented	simple, almost parallel
<i>E. jaechi</i> complex	widened –trapezoidal	regularly rounded	spines dorsolaterally / hook reduced	presented	simple, almost parallel
<i>E. pacholatkoii</i> complex	widened –trapezoidal	regularly rounded	spines laterally / hook developed	reduced	simple, widened behind the middle
<i>E. milleri</i> complex	widened –trapezoidal	regularly rounded	spines laterally / hook developed	reduced	complex, widened, with ventral process

According to the characters mentioned above, *E. mediocris* species complex most probably represents the sister group to all other complexes. Reduction of the parameral subapical hook is here viewed to have evolved independently at least twice in *E. mediocris* complex, and *E. pacholatkoii* and *E. milleri* species complexes. The *Eulichas jaechi* species complex is well defined by the reduction of subbasal parameral hook and with condition related turning of penile subbasal spines dorsolaterally. *Eulichas pacholatkoii* and *E. milleri* species complexes should be united based on the parameres widened behind the middle and the reduction of their subapical hook. The shape of the aedeagus in *E. milleri* species complex probably represents the most derived plan in subgenus *Eulichas*. A formal cladistic analysis, notes about bionomy, as well as zoogeographical conclusions will be published for whole genus after the revision of other groups of *Eulichas*.

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