

# CONTRIBUTION TO THE KNOWLEDGE OF THE ORIENTAL *EPITOXUS* LEWIS (COLEOPTERA: HISTERIDAE)

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## ABSTRACT

Contribution to the knowledge of the Oriental *Epitoxus* Lewis (Coleoptera: Histeridae).

Three new species of the genus *Epitoxus* Lewis are described from the Oriental region (*E. mazuri* sp. n., *E. vietnamicus* sp. n. and *E. indicus* sp. n.). *E. bullatus* (Marseul, 1870), *E. asiaticus* Vienna, 1986 and *E. borneolus* Mazur, 1989 are now redescribed. The lectotype and paralectotypes of *E. bullatus* are designated. The key to Oriental species is also included.

**Key words:** Coleoptera, Histeridae, *Epitoxus*, new species, taxonomy, Oriental region.

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## RESUMEN

Se describen tres nuevas especies de *Epitoxus* Lewis de la región Oriental (*E. mazuri* sp. n., *E. vietnamicus* sp. n. y *E. indicus* sp. n.). Se redesciben ahora *E. bullatus* (Marseul, 1870), *E. asiaticus* Vienna, 1986 y *E. borneolus* Mazur, 1989. Se designan los lectotipos y paralectotipos de *E. bullatus* y se incluyen las claves de determinación de todas las especies orientales.

## INTRODUCTION

Numerous Afrotropical species of the genus *Epitoxus* Lewis, 1900 are known, but up to now only two Oriental species had been described (VIENNA, 1986; MAZUR, 1989). Fortuitously the authors of the present paper coincided describing Oriental species of *Epitoxus*. Therefore this joint work was planned.

The genus *Epitoxus* shows a well defined morphology of the male genitalia (YÉLAMOS, 1996 and 1997). The morphology of the Oriental species is closely related to African species belonging to the group of *E. circulifrons* (Marseul, 1853). The phyletic relations among all the species will be studied in a separate paper.

It is possible that some other unknown species are living in this geographical region, sometimes confused with other genera of Exosternini (e.g. YÉLAMOS & TISHECHKIN, 1996). At the moment they are only known from India, Sikkim, Thailand, Malaysia (Peninsular Malaysia and Borneo Island) and Vietnam.

The maximum length of the body is measured excluding head, propygidium and pygidium. The maximum width is measured between both elytral bases on the humeral areas. The complete original data of labels are included for each specimen (delimited as /.../). The labels of O.N. Kabakov (ZIN) were written in Russian.

#### Abbreviations

- BSU: Zoological Museum, Belarussian State University, Minsk, Belarus.
- DEI: Deutsches Entomologisches Institut, Eberswalde, Germany.
- FP: Collection of Fabio Penati, Morbegno, Italy.
- MHNG: Muséum d'Histoire Naturelle de Genève, Switzerland.
- MNHN: Muséum National d'Histoire Naturelle, Paris, France.
- MNHU: Museum für Naturkunde der Humboldt-Universität, Berlin, Germany.
- NHML: Natural History Museum, London, United Kingdom.
- ONK: Collection of Oleg N. Kabakov, St. Petersburg, Russia.
- PK: Collection of Piet Kanaar, Oegstgeest, Holland.
- PMNH: Peabody Museum of Natural History, New Haven, U.S.A.
- PV: Collection of Pierpaolo Vienna, Venezia, Italy.
- SM: Collection of Sławomir Mazur, Warszawa, Poland.
- SMNS: Staatliches Museum für Naturkunde, Stuttgart, Germany.
- ZIN: Zoological Institute, Russian Science Academy, St. Petersburg, Russia.

#### Key to species of Oriental Asian *Epitoxus*

- 1 Pronotum without antescutellar impression; metasternal disc deeply depressed ..... *E. borneolus*
- Pronotum with distinct biarcuate antescutellar impression; metasternal disc not depressed ..... 2
- 2 Frons clearly transverse, its width clearly higher than length; anterior margin of pronotum not produced in front behind head; elytral striae very reduced; lateral metasternal stria complete; labrum sharp in middle; body elongate oval, depressed ..... *E. mazuri*
- Frontal width and length very similar, or frons slightly longer than wide; anterior margin of pronotum sometimes produced in front behind head; first four dorsal and sutural striae complete, sutural stria sometimes interrupted basally; lateral metasternal stria interrupted; labrum truncate, not sharp in middle; body wide oval, convex ..... 3
- 3 Frontal stria interrupted medially; sutural stria obsolete in basal third; anterior margin of pronotum not produced in front; antescutellar impression formed by two large arches; lateral metasternal stria with along interruption; length and width of aedeagus apex very similar ..... *E. indicus*
- Frontal stria complete; sutural stria complete; anterior margin of pronotum produced in front; antescutellar impression formed by two smaller arches; lateral metasternal stria interrupted on a short trait; apex of aedeagus clearly elongate ..... 4
- 4 Pronotal disc without large punctures, only with small and dense punctures; propygidium covered with very large foveae, only on basal half; pygidium covered only with scarce punctures at the base; colour normally reddish ..... *E. bullatus*
- Pronotal disc with several large punctures; propygidium covered with smaller foveae, mixed with other punctures, distributed all over the surface, except sides and area near pygidium; pygidium covered with foveae all over the surface; colour normally black .. 5

- 5 Basal piece of aedeagus shorter than parameres; apex of aedeagus clearly longer than wide; male ninth abdominal tergite and spiculum gastrale as figured..... *E. asiaticus*  
– Length of basal piece of aedeagus like parameres; apex of aedeagus slightly longer than wide; male ninth abdominal tergite and spiculum gastrale as figured..... *E. vietnamicus*

*Epitoxus mazuri* sp. n. (Figs. 1-4)

Description

Colour dark brown, shiny; body elongate oval, slightly convex.

Mandibles large, finely punctured; labrum long, convex, with a median sharp protuberance; epistoma very short, convex and finely punctured; frons short, wide, clearly wider than long (Fig. 1), with frontal stria regularly rounded; antennae with scape very enlarged and recurved; antennal club with sensorial foveae interrupted on sides and in middle; eyes small.

Pronotum with marginal stria in ventral position on basal 2/3, in dorsal position on rest; anterior angles not directed downward; anterior third of pronotal sides regularly rounded; anterior margin of pronotum not directed in front in middle; sides with scarce large punctures, the rest of the surface smooth; antescutellar impression shallow, biarcuate. Elytra smooth; first dorsal stria strong, weakly crenulate, shortened at the base and at the apex; second stria almost reaching apex, more reduced on base; third stria interrupted on middle; fourth stria present only as a short basal arch; fifth stria lacking; sutural stria on apical half; outer subhumeral stria strong, apical, almost reaching middle (Fig. 2); marginal and epipleural striae cariniform, complete and crenulate.

Pygidium shorter than propygidium; propygidium convex, covered with several foveae. Pygidium similarly punctured.

Prosternum with lobe long and prominent (Fig. 3), densely punctured; marginal stria short; prosternal keel narrow and short, convex, smooth; inner prosternal striae cariniform, arcuate and divergent at the base. Mesosternal length slightly higher than 1/4 its width on suture (Fig. 4); mesosternum superficially fitting the prosternum; disc convex and smooth; lateral stria very deep, directed in front in middle; meso-metasternal suture with a stria clearly arcuate, strong and crenulate. Metasternum with disc convex and smooth; longitudinal suture shallow; sides fossulate; post-coxal stria arcuate, reaching middle; lateral metasternal stria regularly arcuate, complete and deep.

First abdominal sternite convex and smooth, with arcuate post-metacoxal striae.

Legs long, slightly expanded; protibiae with 8 large teeth on outer margin, as well as other additional 3-4 teeth at the apex.

Male unknown.

Maximum length: 2.6 mm

Maximum width: 2.2 mm

Diagnosis

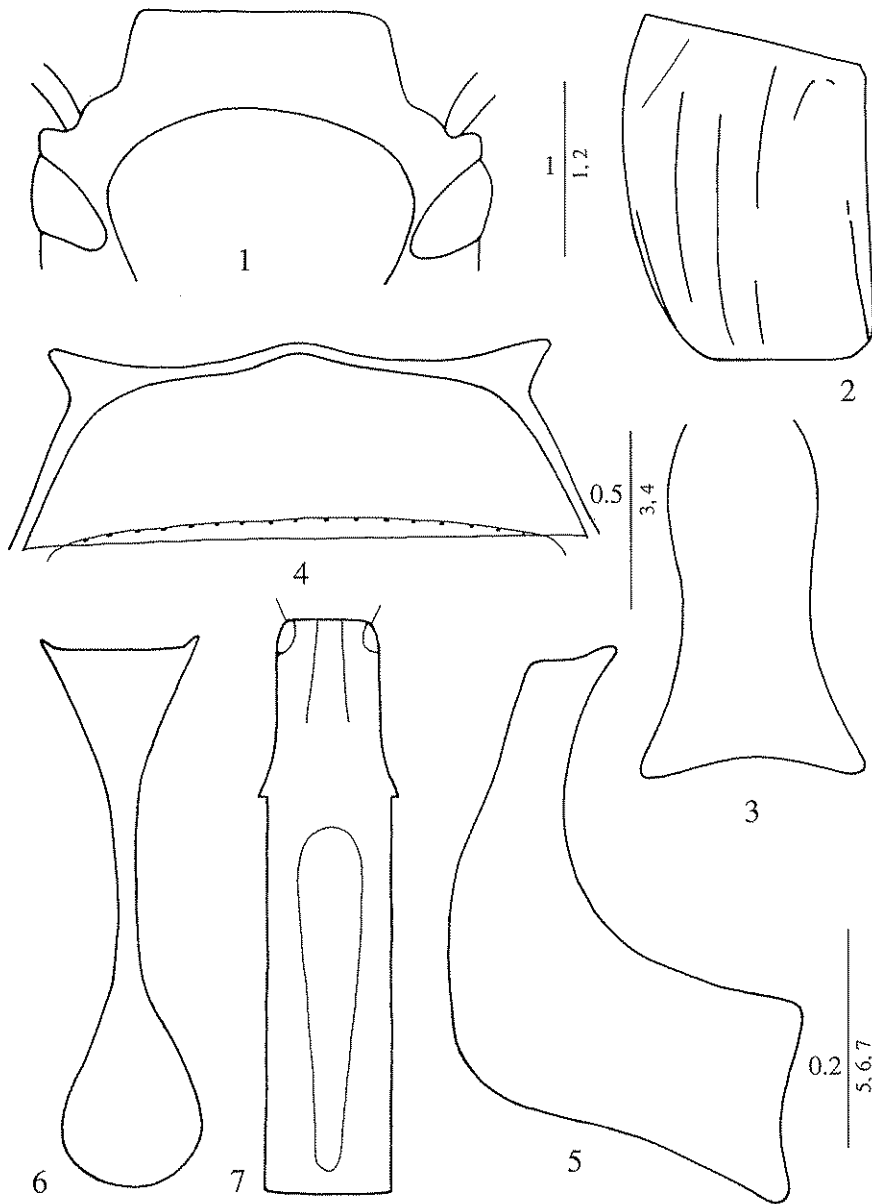
It may be easily distinguished by its transverse frons, very reduced elytral striae, complete lateral metasternal stria, medially sharp labrum and body elongate oval. Its general morphology is very different from the other species of the genus.

Type material

Holotype, ♀ labelled /INDIEN: Uttar Pradesh, Rishikesh. Laxman-Bridge 3-4.7.1989 leg. A. RIEDL/ [SM].

Comments

It is only known from the type locality in the mountainous Uttar Pradesh State (N India), collected in July.



**Figures 1-7.** *Epitoxus mazuri* sp. n.: Head in dorsal view (1); left elytron (2); prosternal keel (3); mesosternum (4). *E. bullatus* (Marseul, 1870): Ninth abdominal tergite of male in lateral view (5); spiculum gastrale (6); parameres in ventral view (7). Scales in mm.

According to its external morphology, it is now included in the genus *Epitoxus*, but when males are found its generic placement could be modified.

#### Etymology

We have the pleasure to dedicate this species to the eminent Polish Histeridologist Dr. Sławomir Mazur in recognition of his important contribution to the knowledge of Histeridae.

*Epitoxus bullatus* (Marseul, 1870) (Figs. 5-7)

*Notodoma bullatum* Marseul, 1870: 108.

#### Redescription

Colour black, legs and antennae red, sides of elytra and areas of propygidium and pygidium also reddish; body wide oval, slightly convex.

Mandibles large, slightly punctured; labrum long and convex; epistoma narrow, finely punctulate; frons distinctly punctured in middle; frontal stria complete, well impressed; antennal scape very enlarged; antennal club oval; sensorial foveae interrupted at sides and middle; eyes very large.

Pronotum without small punctures, with sparse and very large punctures on sides; disc finely punctulate; marginal stria in dorsal position on distal third and ventrally on the rest; anterior angles normal, not directed downward; sides of pronotum with anterior third oblique; anterior margin clearly produced in middle; antescutellar impression well impressed, with elongate foveae. Elytra very convex, finely punctured; striae well impressed, punctate; four first dorsal and sutural striae complete, the fourth and the sutural ones joined in arch; fifth stria present only as a short apical portion; outer subhumeral stria strong, apical; marginal stria strong and complete, cariniform; epipleurae with a complete crenulate stria.

Propygidium longer than pygidium, only with very large and sparse foveae (similar or longer than pronotal ones) on basal half, distal half smooth, only with scarce and small punctures. Pygidium only with scarce large punctures on basal sides.

Prosternum with lobe wide and short, with a complete well impressed marginal stria; sides of lobe with large and dense punctures; prosternal keel wide, of normal length, flat, with scarce punctures; inner prosternal striae convergent apically; outer prosternal striae very reduced; sides of keel with large and dense punctures. Mesosternum superficially fitting prosternal keel; mesosternum short and wide, convex and finely punctured, with complete lateral stria medially directed in front; meso-metasternal suture with a well impressed crenulate stria; postcoxal stria short, well impressed. Lateral metasternal stria oblique, almost reaching metacoxae, briefly interrupted, with outer portion; metasternal disc convex, finely and densely punctulate, with a series of large punctures close to metacoxae; medial longitudinal suture distinct; sides fossulate.

First abdominal sternite like metasternum, with an arcuate cariniform post-metacoxal stria.

Legs short, weakly enlarged; protibiae with 7-8 large teeth on outer margin; apex not truncate, with 3 - 4 teeth; meso- and metatibiae spinose.

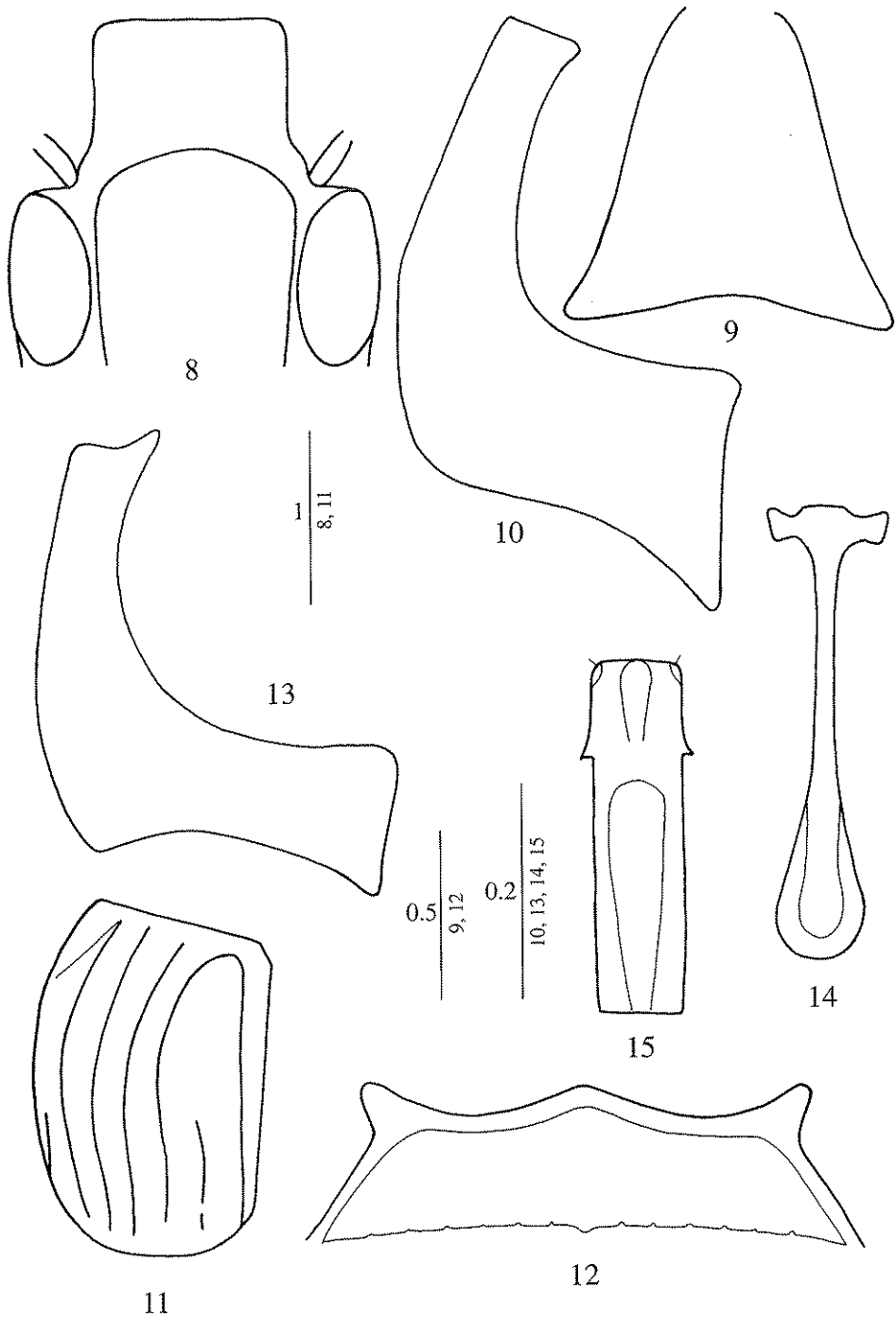
Eighth abdominal segment of males tubular, composed by two sclerotized pieces as is usual in the genus (YÉLAMOS, 1996). Ninth abdominal tergite with two teeth in ventral position, very produced; apical emargination of 9th tergite wider than an apical tooth; lateral expansions of 9th abdominal tergite with ventral processes slightly produced, and basal processes very short, not produced (Fig. 5). Spiculum gastrale with basal side very enlarged, medial portion narrow and apex T-shaped (Fig. 6). Aedeagus with basal piece recurved, slightly longer than half the parameres' length, its width is similar to the parameres' width; parameres parallel, with the exception of the apex; apex almost parallel, slightly narrower than near zone of parameres, longer than wide, with acute preapical teeth (Fig. 7); ventral side of parameres with a wide not welded area almost reaching base.

Length: 2.7-3.0 mm

Maximum width: 2.7-3.0 mm

#### Diagnosis

This species is very close to *E. asiaticus* Vienna. It would be necessary to study more specimens to determine the validity of the latter species. The morphology of the male ninth



Figures 8-15. *Epitoxus asiaticus* Vienna, 1986: Head in dorsal view (8); prosternal keel (9); ninth abdominal tergite of male in lateral view (10); *E. vietnamicus* sp. n.: left elytron (11); mesosternum (12); ninth abdominal tergite of male in lateral view (13); spiculum gastrale (14); parameres in ventral view (15). Scales in mm.

tergite, the puncturation of pronotum, propygidium and pygidium, as well as the colour, are the main differences that may distinguish both species.

#### Type material

After revision of the type series, it has been discovered that this species was erroneously placed in the genus *Notodoma* Lacordaire, 1854 (MARSEUL, 1870; YÉLAMOS & TISHECHKIN, 1996). Therefore it has been transferred to the genus *Epitoxus*. The lectotype and two paralectotypes are now designated.

Lectotype: ♂ labelled /*Notodoma Bullatum* Bangkok/, /TYPE/, /MUSÉUM PARIS, COLL. DE MARSEUL 1890/ [MNHN].

Paralectotypes (2 specimens): ♀ labelled as the lectotype [MNHN]. ♀ labelled /Co-type/, /*Notodoma bullatum* Mars., Co-type/, /Bangkok/, /Coll. Castelneau 1877/, /G. Lewis Coll. B.M. 1926-369/ [NHML].

#### Other material examined

One ♂ labelled /Malaya, Selangor/, /nr Kuala Lumpur/, /I.IV.1949 R. Traub B Insoll/, /NLH Krauss Col. n./ [SM]. One specimen labelled /Formosa, Taihorin, VI.09, H. Sauter S.G./ [MNHU]. One specimen labelled /Formosa, Fuhosho, VIII.09, H. Sauter S.G./ [MNHU]. Five specimens labelled /Formosa, Hoozan, X.10, H. Sauter S.G./ [one in BSU and four in MNHU]. One specimen labelled /Abalau [? Malau etc., illegible], /Coll In 1879/, /coll. J. Schmidt/, /*Notodoma bullatum* Mars. compared type/ [MNHU]. One ♀ labelled /Kankau (Koshun), Formosa, H. Sauter, VII.1912/, /Bickhardt det./, /*Notodoma bullatum*/ [DEI].

#### Comments

It is only known from Thailand (Bangkok), Malaysia (Kuala Lumpur) and Taiwan (several localities) collected in April, June, July, August and October. The specimens from Taiwan have several differences in relation to the other specimens (puncturation and length of striae).

#### *Epitoxus asiaticus* Vienna, 1986 (Figs. 8-10)

*Epitoxus asiaticus* Vienna, 1986: 93.

In addition to its complete original description, several other morphological characteristics are now included: head as in figure 8; pronotum with anterior margin produced in front, behind the head and with marginal stria in ventral position on basal 2/3; propygidium clearly longer than pygidium; prosternum as in figure 9; mesosternum superficially fitting prosternum; metasternal disc convex; lateral metasternal stria with a short interruption near metacoxae, where there are several large punctures; first abdominal segment with straight post-metacoxal striae; protibiae with 10 teeth on outer margin and other additional 3-4 teeth at the apex; male ninth abdominal tergite with teeth in ventral position, and a wide apical emargination; lateral expansions of 9th tergite with basal process more produced than the ventral process (Fig. 10); spiculum gastrale with basal part quite widened, very narrowed in middle, and apex T-shaped; aedeagus slightly recurved; basal piece and parameres of similar width; basal piece clearly longer than half that of the parameres; parameres parallel, with apex slightly narrowed, bearing two setae; apex longer than wide, with two acute subapical teeth; ventral side with a non welded area, almost reaching base.

Maximum length: 2.4-2.8 mm

Maximum width: 2.3-2.6 mm

#### Diagnosis

It is closely related to *E. bullatus*. The spiculum gastrale and the aedeagus show the same morphology as *E. bullatus*, but the male ninth abdominal tergite is slightly different.

#### Type material

Holotype, ♂ labelled /THAILAND, Ngao Distr., IX-1984 Brivio/, /HOLOTYPUS, *Epitoxus asiaticus* sp. nov. det. P. Vienna 1985/, /Ex Pontificum Institutum Missionum Exterarum, Detroit, Michigan; 1984 Purch. from Carlo Brivio/ [PMNH].

Allotype, ♀ with same labels as the previous specimen, but with ALLOTYPUS instead of HOLOTYPUS [PMNH].

Paratype, ♀ with same labels, but with PARATYPUS inscription [PV].

#### Other material examined

One ♀ labelled /Gopaldhara Rungbong Vall., Sikkim, H. Stevens/, /*Epitoxus ascinus* Lew., J. Théron det. 1979, sûrement pas de Sikkim/, /Stevens Coll., B.M. 1916-218/ [NHML]. Two ♀ labelled /Assam Patkai Mts./, /Doherty/, /Fry Coll. 1905-100/, /*Notodoma bullatum* Mars./ [NHML].

#### Comments

It was described from Northern Thailand, it is also known from Sikkim and North-eastern India (Assam region), collected in November.

#### *Epitoxus vietnamicus* sp. n. (Figs. 11-15)

##### Description

Colour black, shiny, legs, antennal scape and flagella reddish, antennal club yellowish; body wide oval.

Mandibles long, smooth, labrum long and convex; epistoma narrow, slightly convex, finely punctate; frons distinctly punctured in middle, frontal stria complete, well impressed; antennal scape very enlarged; antennal club with sensorial foveae interrupted on sides and in middle.

Pronotum with marginal stria in ventral position on basal 2/3; its sides oblique in anterior third, anterior margin slightly produced in middle; pronotal disc covered with large and sparse punctures; basal third impunctate; antescutellar impression well developed. Elytra smooth; striae well impressed, crenulate; first 4 dorsal and sutural striae complete; 4th and sutural striae joined in arch; 5th stria on apical third, sometimes represented by several short fragments; outer subhumeral stria on apical third (Fig. 11); marginal stria strong; epipleurae narrow, with a fine complete stria.

Propygidium slightly longer than pygidium; puncturation large and deep, smaller towards apex. Pygidium covered with smaller punctures, apex nearly smooth.

Prosternum with lobe wide, short and prominent, marginal stria deep and short; sides with irregular punctures; prosternal keel rather short and wide, finely punctured; inner prosternal stria convergent between procoxae, then nearly parallel; outer striae well developed, widely divergent. Mesosternum short, convex and smooth, superficially fitting prosternal keel, with complete lateral stria, medially directed in front; meso-metasternal suture with well impressed crenulate stria (Fig. 12); postcoxal stria short, well impressed. Metasternal disc convex, smooth, with a series of large punctures in front of metacoxae; lateral metasternal stria oblique, almost reaching metacoxae, briefly interrupted; medial longitudinal suture distinct; sides fossulate. First abdominal sternite like metasternum, with complete arcuate post-metacoxal striae.

Legs short, weakly expanded; protibiae with 8-9 large teeth on outer margin, its apex with 3-4 short teeth; meso- and metatibiae spinose.

Male eighth abdominal sternite as usual in the genus. Ninth abdominal tergite with apical teeth in ventral position; apical emargination of 9th tergite wider than apical tooth; lateral expansions of 9th tergite with ventral processes not produced and basal processes well



produced (Fig. 13). Spiculum gastrale very enlarged; median portion narrow; apex T-shaped (Fig. 14). Aedeagus with basal piece recurved, as long as parameres; parameres parallel, apex almost parallel, slightly narrower and slightly longer than wide, with acute preapical teeth (Fig. 15); ventral side of parameres with a wide not welded area, narrowly reaching base.

Maximum length: 2.70-2.95 mm

Maximum width: 2.4-2.6 mm

#### Diagnosis

This species is closely related to *E. asiaticus* Vienna. It may be distinguished by the morphology of the male genitalia: male ninth abdominal tergite (apical teeth very produced and base of dorsal side different); spiculum gastrale (apex less enlarged); aedeagus (similar length of basal piece and parameres; apex of parameres shorter and slightly narrower).

#### Type material

Holotype, ♂ labelled /D.R. Vietnam, mountains N of Khon-ghai, ca. 300 m, O. Kabakov, 15.6.962/, /*Epitoxus vietnamicus* sp.n. det. A. Tishechkin 1995/, /HOLOTYPE *Epitoxus vietnamicus* Yélamos & Tishechkin/ [ZIN].

Paratypes (five specimens): ♀ labelled as holotype, but with PARATYPE instead of HOLOTYPE [ONK]. ♂ labelled /D.R. Vietnam, Myong-sen, ca. 1000 m, O. Kabakov, 6.5.962/, /*Epitoxus vietnamicus* sp.n. det. A. Tishechkin 1995/, /PARATYPE *Epitoxus vietnamicus* Yélamos & Tishechkin/ [BSU]. ♂ labelled /D.R. Vietnam, Sam-son, beach, O. Kabakov, 2.5.962/, /on dead snakes/, /*Notodoma* sp. N 2/ (handwritten by O. L. Kryzhanovskij), /*Epitoxus vietnamicus* sp.n. det. A. Tishechkin 1995/, /PARATYPE *Epitoxus vietnamicus* Yélamos & Tishechkin/ [ZIN]. ♂ labelled /THAILAND - 99° 25' - 19° 05', 56 km NW Chiang, Mai, 7-14.VI.1995, Snizek M. legit/ [FP]; ♀ labelled /THAILAND bor. CHIANG DAO env., 17-19.6.1995, lgt. SNIZEK M./ [FP].

#### Comments

It is known from Vietnam and Thailand, collected in May and June.

#### *Epitoxus borneolus* Mazur, 1989 (Fig. 16)

*Epitoxus borneolus* Mazur, 1989: 738.

Several characteristics could be added to its original description: pronotum doubly punctured on all the surface; anterior angles of pronotum not directed downward; anterior third of pronotal sides oblique; elytra with outer subhumeral stria short, apical (Fig. 16); inner subhumeral stria lacking; postcoxal stria very short, punctate; lateral metasternal stria very wide, straight, punctate, not reaching metacoxae, with a short outer portion; protibiae with 8-9 teeth on outer margin and other 3-4 apical teeth. Males unknown.

Maximum length: 2.3-2.8 mm

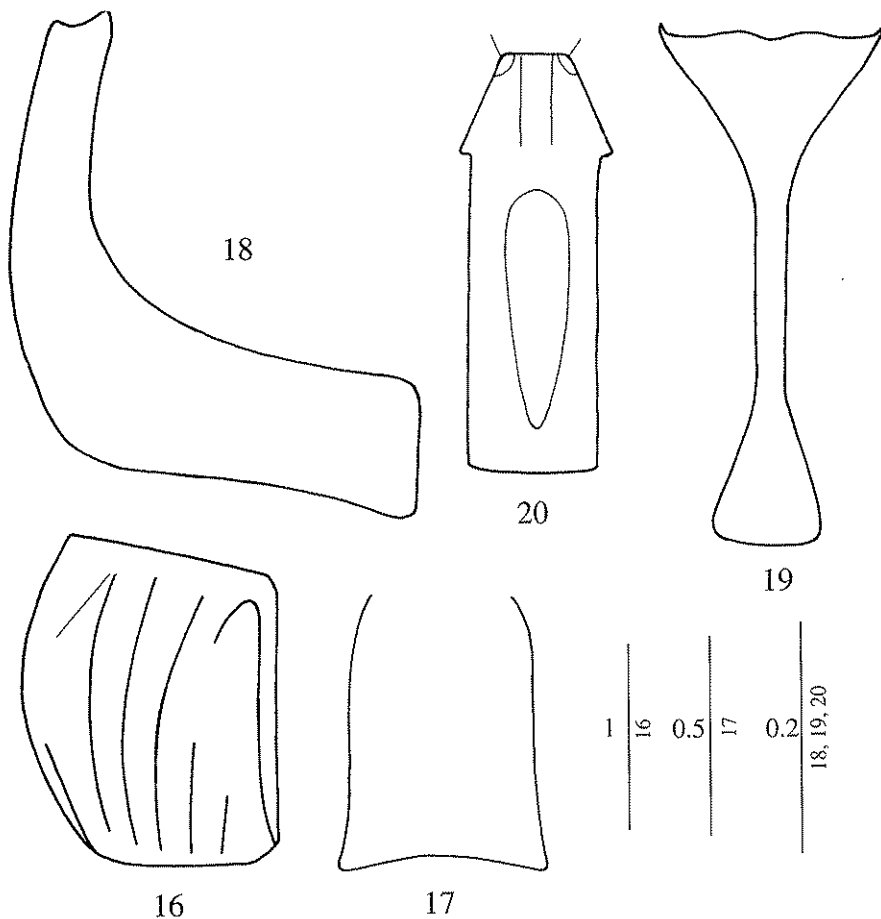
Maximum width: 2.2-2.7 mm

#### Diagnosis

It is easily distinguishable mainly by lacking the antescutellar impression on pronotum, and by deeply depressed metasternal disc.

#### Type material

According to the original description, there are the holotype and two paratypes, all from the same locality. We have only found a specimen labelled as «Types». The specimen deposited in Mazur's collection is also considered as a paratype.



**Figures 16-20.** *Epitoxus borneolus* Mazur, 1989: left elytron (16). *E. indicus* sp. n.: prosternal keel; ninth abdominal tergite of male in lateral view (18); spiculum gastrale (19); parameres in ventral view (20). Scales in mm.

Holotype, ♀ labelled /SABAH: Poring Hot Springs, 500m, 11.5.1987, Burckhardt-Löbl/, /*Epitoxus borneolus* det. S. MAZUR/, /TYPE/ [MHNG].

Paratype, ♀ labelled /Borneo Sabah Mt. Kinabalu Nat. Pk. Poring Spgs. 495 m 30.VIII.88, A. Smetana (B161)/, /*Epitoxus borneolus* det. S. Mazur '93/ [SM].

**Other material examined**

One ♀ labelled /RMNH pw 77b, SABAH: KINABALU NP, Poring (*Rafflesia* forest) alt. m. 570, 13-18.i.1986, J. Krikken/, /multistr. evergreen forest, 4 fish traps/, /*Epitoxus borneolus* Mazur, P. Kanaar det./ [PK].

**Comments**

This species is only known from Malaysia (Borneo Isl., North-eastern Sabah). It was collected in *Rafflesia* forests in January, May and August.

*Epitoxus indicus* sp. n. (Figs. 17-20)

Description

Colour black, with sides of elytra, legs and antennae reddish, shiny; body wide oval.

Mandibles strong, finely punctured; labrum long and convex; epistoma short, slightly convex, finely punctured; frons finely punctured; frontal stria with a short medial interruption; antennal scape shorter than remaining antennal segments, very enlarged; antennal club oval, with sensorial foveae interrupted in various areas.

Pronotum with marginal stria on the edges on basal 2/3, then in dorsal position; anterior angles not directed downward; sides of pronotum with anterior third oblique; anterior margin of pronotum not directed in front; surface covered with large punctures, mainly on sides, scarce and smaller on disc, only with small punctures on disc; antescutellar impression deep and large. Elytra smooth; striae crenulate; first four dorsal striae complete, only with short medial interrupted portions of fourth stria, joined in arch with the sutural stria; sutural stria interrupted on basal third, where there is a shallow impression; fifth stria on apical third, like outer subhumeral stria; marginal stria strong; epipleurae narrow, with a fine stria.

Propygidium slightly longer than pygidium; puncturation well impressed, smaller and sparser on disc. Pygidium similarly punctured.

Prosternum with lobe wide and short (Fig. 17), prominent, with a short stria; prosternal keel rather short and wide, flat and finely punctured. Mesosternum short, convex and smooth, superficially fitting prosternum; lateral stria strong, complete, directed in front; meso-metasternal suture with a deep and scarcely crenulate stria. Metasternum with disc convex and finely punctured, with a series of large punctures near metacoxae; longitudinal suture indistinct; sides with large and dense foveae; lateral metasternal stria wide, reaching metacoxae, widely interrupted; postcoxal stria short and crenulate.

First abdominal sternite with puncturation similar to the metasternal one and two arcuate post-metacoxal striae.

Legs long, weakly expanded; protibiae with 8 large teeth on outer margin; apex of protibiae with 3-4 small teeth; meso- and metatibiae spinose.

Male eighth abdominal segment as usual in the genus. Ninth abdominal tergite very narrow (Fig. 18); apical tooth in ventral position; apical emargination wide; lateral expansion very long and narrow, with short basal and ventral processes. Spiculum gastrale weakly widened at the base, T-shaped (Fig. 19). Aedeagus with basal piece recurved, nearly as long as parameres; rather narrowed at the base; parameres parallel; length and width of apex similar; apex with two acute teeth, then gradually narrowed (Fig. 20); ventral side of parameres with an unwelded part almost reaching base.

Maximum length: 2.3 mm

Maximum width: 2.1 mm

Diagnosis

It may be distinguished from the other species mainly by having the frontal stria interrupted, as well as the equal length and width of the aedeagus apex.

Type material

Holotype, ♂ labelled /SOUTH INDIA: Kerala State. Kottayam Dist. Peermade 4200 ft. V:1975. T.R.S. Nathan/ [SMNS].

Comments

It is only known from the type locality in Kerala State (South-western India). It was found in a mountainous area in May.

## Etymology

Specific name derived from India.

## ACKNOWLEDGMENTS

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