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## A revision of the genus *Platambus* Thomson (Coleoptera, Dytiscidae)

by **M. Brancucci\***

**Abstract:** The genus *Platambus* Thomson is revised. 3 subgenera are recognised (*Platambus*, *Agraphis* and *Anagabus*), with a total of 23 species. The subgenus *Anagabus*, which was revised a few years ago (BRANCUCCI, 1982a) is not treated in the present paper. The subgenus *Platambus* now includes 16 species, 1 of which is described here as new: *P. maculatus* (L.) (Palearctic region), *P. fimbriatus* Sharp (China, USSR: Ussuri, Korea, Japan), *P. pictipennis* Sharp (USSR: Sachalin; Japan, Taiwan), *P. excoffieri* Rég. (China), *P. schaeffleini* n.sp. (China, Vietnam), *P. incrassatus* Gschw. (Burma), *P. fletcheri* Zimmermann (India: Assam), *P. biswasi* Vazirani (Nepal, India: Uttar Pradesh), *P. wittmeri* Wewalka (Nepal, India: West Bengal, Bhutan), *P. nepalensis* (Guéorguiev) (Nepal, Bhutan), *P. satoi* Brancucci (Nepal), *P. balfourbrownei* Vazirani (Nepal, India: Uttar Pradesh, West Bengal and Assam); *P. lindbergi* Guéorguiev (Afghanistan, Pakistan and North India), *P. guttulus* (Rég.) (China: Shanghai), *P. lunulatus* (Steven) (Greece, Turkey, USSR, Iran, Egypt) and *P. angulicollis* (Rég.) (Tibet). The subgenus *Agraphis* now includes 3 species: *P. sawadai* (Kamiya) (Japan), *P. punctatipennis* Brancucci (China) and *P. kempfi* (Vazirani) (India: Darjeeling District and Sikkim).

The genus *Stictogabus* is considered to be a junior synonym of the genus *Platambus* (s.str.). *P. guignoti* Vazirani is considered to be a junior synonym of *P. lindbergi* Guéorguiev, *P. bhutanensis* Wewalka of *P. nepalensis* (Guéorguiev), *P. escalerae* Rég. of *P. maculatus* (L.). Finally, *Platynectes guttula* Rég. is transferred to the genus *Platambus*.

Keys are given for the identification of the subgenus and of the species. The colour pattern, the last abdominal sternite, the aedeagus and the parameres of each species are illustrated.

**Key words:** Coleoptera Dytiscidae – *Platambus* – revision – taxonomy – description – new species.

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\*) Mr Armin Coray, Scientific Illustrator, made the illustrations. This was possible through a grant from the Swiss National Foundation for Scientific Investigation.

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## I. INTRODUCTION

### 1. Preliminary notes

Over the last few years I have collected quite a large number of specimens of *Platambus* in the Himalayas, particularly in Nepal, and have described several species (BRANCUCCI, 1982a, 1982b, 1984). I have come to realize the genus as a whole is in need of revision, even though VAZIRANI (1965) has given a partial review of the Oriental species.

The subgenus *Anagabus* will not be considered in the present paper as it was revised only recently (BRANCUCCI, 1982a); a total of 4 species was recognized. I am revising the 2 remaining subgenera, *Platambus* (s.str.) and *Platambus (Agraphis)*. The last named combination was accepted by NAKANE (1964) and by SATÔ & BRANCUCCI (1984).

### 2. Material and methods

#### Material

Thanks to the collaboration of many colleagues, institutions and museums, I have been able to study a large number of specimens. The following abbreviations are used for the collections where material is located:

BM	= British Museum, Natural History, London (Dr M.E. Bacchus)
CAS	= California Academy of Sciences, San Francisco (Dr D.H. Kavanaugh)
GW	= coll. Prof. Dr G. Wewalka, Wien
IARI	= Indian Agricultural Research Institute, New Delhi
MB	= coll. M. Brancucci, Natural History Museum Basel
MCZ	= Museum of Comparative Zoology, Cambridge, Mass. (Dr

	A.F. Newton)
MNB	= Museum für Naturkunde, Humboldt-Universität, Berlin, DDR (Dr F. Hieke)
MP	= Muséum National d'Histoire Naturelle, Paris (Dr H. Perrin and Dr Cl. Girard)
NA	= coll. Prof. Dr T. Nakane, Kagoshima-shi
NHMW	= Naturhistorisches Museum Wien (Dr M. Jäch)
IZS	= Zoological Institute, Sofia
MZEL	= Museum of Zoology and Entomology, Lund (Dr R. Danielsson)
NMST	= National Science Museum, Tokyo (Dr S.-I. Uéno)
OLM	= Oberösterreichisches Landesmuseum, Linz (Dr F. Gusenleitner)
SA	= coll. Prof. Dr M. Satô, Nagoya
SR	= coll. Dr S. Rocchi, Firenze
TUA	= Tokyo University of Agriculture (Prof. Dr H. Sawada)
USNM	= United States National Museum, Washington (Dr P. Spangler)
ZIL	= Zoological Institute Leningrad (Dr A.G. Kirejshuk)
ZMK	= Zoologisk Museum, Kobenhavn (Dr M. Holmen and Dr O. Martin)
ZMM	= Zoological Museum of Moskow (Dr N. Nikitsky)
ZSI	= Zoological Survey of India, Calcutta (Dr S. Biswas)
ZSM	= Zoologische Staatssammlung, München (Dr G. Scherer)

I thank all colleagues listed above for the material and also Mr A. Pont, London, for correcting the English in this paper.

### Methods

As previously described by BRANCUCCI (1986), dried specimens were placed in cold water for about an hour. The aedeagus was then removed from the abdomen with a thin hooked pin (size 000). Dissected parts were glued on a card beneath the insect.

When necessary, the colour patterns were illustrated by showing the left half of the body. As for the reticulation and puncturation, illustrations have only been given for species of the subgenus *Agraphis*.

Aedeagi were all illustrated from the left lateral side and in dorsal view. In dorsal view and because the aedeagi are mostly strongly curved, the drawings have been made so that the apex appears as it ac-



tually is, with only the basal part fore-shortened, so that all the drawings are directly comparable.

The differences observed between the left and right parameres are practically non-existent. Consequently I have illustrated only the right parameres.

Important note: The sculpture of the anal sternite of ♂ and ♀ was probably the most difficult problem I had with the illustrations. A different impression can be gained according to the intensity and direction of the light source, and so I decided to standardise the drawings by using a spotlight directed across the surface from an extremely low angle from left to right. In this situation, the sculpture appears to be more impressed than it really is and the right side of the sternite is dark. Consequently, to draw the right side I had to change the position of the light-source and then reverse the reflections.

### 3. Morphology and terminology

The terminology in this revision is the same as that used in other revisions (BRANCUCCI, 1983, 1986).

#### Colour

*Platambus* species are rather uniform in colour (Figs 1–17). Except for *P. (Anagabus) lineatus* Gschw. which is striped, most species have a more or less extended transverse subbasal band (*P. (s.str.) fimbriatus* Sharp, *P. (s.str.) pictipennis* Sharp, etc.); the subbasal band has a tendency to disappear first in dull specimens (see *P. (Anagabus) sogdianus* (Jak.) or *P. (s.str.) pictipennis* Sharp). In some species, the elytral pattern is reduced to spots (*P. (s.str.) balfourbrownei* Vazirani, *P. (s.str.) lindbergi* Guéorguiev and *P. (s.str.) guttulus* (Rég.)) or is completely absent (*P. (Agraphis) sawadai* (Kamiya) and *P. (Agraphis) punctatipennis* Brancucci).

#### Size

The smallest species is *P. (s.str.) incrassatus* Gschw. (5.7–6.2 mm) and the largest are *Platambus (Anagabus) semenovi* (Jak.) (9–10 mm), *P. (s.str.) angulicollis* (Rég.) (9.1–9.8 mm) and *P. (s.str.) balfourbrownei* Vazirani (8.4–9.8 mm).

#### Microreticulation

All species are microreticulate on the dorsum. This consists of

small and polygonal meshes, and is mostly fine (*P. (s.str.) excoffieri* Rég., *P. (s.str.) guttulus* (Rég), etc.); it can, however, be strongly impressed, as for instance in the species of the subgenus *Agraphis* (Figs 15–17).

### **Puncturation**

Apart from the usual puncturation on disc of head, margins of pronotum and rows of punctures on elytra, the puncturation is characterised by minute punctures on the inner surface of the meshes. In some species (*P. (s.str.) wittmeri* Wewalka, *P. (s.str.) satoi* Brancucci, *P. (s.str.) lunulatus* (Steven) (Fig. 14), *P. (Agraphis) punctatipennis* Brancucci (Fig. 15), *P. (Agraphis) sawadai* (Kamiya) (Fig. 16) and *P. (Agraphis) kempi* (Vazirani) (Fig. 17), larger punctures are present at the intersection of the meshes. In *P. (s.str.) lunulatus* (Steven), the punctures are so dense in some specimens that they cover the microreticulation, at least posteriorly.

### **Prosternal process**

The prosternal process (Figs 24–43) is of great assistance in defining the species and, consequently, in the determination of species. It varies a great deal within *Platambus*.

### **Metasternal wings**

The metasternal wings of all species are illustrated in this paper (Figs 44–63). At first they appeared to me to provide good characters for identification. In fact, the differences are for the most part difficult to interpret, particularly when no comparative material is available.

### **Protarsi and mesotarsi**

Unlike many genera of the Colymbetinae, the protarsi and mesotarsi of both sexes are very constant throughout the genus *Platambus* and cannot be used for diagnostic purposes.

### **Metafemora and metatibiae**

The presence or absence of impressions and setae at the distal posterior angles of the metafemora, and the puncturation of the metatibiae, are rather constant and can be good indicators.

### **Anal sternite of ♂ and ♀**

The anal sternite of both sexes (Figs 64–100) is rather constant

within a species. The surface sculpture is very important for the characterisation of the species: it may be completely smooth, or slightly or strongly sculptured.

### Parameres

The parameres (Figs 101–120) are of the agabine type. Each species has characteristic parameres, providing a further means for identifying the species. In one species, *P. (s.str.) balfourbrownei* Vazirani, the apex is reminiscent in form of a stylus.

### Aedeagus

As in most genera of the family Dytiscidae, the aedeagus (Figs 121–162) is the character which enables each species to be distinguished with certainty from others. It is constant within each species. It is always symmetrical in dorsal view, except in *P. (Agraphis) sawadai* (Kamiya).

### Valvae ♀

The valvae of the ♀ are uniform in *Platambus*, and for this reason they have not been considered in the present study.

## II. SYSTEMATICS

### Genus *Platambus* Thomson

Type species: *Dytiscus maculatus* Linné (by monotypy).

- Platambus* THOMSON, 1860, Skand. Col. 2: 54. – THOMSON, 1867, Skand. Col. 9: 97. – RÉGIMBART, 1878, Ann.Soc. Ent. Fr. 8(5): 454,462. – SHARP, 1880–82, Trans. R. Soc. Dublin 2: 548, 889. – FOWLER, 1887, Col. Brit. 1: 197. – GANGLBAUER, 1892, Käfer Mitteleuropa 1: 498. – KLIMENT, 1896, Cesti brouci 1: 101. – EVERTS, 1898, Col. Neerl. I: 117–135. STIERLIN, 1900, Col. Helv. 1: 195. – LAMEERE, 1900, Fn. Belg. 2: 821. – JACOBSON, 1905, Käfer Russland: 417. – CSIKI, 1908, Mag. Bogarfn. 1(5): 495. – REITTER, 1908, Fauna Germanica 1: 225. – REITTER, 1909, Süßwasserfauna Deutschlands 3–4: 36. – NETOLITZKY, 1911, D. Ent. Z.: 278. – SCHAUFFUSS, 1916, in CALWER Käferbuch ed. 6: 131. – ZIMMERMANN, 1917(1919) Arch. Naturg. 83 A 12: 205. – ZIMMERMANN, 1920, Coleopt. Cat. 4(71): 150. – GSCHWENDTNER, 1935, Koleopt. Rdsch. 21: 61. – KAMIYA, 1938, J. Tokyo Nogyo Daigaku 5: 30. – GUIGNOT, 1946, Rev. Fr. Ent. 13: 116. – ZAITSEV, 1953, Fauna SSSR 58(4): 271. – NAKANE, 1963, Icon. Ins. Jap. 2(Col.): 58. – NAKANE, 1964, Fragm. Coleopt. Japon. 1: 1.
- Agabus (Platambus)*, SEIDLITZ, 1872, Fauna Balt.: 57. – SEIDLITZ, 1887, Verh. Nat. Ver. Brünn 25: 96. – SEIDLITZ, 1887, Fauna Balt., ed. 2: 90. – SEIDLITZ, 1888, Fauna Transsylv.: 100. – DES GOZIS, 1912, Misc. Ent. 20(4): 51.

*Agabus (Stictogabus)* GUIGNOT, 1948, Bull. Soc. linn. Lyon 17(9): 167.

*Stictogabus* GUIGNOT, GUÉORGUIEV, 1968, Bull.Inst. Zool. Mus. 28: 42. – VAZIRANI, 1977, Rec. Zool. Surv. India, Occ. Paper 6: 61. – **n.syn.**

Body generally elongate-oval, seldom broadly oval (*P. (Agraphis) punctatipennis* Brancucci); black, mostly with ferrugineous patches.

Head black with 2 ferrugineous patches on the vertex (Figs 2–17); in *P. (s.str.) maculatus* (L.) (Fig. 1) the whole anterior part of the head is ferrugineous and in *P. (s.str.) lunulatus* (Steven) (Fig. 14) the head is completely ferrugineous-brown. Reticulation consisting of polygonal meshes with minute punctures on their inner surface and generally somewhat larger ones at their intersections; sometimes coarsely puncturate (e.g. *P. (s.str.) lunulatus* (Steven) (Fig. 14), *P. (s.str.) satoi* Brancucci and *P. (s.str.) wittmeri* Wewalka, *P. (Agraphis) punctatipennis* Brancucci and *P. (Agraphis) sawadai* (Kamiya).

Pronotum black, mostly with the lateral margins more or less broadly testaceous, sometimes paler along lateral margins or even distinctly testaceous in front of anterior angles (*P. (s.str.) biswasi* Vazirani, *P. (s.str.) excoffieri* Rég.); the pronotum of *P. (s.str.) maculatus* (L.) is completely testaceous except along posterior margin. Anterior row of punctures generally complete, consisting of large and more or less confluent punctures, only rarely briefly interrupted at the middle (*P. (s.str.) lindbergi* Guéorguiev). Lateral margins distinctly bordered in all species.

Elytra completely black (*P. (s.str.) angulicollis* (Rég.), *P. (Agraphis) sawadai* (Kamiya) and *P. (Agraphis) punctatipennis* Brancucci), mostly with a more or less broad transverse subbasal ferrugineous band; this is often prolonged in a longitudinal lateral band (*P. (s.str.) biswasi* Vazirani, *P. (s.str.) fimbriatus* Sharp) (Fig. 3) which can be reduced to an antemedian, a median and a preapical patch. In three species the pattern is reduced to spots (*P. (s.str.) guttulus* (Rég.), *P. (s.str.) lindbergi* Guéorguiev, figure 13 and *P. (s.str.) balfourbrownei* Vazirani, figure 12). Reticulation mostly weakly impressed, except for the apical region where it is distinctly more so, consisting of small polygonal meshes with minute punctures within them and with a very few larger ones at some of the intersections; in *P. (s.str.) wittmeri* Wewalka, *P. (s.str.) satoi* Brancucci (Fig. 11), *P. (s.str.) nepalensis* (Guéorguiev) and *P. (s.str.) angulicollis* (Rég.) the latter are larger and numerous; in *P. (Agraphis) sawadai* (Kamiya) (Fig. 15), *P. (Agraphis) punctatipennis* Brancucci (Fig. 16) and *P. (Agraphis) kempfi* (Vazirani) (Fig. 17), the whole elytra are

covered with very large punctures. Sutural rows of punctures reduced to a few punctures in the apical part, except in the species of the subgenus *Agraphis* where the sutural rows are complete. Discal, sublateral and lateral rows of punctures with sparse punctures, mostly arranged in groups. Epipleura always ferrugineous-brown to dark brown, gently tapered as far as apical part, somewhat broadened alongside the 4th abdominal segment.

Underside ferrugineous-brown to dark brown; testaceous in *P.* (s.str.) *maculatus* (L.) and *P.* (s.str.) *lunulatus* (Steven). Prosternal process broad, mostly flat and short; in some species it is produced into a long sharp point (*P.* (s.str.) *excoffieri* Rég., *P.* (s.str.) *wittmeri* Wewalka, *P.* (s.str.) *nepalensis* (Guéorguiev)), and is rarely carinate (*P.* (s.str.) *incrassatus* Gschw., *P.* (s.str.) *fletcheri* Zimmermann). Metasternal wings mostly very narrow, sometimes extremely so (*P.* (s.str.) *fletcheri* Zimmermann); in *P.* (s.str.) *balfourbrownei* Vazirani and *P.* (s.str.) *angulicollis* (Rég.) they are broad. Metacoxae superficially (e.g. *P.* (s.str.) *fimbriatus* Sharp, *P.* (s.str.) *excoffieri* Rég., etc.) or distinctly (*P.* (*Agraphis*) *punctatipennis* Brancucci) rugose. Metasternal lines and median suture deeply impressed. Metatrochanters narrowly rounded at apex. Metafemora without (*P.* (*Agraphis*) *punctatipennis* Brancucci) or with a few short hairs (*P.* (s.str.) *fimbriatus* Sharp, *P.* (s.str.) *excoffieri* Rég., *P.* (s.str.) *biswasi* Vazirani, etc.) at distal posterior angles. Ventral surface of the mesotibiae generally with a few large punctures, restricted to outer half; in *P.* (s.str.) *angulicollis* (Rég.) the punctures are smaller and also present on inner half.

♂. Protarsi and mesotarsi dilated, with numerous small pads on the first three joints. Anal sternite more or less longitudinally wrinkled (Figs 64–81); in *P.* (s.str.) *satoi* Brancucci, *P.* (s.str.) *lindbergi* Guéorguiev and *P.* (s.str.) *lunulatus* (Steven) the wrinkles are very strong, and in *P.* (s.str.) *fimbriatus* Sharp, *P.* (s.str.) *excoffieri* Rég., *P.* (s.str.) *fletcheri* Zimmermann and *P.* (s.str.) *guttulus* (Rég.) they are indistinct or even absent. Parameres mostly two-segmented (Figs 101–111, 113–120); in *P.* (s.str.) *balfourbrownei* Vazirani (Fig. 112) they are followed by a long and fine stylus. Aedeagus, in dorsal view, broad and symmetrical (Figs 121–162) except in *P.* (*Agraphis*) *sawadai* (Kamiya) (Fig. 158) and in *P.* (*Agraphis*) *kempi* (Vazirani).

♀. Similar to ♂, the upperside inconspicuously more sculptured. Anal sternite mostly finely sculptured (Figs 82–100), rarely coarsely so (*P.* (s.str.) *lunulatus* (Steven), figure 97). Valvae short-cylindrical, with no specific characters.

Total length: 5.7–10 mm; width: 3.4–5.5 mm.

**Affinities:** The genus *Platambus* comes near *Platynectes* Rég. However, it can be distinguished by the habitus, which is slightly more convex; by the setae at distal posterior angles of the metafemora, which are less developed or even absent; and by the aedeagus, which is broad in dorsal view (styliform in *Platynectes*) and without any setae or swellings ventrally. Furthermore, the genus *Platambus* is further distributed in the Palaearctic region, whereas *Platynectes* (except of *P. kashmiranus* Balfour-Browne) occurs only in the Oriental and Australian regions.

The genus *Platambus* can be divided into 3 distinct groups. As genus-group names are already available for these, I am using them at the subgeneric level. Consequently, I recognise the three following subgenera: *Platambus* s.str., *Anagabus* Jak. and *Agraphis* Guignot.

The position of the genus *Platambus* within the subfamily Colymbetinae is still problematic. Several other genera will have to be redefined before the status and position of this genus can finally be resolved. *Platambus* can be distinguished from *Agabus* by the epipleura, which are gently tapered as far as the apex, and from *Platynectes* by the more convex form and by the second joint of the parameres, which is always elongated.

### The subgenera

The subgenera of the genus *Platambus* should be regarded as artificial groupings of the species. As the names *Anagabus* and *Agraphis* have in the past been given to species characterised respectively by a cordiform pronotum and strongly punctured elytra, I decided to keep this division. It provides an easy way of separating and determining the different species but has no strict phylogenetic meaning.

### Key to the subgenera

1. Pronoto-elytral angles very distinct. Apex of elytra truncate.  

**Anagabus** Jak.
- Pronoto-elytral angles not or weakly distinct. Apex of elytra rounded ..... 2
2. Elytra with numerous large and deep punctures, covering the whole surface (Figs 15–17).  

**Agraphis** Guignot

- Elytra without numerous large and deep punctures, only the punctures of the elytral rows present or, in some species, numerous distinctly smaller punctures (*P. wittmeri* Wewalka, *P. angulicollis* (Rég.) and *P. lunulatus* (Steven)) (Figs 1–14).

**Platambus** Thomson

**Subgenus *Platambus* Thomson**

Type species: *Dytiscus maculatus* Linné (by monotypy).

The subgenus *Platambus* includes 16 species, most of which are distributed in the Himalayas and adjacent regions such as Tibet, Yunnan, etc. *P. lunulatus* (Steven) reaches Greece in the West and *P. maculatus* (L.) West Europe.

Most species are roundedly elongate-oval, and depressed. The upperside is mostly smooth and not covered with large and distinct punctures, except in *P. lunulatus* (Steven) and *P. angulicollis* (Rég.) where the sculpture is coarse.

**Key to the species of the subgenus *Platambus***

1. Body arched or depressed. Testaceous markings of the elytra mostly reduced or even absent (Figs 2–14). ♂. Protarsal claws equal or subequal ..... 2
- Body arched. Testaceous markings of the elytra developed (Fig. 1). ♂. Protarsal claws unequal, the inner one short and broad. Palearctic region. 1. ***P. maculatus*** (L.)
2. Elytra smooth; puncturation consisting of only a few sparse medium-sized punctures at the intersections of the meshes. Minute punctures on the inner surface of the meshes always distinctly visible ..... 3
- Elytra submatt or matt; puncturation consisting of numerous medium-sized to large punctures at the intersections of the meshes or covering the whole surface (*P. lunulatus* Steven). Minute punctures on the inner surface of the meshes very small and hardly visible ..... 12
3. Smaller species: 5.7–8.7 mm. Body elongate to broadly oval, slightly depressed. Testaceous markings on the elytra consisting at least of a humeral half-moon as well as a postmedian and a preapical patch (Figs 2–10, 14); colour pattern seldom absent or reduced to a median subbasal and a preapical spot



- (*P. pictipennis* Sharp, *P. satoi* Brancucci (Fig. 11)). Elytral reticulation distinctly impressed. .... 4
- Larger species: 7.9–9.8 mm. Body broadly oval, distinctly depressed. Testaceous markings on the elytra limited to 1–2 testaceous spots (Figs 12–13). Elytral reticulation weakly impressed, the minute punctures particularly small and weakly impressed. .... 10
4. Larger species: 6–8.7 mm. Elytra with or without a subbasal transverse band (Figs 3–6, 8–9). ♂. Aedeagus, in dorsal view, narrowly rounded or pointed at apex (Figs 124, 126, 128, 130, 132, 136, 138) .... 5
- Smaller species: 5.7–6.2 mm). Elytra never with a subbasal transverse band (Fig. 7). ♂. Aedeagus, in dorsal view, broadly rounded at apex (Fig. 134). Burma. 6. **P. incrassatus** Gschw.
5. Body oval. Pronotum at most finely testaceous at sides (Figs 4–6, 8–9). Lateral and subbasal testaceous bands on the elytra narrow or absent (Figs 4–6, 8–9) .... 6
- Body elongate. Pronotum broadly testaceous at sides (Fig. 3). Lateral and subbasal testaceous bands on the elytra broad (Fig. 3). China (?), USSR (Ussuri), Korea, Japan.
2. **P. fimbriatus** Sharp
6. Smaller species: 6–7.1 mm. China, Vietnam .... 7
- Larger species: 7.1–8.7 mm. Himalayas, Japan .... 8
7. Elytra without a transverse subbasal testaceous band (Fig. 6) and without distinct punctures on at the intersections of the meshes. ♂. Parameres transverse, slender (Fig. 105). Aedeagus, in lateral view, distinctly concave on dorsal margin just before apex (Fig. 131). China, Vietnam.
4. **P. schaeffleini** n.sp.
- Elytra with a transverse subbasal testaceous band (Fig. 5) and with distinct punctures at the intersections of some meshes. ♂. Basal part of the parameres very broad (Fig. 104). Aedeagus, in lateral view, not concave on dorsal margin just before apex 129). China.
5. **P. excoffieri** Rég.
8. Prosternal process flat or subflat, not subcarinate (Figs 27, 32). ♂. Anal sternite distinctly sculptured (Figs 66–71) ... 9
- Prosternal process subcarinate (Fig. 31). ♂. Anal sternite smooth (Fig. 70). Apical part of the parameres long and narrow (Fig. 107). Aedeagus long and narrow (Figs 135–136). India (Assam).
7. **P. fletcheri** Zimm.



9. Basal testaceous band of the elytra almost reaching suture (Fig. 4). ♂. Aedeagus, in lateral view, evenly tapered (Figs 125, 127). USSR (Sachalin), Japan, Taiwan.
3. **P. pictipennis** Sharp
- Basal testaceous band of the elytra restricted to the outer half (Fig. 9). ♂. Aedeagus, in lateral view, broad at base, strongly tapered in apical 1/3 and ending in a sharp point (Fig. 137). Nepal, North India.
7. **P. biswasi** Vazirani
10. Smaller species (7.9–8.8 mm). Colour pattern consisting only of a rounded postmedian patch, or of a subbasal median and a postmedian rounded patch (Fig. 13). ♂. Aedeagus, in dorsal view, broad, at least at base (Figs 148, 150) ..... 11
- Larger species (8.4–9.8 mm). Colour pattern consisting of a rounded postmedian and an elongate preapical patch (Fig. 12). ♂. Aedeagus, in dorsal view, narrow along its whole length and pointed at apex (Fig. 146). North India, Nepal.
12. **P. balfourbrownei** Vazirani
11. Colour pattern consisting of a subbasal median and of a postmedian rounded patch (Fig. 13). Prosternal process prolonged posteriorly into a long sharp point (Fig. 37). ♂. Anal sternite wrinkled (Figs 76–77). Aedeagus, in dorsal view, narrowly rounded at apex (Fig. 150). Afghanistan, Pakistan, North India.
13. **P. lindbergi** Vazirani
- Colour pattern consisting only of a postmedian rounded patch. Prosternal process not prolonged into a long sharp point at apex (Fig. 38). ♂. Anal sternite smooth (Fig. 78). Aedeagus, in dorsal view, broadly rounded at apex (Fig. 152). China (Shanghai).
14. **P. guttulus** (Rég.)
12. Smaller species: 6.9–8.8 mm. Body mostly weakly arched or depressed. Testaceous markings on the elytra rarely absent (*P. nepalensis* (Guéorguiev)). ..... 13
- Larger species: 9.1–9.8 mm. Body strongly arched. Elytra unicolorous, dark ferrugineous brown. Tibet.
16. **P. angulicollis** (Rég.)
13. Base of elytra never testaceous. Punctures on elytra medium-sized, uniform in size, evenly distributed over the whole surface, not so close together ..... 14
- Base of elytra testaceous in the typical pattern. Punctures on elytra irregular in size, unevenly distributed, close together, becoming closer at sides and behind basal third (Fig. 14).

Greece, Turkey, USSR, Iran, Egypt.

15. **P. lunulatus** (Steven)  
 14. Testaceous markings on the elytra developed laterally (Fig. 10). Elytra smooth as far as apex. Nepal, India (West Bengal) and Bhutan.  
 9. **P. wittmeri** Wewalka  
 – Testaceous markings on the elytra reduced to spots ..... 15  
 15. Body egg-shaped, arched, larger: 7.7–7.9 mm. Ground sculpture not coarse at base, the medium-sized punctures distinctly visible. Prosternal process evenly tapered posteriorly but not prolonged in a long and sharp point (Fig. 35). ♂. Apical part of the parameres long, 2.1 times as long as the basal part (Fig. 111). Aedeagus symmetrical in dorsal view (Fig. 144). East Nepal.  
 10. **P. satoi** Brancucci  
 – Body broadly oval, depressed, smaller: 7.4–7.6 mm. Ground sculpture coarse at base, the medium-sized punctures not distinctly visible. Prosternal process suddenly tapered posteriorly and prolonged into a long and sharp point. ♂. Apical part of the parameres short, 1.3 times as long as the basal part. Aedeagus asymmetrical in dorsal view. East Nepal, Bhutan.  
 11. **P. nepalensis** (Guéorguiev)

1. **Platambus** (s.str.) **maculatus** (L.) Figs 1, 2, 24, 25, 44, 45, 64, 84, 85, 101, 121, 122.

*Dytiscus maculatus* LINNÉ, 1758, Syst. Nat. ed. 10: 412.

*Platambus maculatus* (LINNÉ), ZIMMERMANN, 1920, Coleopt. Cat. 4(71): 151. – GUIGNOT, 1931–33, Hydroc. France: 519. – GSCHWENDTNER, 1935, Koleopt. Rdsch. 21: 63. – ZAITSEV, 1953, Fauna SSSR 58(4): 271. – FRANCISCOLO, 1979, Fauna d'Italia: 529. – SCHAEFLEIN, 1971, Käfer Mitteleuropas 3: 57.

*Dytiscus biocelatus* MÜLLER, 1776, Zool. Dan. Prodr.: 72.

*Dytiscus hebraicus* FOURCROY, 1785, Ent. Paris 1: 70.

*Dytiscus ornatus* HERBST, 1785, in FÜESSLY, Arch. Ins.-Gesch. 5: 125.

*Platambus praetextus* DALLA TORRE, 1877, Jahresb. Ver. Nat. Österr. ob Enns 8: 63.

*Platambus escaleraei* RÉGIMBART, 1900, Bull. Soc. Ent. Fr.: 121. – ZIMMERMANN, 1920, Coleopt. Cat. 4(71): 151. – GSCHWENDTNER, 1935, Koleopt. Rdsch. 21: 66. – ZAITSEV, 1953, Fauna SSSR 58(4): 272. – **n.syn.**

*Platambus maculatus* ab. *inaequalis* PANZER, 1794, Fn. Germ. 14: t. 8.

*Platambus maculatus* ab. *inornatus* SCHILSKY, 1888, D. Ent. Z.: 183.

*Platambus maculatus* ab. *aterrimus* SAHLBERG, 1900, Medd. Soc. Fn. Fl. Fenn. 26: 71.

*Platambus maculatus* ab. *cantalicus* PIC, 1912, L'Echange 28: 57.

*Platambus maculatus* var. *pulchellus* HEER, 1839, Fn. Helv.: 149.

*Platambus maculatus* var. *Graëllsi* GEMM. & HARR., 1868, Col. Cat. 2: 455.

*Platambus maculatus* var. *glacialis* GRAËLLS, 1858, Mem. Map. geol. 42.

*Platambus maculatus* ssp. *caucasicus* ZAITSEV, 1927, Trav. Sta. biol. Caucase Nord 2: 18. – GUIGNOT, 1931–33, Hydroc. France: 520 (var.). GSCHWENDTNER, 1935, Koleopt. Rdsch. 21: 64. – ZAITSEV, 1953, Fauna SSSR 58(4): 271. – FRANCISCOLO, 1979, Fauna d'Italia: 529 (var.).

Body elongate-oval, strongly arched, brown to dark brown with testaceous markings (Fig. 1), shining with a bronze lustre.

Head dark brown on posterior half with 2 rounded testaceous patches, testaceous on anterior half with the clypeal grooves dark brown. Reticulation consisting of small, irregular polygonal meshes with 1–3 minute punctures within them, and on frons with several larger ones at the intersection of the meshes. With a row of punctures alongside the eyes and of a small depression beside the eyes formed by the confluence 2–3 punctures. Clypeal grooves deep, consisting of several coalescent punctures.

Pronotum testaceous-brown, broadly dark brown on the middle of posterior border and narrowly so along anterior border. Reticulation consisting of polygonal meshes with 1–4 minute punctures within them. Anterior row of punctures not interrupted at middle; punctures irregularly distributed, sparse and well-spaced at middle, becoming slightly denser and closer towards sides. Posterior row of punctures broadly interrupted at middle and on lateral quarter; punctures sparse, medium-sized and well-spaced on the middle of each half-base, slightly more numerous and confluent at sides. Lateral margin distinctly bordered with some obsolescent punctures alongside the groove.

Elytra dark brown, more or less testaceous along the base and on lateral sides (Fig. 1). Epipleura testaceous. Reticulation consisting of small, mostly transverse meshes, with very minute punctures within them. Sutural row of punctures restricted to the apical third and consisting of small and well-spaced punctures. Discal, sublateral and lateral rows of punctures not reaching the base; punctures closer and irregularly distributed on apical fourth, otherwise well-spaced, mostly in groups. Epipleura gently and evenly tapered posteriorly, slightly enlarged on posterior 3/4.

Underside ferruginous brown. Prosternal process broad, slightly convex, covered with a very fine puncturation, finely bordered on lateral margins, tapered posteriorly and prolonged into a short and acute point (Figs 24–25). Metasternal wings narrow and strongly curved (Figs 44–45). Metacoxae with a coarse but obsolescent sculpture. Metatrochanters transverse, ending distally in a short and blunt point. Metafemora with a row of punctures with short setae at distal posterior

angles. Ventral surface of the metatibiae with numerous large and irregularly distributed punctures on outer half.

♂. Protarsi and mesotarsi slightly dilated with elongate pads on the first three joints. Anal sternite with coarse sculpture, and with long longitudinal wrinkles on the middle (Fig. 64). Posterior margin slightly concave at the middle. Parameres with a broad basal part, the apical part 2.4 times as long as the basal part (Fig. 101). Aedeagus, in lateral view, strong, evenly tapered, the apex strongly curved (Figs 121); in dorsal view, it is distinctly constricted by the apical fourth and broadly rounded at apex (Fig. 122).

♀. Similar to ♂. Anal sternite finely reticulate and puncturate; medium-sized and well-spaced punctures present on posterior half, denser at sides and forming distinctly impressed longitudinal wrinkles (Figs 84–85).

Types: Not located.

Synonymy: After comparing numerous specimens of *P. maculatus* (L.) with the type specimens of *P. escalerae* Rég., no significant differences could be found. In fact, the types of *P. escalerae* Rég. are in general rather smooth, distinctly more so than West European specimens of *P. maculatus* (L.), and the dark brown colour of the elytra is less extended (Fig. 2). However these characters seem still to be within the range of variation of *P. maculatus* (L.). Consequently, although I did not have any male specimens at my disposal, I propose considering *P. escalerae* Rég. as a junior synonym of *P. maculatus* (L.). *P. escalerae* Rég. was described from several specimens, of which I found 4 ♀ in the Régimbart collection (MP). One of them was labelled as holotype and 2 as paratypes by Wewalka 1974. I consider the specimen labelled holotype as lectotype and the other 3 specimens as paralectotypes. Locality: Haut-Kharoum, Chindáar (Vallée), VI–VII.1899, Escalera.

Furthermore the varieties described in the past are all colour variations and cannot be considered as distinct taxa. I have seen the type of *P. maculatus* var. *inornatus* Schilsky (MNB).

Affinities: This species is particularly well characterized by its arched body shape and by its colour, and can easily be distinguished from all other species.

Distribution: Palearctic region (Europe and Asia Minor).

## 2. *Platambus* (s.str.) *fimbriatus* Sharp Figs 3, 26, 46, 65, 86, 102, 123, 124.

*Platambus fimbriatus* SHARP, 1884, Trans. Ent. Soc. London: 445. – RÉGIMBART, 1899,

- Ann. Soc. Ent. Fr. 68: 280. – RÉGIMBART, 1901, Bull. Mus. Hist. Nat. Paris 7: 336.  
 – ZIMMERMANN, Coleopt. Cat. 4(71): 151. – GSCHWENDTNER, 1934, Ent. Anz. 14: 73.  
 – GSCHWENDTNER, 1935, Koleopt. Rdsch. 21: 65. – KAMIYA, 1938, J. Tokyo Nogyo Daigaku 5: 30. – NAKANE et al., 1954, Colour. Illustr. Ins. Jap., Col. 2: 148. – ZAITSEV, 1953, Fauna SSSR 58(4): 273. – SATÔ, 1961, Niigata-ken no Konchu 6: 9. – SATÔ, 1985, Col. Jap. in Color 2, Dytiscidae, 69: 193.  
*Platambus (Agraphis) fimbriatus* SHARP, NAKANE, 1963, Icon. Ins. Jap. 2(Col.): 58. – NAKANE, 1964, Fragm. Coleopt. Japon. 1: 2.  
*Platambus kansouis* FENG, 1936–37, Peking Nat. Hist. Bull. 11: 9 – GSCHWENDTNER, 1939, Koleopt. Rdsch. 25: 46 (syn. of *P. fimbriatus* Sharp).

Elongate-oval, slightly convex, dark brown to black with broad testaceous markings (Fig. 3).

Head dark brown, with the clypeus and 2 discal patches testaceous. Antennae completely testaceous. Reticulation consisting of well-impressed polygonal meshes; the meshes with 1–3 minute punctures within them. With a row of large punctures alongside the eyes, and a transverse depression beside the eyes consisting of 4–5 large and confluent punctures. Clypeal grooves consisting of a short but deep transverse depression.

Pronotum dark brown, slightly paler on disc and broadly testaceous at sides. Reticulation as on head, consisting of small polygonal meshes; the meshes are more impressed along anterior and posterior margins and contain 1–5 minute punctures within them inner. Anterior row of punctures irregular; the punctures of different sizes, mostly large and in groups, single and isolated only on a short discal section. Posterior row of punctures restricted to the lateral 2/3; the punctures large and confluent. Lateral margins distinctly bordered, with a row of median punctures along the grooves.

Elytra black with broad subbasal and lateral testaceous bands; the lateral ones narrow at base, becoming broader posteriorly and interrupted before apex (Fig. 3). Epipleura testaceous. Reticulation consisting of small polygonal, weakly impressed meshes with 1–4 minute punctures within them. Sutural row of punctures with only a few medium-sized punctures on apical 1/4. Discal and sublateral row of punctures reaching almost to base; the punctures in groups of 3–4, forming well-spaced and rounded depressions. Lateral row restricted to posterior half of elytra and consisting of irregularly distributed punctures. Epipleura gently tapered as far as apical 1/3 and slightly broadened there before disappearing.

Legs and underside ferrugineous brown, the anal sternite dark brown. Prosternal process flattened, oval, distinctly bordered, evenly

tapered at apex and produced into a sharp point (Fig. 26). Metasternal wings narrow, elongate (Fig. 46). Metacoxae submatt, the sculpture superficial. Metatrochanters elongate, narrowly rounded distally. Metafemora with a few short setae at distal posterior angles. Ventral surface of metatibiae with a row of punctures along outer margin and a short row consisting of 4 large punctures at middle.

♂. Protarsi and mesotarsi slightly dilated, with small and elongate pads on the first three joints. Anal sternite distinctly microreticulate on anterior half, rugose along posterior margin; posterior margin broadly rounded (Fig. 65). Parameres with a broad base and a thin, medium-sized apical part; the latter 1.6 times as long as base (Fig. 102). Aedeagus, in lateral view, slightly curved, the ventral margin almost straight on apical 2/3, the dorsal margin rounded, flattened on apical 1/3 (Fig. 123); in dorsal view, tapered as far apex where it is narrowly but distinctly rounded (Fig. 124).

♀. Similar to ♂. Anal sternite very finely reticulate on anterior half, rugose on posterior half; posterior margin broadly rounded (Fig. 86).

Total length: 6.5–7.7 mm; width: 3.4–4.0 mm.

Types: 9 syntypes are in the BM. 1 ♂ clearly labelled as type is here designated as lectotype, and the other specimens as paralectotypes. Localities: Japan, Chiuzenji, 19.VIII.1881 (on card mount), Chiuzenji, 19.VIII–24.VIII.1881 (lectotype); Japan, Chiuzenji, VIII.1881 (on card mount), Chiuzenji, 18.VIII–24.VIII.1881 (2 ♀ paralectotypes); Lake Chiuzenji (on underside of card) (2 ♂ and 1 ♀ paralectotypes); Chiuzenji, no »i«, 22.VIII.1881 (1 ♂ paralectotype); Hakone Lake (on underside of card) (1 ♂ paralectotype); no date (1 ♀ paralectotype) but labelled *Platambus fimbriatus* in what could be Lewis handwriting.

Additional material studied: China : coll. Gschwendtner, *Platambus excoffieri* Rég., det.

L. Gschwendtner, *P. fimbriatus* Sharp, det. G. Wewalka 1974 (2 ex., OLM).

USSR : Primorsk, Adimi, Emeljanov (2 ex., ZMM). Ussuri, Winogradovka, Kirit-schenko (1 ex., ZIL).

Korea : without locality, Gottsche (1 ex., MNB) Seoul, coll. Zimmermann (1 ex., ZSM). Chemulpo, *P. fimbriatus* Sharp det. G. Wewalka 1974, in part (4 ex., MNB; 2 ex., GW).

Japan : without locality, Dönitz (1 ex., MNB). Japon central, 1900, J. Harmand *Platambus fimbriatus* Sharp (2 ex., MP). Kyushu : without locality, Dönitz (1 ex., MNB); 19.VIII.1951 (4 ex., SA). Fukuoka Pref., Izumimura, Buzen, 2.VI.1931, I. Tateishi, coll. Gschwendtner, *P. fimbriatus* Sharp, det. L. Gschwendtner (1 ex., OLM). Fukuoka Pref., Funagoya, 19.VIII.1951, S. Miyamoto (20 ex., NA). Shikoku : Tokushima Pref., Akui, 27.VI.1965, M. Sakai (1 ex., SA). Honshu : Hyogo Pref., Inagawa, 14.XI.1932, M. Fukuki, *P. fimbriatus* Sharp, det. L. Gschwendtner (1 ex., OLM). Mie Pref., Otsube River, 11.X.1957, Z. Naruso (1 ex., SA). Gifu Pref., Kaizu-cho, 17.X.1983, T. Andoh. Gifu Pref., Kasamatsu,



15.VI.1945, S. Osawa (1 ex., NA). Gifu Pref., Gifu, 23.VI.1946, K. Ohbayashi, *Platambus fimbriatus* Sharp, det. M. Satô 1984 (3 ex., SA; 2 ex., MB); Idem, 26.XI.1946 (1 ex., SA). Nagano Pref., Kamikochi, 15.VIII.1951, T. Nakane (1 ex., NA). Nagano Pref., Kamikochi, 20.VIII.1958, M. Satô, *P. fimbriatus* Sharp, det. M. Satô 1978 (1 ex., SA; 1 ex., SR). Nagano Pref., Kami Kuchi, 19.VII.1958, M. Satô, BM 1960–310 (2 ex., BM). Kanagawa Pref., Tamura, Hiratsuka, 5.V.1907, E. Laquille, *Platambus fimbriatus* Sharp (3 ex., MP). Tokyo Pref., 1910, exch. Cho Teranishi (1 ex., MCZ). Tokyo Pref., Tatsikawa pr., 1.V.1910, E. Gallois, *Platambus fimbriatus* Sharp, det. C. Legros (1 ex., GW). Saitama Pref., Ara-kawa, Kuge, Kumagaya-shi, 26.VI.1978, N. Watanabe (4 ex., SA). Tochigi Pref., Nikko, 29.VII.1923, E.C. van Dyke (77 ex., CAS; 4 ex., MB); idem, 30.VII.1923 (16 ex., CAS). Tochigi Pref., Nikko, 200 ft, 16.VIII.1931, J.E.A. Lewis, BM 1931–481, *Platambus fimbriatus* Sharp, det. Balfour-Browne (1 ex., BM). Tochigi Pref. Oku-Nikko, Mt. Nantai, 22.VI.1960, T. Nakane (10 ex., NA; 3 ex., MB). Fukushima Pref., Aizu-Wakamatsu, 9.V.1948, Y. Kurosawa (1 ex., NA). Fukushima Pref., Ohkawa, Aizu, 9.V.1948, Y. Kurosawa (3 ex., NA). Miyagi Pref., Tohgata, 19.VIII.1977, M. Satô (1 ex., SA). Hokkaido: Kamikawa, 2.VIII.1954, T. Nakane (1 ex., NA). Onnayu spa, 24.VI.1958, K. Baba (1 ex., SA). Sekihoku-toge, 27.VIII.1977, M. Satô (1 ex., SA).

**Synonymy:** Unfortunately I have not been able to locate the types of *P. kansouis* Feng. But according to Gschwendtner (1939) and Zaitsev (1953), I consider this species as a junior synonym of *P. (s.str.) fimbriatus* Sharp.

**Affinities:** This species can be easily recognized by its oval elongate-oval form and by the short aedeagus, which is slightly curved in lateral view.

**Distribution:** China (without precise locality), USSR (Ussuri Region), Korea, Japan.

### 3. *Platambus (s.str.) pictipennis* Sharp

Figs 4, 27, 47, 66,  
87, 103, 125–128.

*Platambus pictipennis* SHARP, 1873, Trans. Ent. Soc. London: 49. – RÉGIMBART, 1878, Ann. Soc. Ent. Fr. 8: 462. – SHARP, 1880–82, Sci. Trans. R. Dublin Soc. 2: 549. – RÉGIMBART, 1899, Ann. Soc. Ent. Fr. 68: 280. – RÉGIMBART, 1901, Bull. Mus. Hist. Nat. Paris 7: 336. – ZIMMERMANN, 1917(1919), Arch. Naturg. A 83 (12): 215. – ZIMMERMANN, 1920, Coleopt. Cat. 4(71): 153. – Gschwendtner, 1935, Koleopt. Rdsch. 21: 65. – KAMIYA, 1938, J. Tokyo Nogyo Daigaku 5: 31. – ZAITSEV, 1953, Fauna SSSR 58(4): 272. – NAKANE et al., 1954, Colour. Illustr. Ins. Jap., Col. 2: 148. – SATÔ, 1961, Niigata-ken no Konchû 6: 10. – NAKANE, 1963, Icon. Ins. Jap. 2(Col.): 58. – SATÔ & NARUSE, 1963, Nat. Yahagi Riv.: 165. – SATÔ, 1982, Ozeg. Sci. Res. Highmoor Centr. Japan: 384. – SATÔ, 1985, Col. Jap. in Color 2, Dytiscidae, 69: 193.

*Platambus (Agraphis) pictipennis* SHARP, NAKANE, 1964, Fragm. Coleopt. Japon. 1: 2. *Agraphis pictipennis* f. *bimaculatus* SATÔ, 1960, Trans. Shikoku Ent. Soc. 6: 80.

Broadly oval, dark brown to black with testaceous markings (Fig. 4).

Head dark brown with the clypeus and 2 spots on the frons ferrugineous. Antennae testaceous-brown. Reticulation consisting of small and weakly impressed polygonal meshes; the meshes are incomplete here and there, and with 1–4 very small punctures within them. A row of large and confluent punctures and a rounded depression next to the eyes. Clypeal grooves consisting of a very short row of large punctures.

Pronotum black, shining. Reticulation consisting of small and weakly impressed polygonal meshes with 1–3 minute punctures on their inner surfaces. Anterior row of punctures briefly interrupted at middle; punctures large, irregularly distributed, becoming closer together towards sides. Posterior row of punctures broadly interrupted at middle; punctures large, in one line, slightly confluent particularly towards sides. Lateral margins distinctly bordered, with some medium-sized punctures along the grooves.

Elytra shining, with a bronze lustre, typically black with a testaceous pattern as follows: a subbasal narrow band, somewhat indented on posterior margin, a small antemedian and lateral patch, a postmedian sublateral angular patch and a small rounded preapical patch (Fig. 4). In pale specimens, the transverse subbasal band is prolonged into a lateral longitudinal band that joins all the patches together. In dull specimens, the pattern is reduced to a small rounded subbasal median patch and to a postmedian patch; it is seldom completely absent. Reticulation consisting of small and weakly impressed polygonal meshes with 1–4 very minute punctures on their inner surfaces; in smaller specimens, the meshes are very weakly impressed, even incomplete. Sutural row of punctures limited to 7 medium-sized punctures in apical half. Discal row of punctures broadly interrupted before the base; punctures in well-spaced groups of 4 or 5. Sublateral and lateral rows of punctures also not reaching the base; punctures in well-spaced groups of 2 or 3. Epipleura moderately broad at base, rather narrowed as far as first sternite and then evenly but weakly tapered to the apical part.

Underside dark ferrugineous brown; legs, except hind tibiae, slightly paler, ferrugineous-brown. Prosternal process flat, distinctly bordered on anterior half, evenly tapered posteriorly and produced into a long and sharp point (Fig. 27). Metasternal wings narrow, strongly curved (Fig. 47). Metacoxae with obsolescent sculpture. Metatrochanters transverse, obtusely pointed at apex. Metafemora with a short row of punctures at extreme distal posterior angles, with short



setae. Ventral surface of metatibiae with a row of very large punctures on outer third.

♂. Protarsi and mesotarsi slightly dilated, with numerous small pads on the first three joints. Anal sternite longitudinally wrinkled and slightly depressed at the middle of the posterior margin; in smaller specimens it is distinctly less wrinkled (Fig. 66). Posterior margin finely bordered. Parameres elongate, basal part strongly transverse, the apical part 2 times as long as basal part (Fig. 103). Aedeagus, in lateral view, strongly curved, long and slender, evenly and slightly tapered and ending in an obtuse point (Figs 125, 127); also evenly tapered in dorsal view, and ending in an obtuse point (Figs 126, 128).

♀. Similar to ♂. Anal sternite longitudinally wrinkled; in smaller specimens, the wrinkles disappearing almost completely. Posterior margin flattened at middle (Fig. 87).

Total length: 6.8–8.7 mm; width: 3.8–4.7 mm.

Variation: *P. (s.str.) pictipennis* Sharp varies a great deal in colour and size. The ground elytral pattern is as given in the above description. The ferrugineous markings can decrease until the body is completely black except the two ferrugineous patches on the vertex. I also attempted to correlate size and distribution. The only general result is that specimens from the south-western Japan are generally somewhat smaller than those from the north-eastern region. Prof. T. Nakane confirms this observation. However, as no other characters were of any assistance, I consider that this species has a broad range of variability.

Types: I have found two specimens labelled as types by Sharp. The ♂ (BM) is herewith designated as lectotype and the ♀ as paralectotype. Labelling of the lectotype: *Agabus pictipennis*, ♂ Type D.S., Japan, Geo. Lewis (on the card mount); Sharp coll. 1905–313 (on a separate label); Type 836, *Agabus pictipennis* (on a third label and in Sharp's handwriting). Labelling of the paralectotype: *Agabus pictipennis* ♀, Type D.S. (on the card mount); Japan, Geo. Lewis 836; *Agabus pictipennis* ♀ type D.S. (on a separate label and in Sharp's handwriting).

Additional material studied: USSR: Süd Sachalin, Nowoalexandrowsk, 26.VI.1971, V.G. Dolin, coll. Wellschmied, *Platambus pictipennis* (Sharp), det. G. Wewalka 1975 (1 ex., GW).

Japan: without locality (1 ex., MP); 80-25, *Platambus pictipennis* (Sharp), det. M. Régimbart (1 ex., BM); G. Lewis 1910-320, *Platambus pictipennis* (Sharp) det. J. Balfour-Browne (2 ex., BM); 19.VIII.1981, G. Lewis 1910-320, *Platambus pictipennis* (Sharp), det. J. Balfour Browne (1 ex., BM). Japon central, 1900, J. Harmand (3 ex., MP; 2 ex., MB). Is. Tsushima: Mt. Tatera, 18.VII.1960, M. Satô (1 ex., SA; 1 ex., MB). Tsushima, Azamo-gawa, 31.X.1986 T. Ito (6 ex., SA).

Kyushu: Fukuoka Pref., R. Arakigawa, 23.II.1951, S. Miyamoto (1 ex., NA). Fukuoka Pref., Yoshii, 21.VI.1956, N. Gytoku (1 ex., NA). Fukuoka, Yoshii, 15.VII.1957, N. Gytoku (1 ex., NA). Fukuoka Pref., Mt. Hiko, 16.VII.1954, H. Kamiya; Idem, 14.VII.1954. Nagasaki Pref., Nagasaki, H. Fruhstorfer (1 ex., MNB). Shikoku: Ehime Pref., Ishitegawa-dam, Matsuyama Ci., 28.VI.1973, Y. Notsu (2 ex., SA). Kochi Pref., Kuroson-Kochi, 10.VII.1939, K. Ohbayashi (1 ex., SA). Kochi Pref., Kuroson, 14-15.VII.1956, Z. Naruse, M. Satô (1 ex., NA). Honshu: Hyogo Pref., Motoyama-mura near Kobe, 16.VII.1938, K. Sakaguchi (1 ex., NA). Osaka Pref., Minomo (1 ex., MB). Osaka Pref., Ryuo-zan, 5.V.1982, Y. Nishikawa (2 ex., SA). Kyoto Pref., Kyoto, *Platambus pictipennis* (Sharp), det. M. Régimbart (7 ex., MP; 1 ex., MB). Kyoto Pref., Kyoto, Omi, Ohara, Sakyo-ku, 21.VI.1984, T. Matsumoto (1 ex., SA). Nara Pref., Nara, VIII.1932, Y. Yano, coll. Gschwendtner, *Platambus pictipennis* (Sharp), det. L. Gschwendtner (2 ex., OLM). Mie Pref., Owase, 4.XI.1958, Z. Naruse, *Platambus pictipennis* (Sharp), det. S. Rocchi 1976 (1 ex., SR). Mie Pref., Yunoyama, VIII.1957, M. Satô, BM 1960-310, *Platambus pictipennis* (Sharp), partim det. J. Balfour-Browne 1961 (7 ex., BM). Mie Pref., Yunoyama, 20.VIII.1960, K. Ohbayashi (1 ex., SA). Mie Pref., Mt. Nonoburi, 12.III.1967, M. Satô (1 ex., SA). Gifu Pref., Wara-gawa, 24.VIII.1967, M. Satô (1 ex., SA). Gifu Pref., Hida, Hiwada, 16.VIII.1966, M. Satô (1 ex., SA). Gifu Pref., Hida, Obara, Maze-gawa, 26.VIII.1967, M. Satô (1 ex., SA). Gifu Pref., Akigami, 4.VIII.1966, M. Satô (2 ex., SA). Gifu Pref., Gifu, Riv. Nagara, 18.IV.1910, E. Gallois (1 ex., MB). Aichi Pref., Hasso, Inuyama, 10.VII.1978, M. Satô (1 ex., SA). Aichi Pref., Inabu, 20.VII.1968, M. Satô (1 ex., SA). Nagano Pref., Kamikochi, 15.VIII.1951, T. Nakane (1 ex., NA); Idem, 30.VII.1952, T. Nakane (4 ex., NA); Idem, 12.VIII.1952, T. Nakane (1 ex., NA); Idem, 14.VIII.1952, T. Nakane (3 ex., NA); Idem, 19.VII.1958, M. Satô, BM 1960-310 (1 ex., BM). Nagano Pref., Shiga-kogen, 1-3.VIII.1978, M. Satô (1 ex., SA). Nagano Pref., S. Alps, Todai, 12-14.VIII.1978, M. Satô (10 ex., SA; 2 ex., MB). Shizuoka Pref., Kida, 7.VI.1951, K. Kojima (5 ex., NA). Shizuoka Pref., Toyooka-mura, 17.IX.1978, M. Satô (1 ex., SA). Kanagawa Pref., Hakone, partim v. Schönfeldt, partim coll. Zimmermann (3 ex., ZSM). Tokyo Pref., Umgb. Tokyo, v. Bodemeyer (2 ex., MNB). Tokyo Pref., Tamagawa, 15.XI.1931, K. Kamiya, coll. Gschwendtner, *Platambus pictipennis* (Sharp), det. Gschwendtner (2 ex., OLM). Gunma Pref., Kumanotaïra, pr. Karuizawa, 11.VII.1908, E. Gallois (1 ex., GW); Idem, 13.VII.1908 (1 ex., MB). Gunma Pref., Ozegahara, 28-31.VIII.1978, M. Satô (5 ex., SA). Idem, 20-24.VIII.1979 (6 ex., SA). Tochigi Pref., Chiuzenji, 19-24.VIII.1881, G. Lewis, Sharp coll. 1905-313, *Platambus pictipennis* (Sharp), det. J. Balfour-Browne (2 ex., BM). Tochigi Pref., Lac de Chuzenji, 22.VIII.1909, E. Gallois (2 ex., MB); Idem, 28.VIII.1909 (3 ex., MB). Tochigi Pref., Chûzenji, 27.VII.1910, E. Gallois (1 ex., MB). Tochigi Pref., Lake Nikko, G. Lewis 1910-320, Sharp coll. 1905-313 (2 ex., BM); Idem, G. Lewis 1910-320 (2 ex., BM). Tochigi Pref., Oku-Nikko, Sanno-toge-Yumoto, 21.VI.1960, T. Nakane (2 ex., NA). Tochigi Pref., Oku-Nikko, Yumoto, 21.VI.1960, T. Nakane (12 ex., NA; 2 ex., MB). Tochigi Pref., Nikko, Tamoza-wa, 23.VI.1960, T. Nakane (6 ex., NA; 1 ex., MB). Miyagi Pref., Ohtaki-gawa, 5.VI.1978, M. Satô (1 ex., SA). Miyagi Pref., Tohgata, 19.VIII.1977, M. Satô (4 ex., SA). Miyagi Pref., Shironuma, 19.VIII.1978, M. Satô (2 ex., SA). Miyagi Pref., Yakurai-onsen, 21.VIII.1978, M. Satô (1 ex., SA). Aomori Pref., Minami-tsugaru, Hiraga-cho, Nurukawa, Kiriake, 18-21.VIII.1972, N. Watanabe (3 ex., MB). Aomori Pref., Shimokita, Mt. Osore-Yunomata, 1.VIII.1956, T. Nakane (1 ex., NA). Hokkaido: Hokkaido, Hohei-kyo, 22.VIII.1977, M. Satô (1 ex., SA). Jozankei, 19.VII.1976, M. Satô (1 ex., SA). Sapporo, 20.VII.1976, M. Satô (2 ex., SA; 2 ex., MB). Nukabira, 25.VII.1954, T. Nakane (1 ex., NA). Tennyoga-hara, 29.VIII.1977, M. Satô (5 ex., SA). Sekihoku-toge, 27.VIII.1977, M. Satô (2 ex., SA). Ikutawara,

27.VIII.1976, M. Satô (2 ex., SA). Shiretoko-goko, 17.VII.1976, M. Satô (1 ex., SA). Taiwan: Kô tô sho, 17.IV.–15.V.1932, Y. Yano (2 ex., SA).

Affinities: *P. (s.str.) pictipennis* Sharp can be easily distinguished from all other species, in particular from *P. (s.str.) fimbriatus* Sharp and *P. (s.str.) excoffieri* Rég., by the flat and broadly elongate body, by the colour, and by the aedeagus which, in lateral view, becomes thinner and rather flattened dorsally at the middle of its length.

Distribution: USSR (Sachalin), Japan and Taiwan.

#### 4. *Platambus (s.str.) excoffieri* Rég.

Figs 5, 28,  
48, 67, 88, 104, 129, 130.

*Platambus excoffieri* RÉGIMBART, 1899, Ann. Soc. Ent. Fr. 68: 281. – ZIMMERMANN, 1920, Coleopt. Cat. 4(71): 151. – GSCHWENDTNER, 1935, Koleopt. Rdsch. 21: 66. FENG, 1936–37, Peking Nat. Hist. Bull. 11: 9.

*Platambus fimbriatus excoffieri* RÉGIMBART, ZAITSEV, 1953, Fauna SSSR 58(4): 273. – GSCHWENDTNER, 1934, Ent. Anz. 14: 73.

Short-oval, moderately convex, black with testaceous markings (Fig. 5).

Head black, the anterior margin and 2 patches on vertex testaceous. Reticulation distinctly impressed; the meshes small and complete near the margins, large and incomplete on disc, with 1–4 punctures within them. In addition a few large punctures are visible on the intersections of some meshes, particularly on the disc. With a row of punctures alongside the eyes and few beside the eyes. Clypeal grooves consisting of 2 large rounded depressions near anterior part of eyes.

Pronotum black, broadly ferrugineous in front of the anterior angles. Reticulation similar to that on head, weakly impressed on disc, distinctly so on lateral margin. Meshes with 1–5 small punctures within them and with some larger ones on their intersections. With an irregular row of large punctures along anterior margin and on lateral part of the posterior margin. Lateral margins distinctly bordered with a few large punctures along grooves, and evenly curved.

Elytra black with a subbasal, posteriorly indented, tranverse ferrugineous band and with a lateral ferrugineous band; the latter with a brief prolongation on anteromedian, median and preapical parts (Fig. 5). Reticulation weakly impressed, except at apex, consisting of small polygonal meshes, with 1–5 very small punctures within them and with a very few larger ones on some of the intersections. Microreticulation

almost invisible, even at apex. Sutural row of punctures with about 6 punctures on apical half. Discal, sublateral and lateral rows with sparse punctures, mostly in groups. Epipleura testaceous, slightly broadened at base, rather narrowed as far as the first sternite and then evenly but slightly tapered until the apical part.

Underside ferruginous brown, the abdomen and metatibiae darker. Prosternal process broad and broadly bordered at the middle, flat, narrowed after the middle and produced into a sharp point (Fig. 28). Metasternal wings narrow and curved (Fig. 48). Metacoxae rugose. Metatrochanters narrowly rounded distally. Metafemora with a few short hairs at distal posterior angles. Ventral surface of the mesotibiae with 4–5 large punctures on outer third.

♂. Protarsi and mesotarsi slightly enlarged and with pads on the first 3 joints. Anal sternite with large coarse punctures, and numerous distinctly impressed longitudinal grooves (Fig. 67). Posterior margin rounded, slightly flattened at middle. Parameres broad at base, the apical part 1.6 times as long as base (Fig. 104). Aedeagus, in lateral view, evenly tapered, ending in a sharp point (Fig. 129); in dorsal view, broad at base and then evenly tapered as far as apex, which is narrowly rounded (Fig. 130).

♀. Similar to ♂, sometimes slightly more impressed. Anal sternite rather smooth with only a few large punctures and shallow longitudinal grooves (Fig. 88). Reticulation consisting of small and polygonal meshes with very small punctures within them.

Total length: 6–7.1 mm; width: 3.4–4.2 mm.

Variation: Like *P. (s.str.) pictipennis* Sharp, this species varies a great deal. In the first place, all the testaceous markings of the elytra can be reduced to a short humeral and a short postmedian bands. Furthermore, several specimens are particularly large in size. After close study, I was unable to find any other characters which might justify giving these specimens separate status. The most (but still not fully) mature male at my disposal has an aedeagus, which in lateral view is more evenly rounded dorsally dorsally, parameres which are somewhat more slender, and the small punctures at the intersections of the meshes slightly more numerous. However, the amount of material I have seen is too small to justify the erection of a subspecies, and these specimens also occur at the same localities as the typical specimens.

I have seen 1 specimen from Yunnan Fou with a rounded apex to the aedeagus.

Types: I found 10 specimens in the MP and ZIL from the type-

locality. Four of them were labelled »holotype« and »paratypes« by Wewalka in 1974. As it is not possible to determine which specimens were really used for the description, I will consider all 10 to be as syntypes. Accordingly, 1 ♂ (MP) is herewith designated as lectotype and 9 (2 ♂ and 6 ♀, MP; 1 ♀, ZIL) as paralectotypes.

Additional material studied: China: without locality, coll. Zimmermann (2 ex., ZSM); H. Schoede, S.G., *P. excoffieri* Rég., det. P. Riha (1 ex., MNB). Yunnan (3 ex., MB). Yunnan: Yunnan, coll. Zimmermann (2 ex., ZSM). Yun-nan-sen (5 ex., MNB). Yunnan Fou, Yunnan (4 ex., MP). Kweichow: Kouy-Tchéou, 1903, R.P. J.R. Chaffanjon, *Platambus excoffieri* Rég., det. Régimbart 1905 (1 ex., MP). Kouy-Tchéou, Rég. de Pin-Fa, 1909, Père Cavalerie (numerous ex, MP; 7 ex., MB). Kouy Tchéou, 1910, Père Cavalerie (10 ex., MP; 3 ex., MB). Kouy Tchéou, 1918, Père Cavalerie (numerous ex., MP; 2 ex., MB). Szechuan: without locality, C.F. Wu, coll. Gschwendtner, *P. excoffieri* Rég., det. L. Gschwendtner (1 ex., OLM). Siao-Lou, Lou-chan, 1896, chasseurs Thibétains (3 ex., MP). Su-Tchuen, Sian-Lou, 1897 (2 ex., MP; 1 ex., MB). Su-Tchuen, 1903, chasseurs indigènes (6 ex., MP). Shantung: Tschingschoufu, 15.XI.1912, H. Schoede S.G. (1 ex., MNB). Chekiang: Ningpo (1 ex., MP). Tibet: Kuk Nor, 3200 m, 1898, F. Hauser, *P. excoffieri* Rég., det. Ph. Zaitzev (1 ex., NHMW).

**Affinities:** This species is closely related to *P. (s.str.) pictipennis* Sharp but can be easily distinguished by its smaller size; by the subbasal ferrugineous band on the elytra, the posterior margins of which are much more incised; by the prosternal process, which is much more suddenly tapered after the middle; by the abdominal sternites of the ♂ and of the ♀, which are less coarsely sculptured; by the parameres, the base of which is much broader; and, finally, by the aedeagus, which is less curved in lateral view and more evenly tapered in dorsal view.

**Distribution:** China (Yunnan, Kweichow, Szechun, Shantung, Tibet).

##### 5. *Platambus* (s.str.) *schaefleini* n.sp.

Figs 6, 29, 49,  
68, 89, 105, 131, 132.

Body elongate, slightly convex, dark brown to black with testaceous markings (Fig. 6).

Head dark brown, the labrum, the clypeus and 2 rounded patches on the vertex brown. Reticulation weakly to distinctly impressed; meshes small, polygonal, with 1–2 minute punctures on their inner surfaces and, particularly on the disc, with several larger punctures at their intersections. The row of punctures alongside eyes deeply impressed. Clypeal grooves consisting of several large confluent punctures.

Pronotum dark brown to black, more or less narrowly brown at

sides. Reticulation consisting of weakly impressed meshes with numerous minute punctures on their inner surfaces. Anterior row of punctures not interrupted; punctures at most rather well-spaced in the middle, irregularly distributed, partly confluent at sides. Posterior row of punctures interrupted at the middle; punctures becoming more and more closely placed, and forming short wrinkles towards sides. Lateral margin evenly curved, broadly bordered and with a few large punctures along the grooves.

Elytra dark brown to black with a sublateral testaceous stripe, sometimes prolonged for a short distance along base (Fig. 6). Reticulation consisting of small, weakly impressed polygonal meshes, with 1–3 very minute punctures on their inner surfaces. Sutural row with about 6–7 punctures on apical half. Discal, lateral and sublateral rows with sparse punctures, mostly in group of 2 to 3. Epipleura testaceous-brown, slightly broadened at base, rather narrowed as far as the first sternite and then evenly but slightly tapered as far as the apical part.

Underside ferrugineous-brown to dark brown. Prosternal process broad, somewhat arched, broadly bordered at the middle, narrowed posteriorly and produced into a sharp point (Fig. 29). Metasternal wings narrow and curved (Fig. 49). Metacoxae rugose. Metatrochanters transverse, pointed at apex. Metafemora with a few short hairs at distal posterior angles. Ventral surface of the mesotibiae with a generally incomplete row of punctures along margin and 4 other large punctures restricted to the outer third.

♂. Pro- and mesotarsi slightly enlarged and with elongate pads on the first three joints. Anal sternite strongly punctured and wrinkled on posterior half. Posterior margin finely bordered, flattened on middle (Fig. 68). Basal part of the paramere narrow, the apical part 1.4 times as long as the basal one (Fig. 105). Aedeagus, in lateral view, evenly tapered, distinctly concave dorsally before apex (Fig. 131); evenly tapered in dorsal view, slightly more strongly before apex, ending in a narrowly rounded point (Fig. 132).

♀. Similar to ♂. Anal sternite coarsely punctured; punctures deep and confluent on posterior half and distinctly microreticulate. Posterior margin finely bordered and narrowly rounded (Fig. 89).

Total length: 6.1–6.3 mm; with: 3.4–3.5 mm.

Types: Holotype ♂ (MP) and 3 paratypes (1 ♂ and 1 ♀, MP; 1 ♂, MB); locality: Yunnan, *submarginatus* Rég. (holotype), *Platambus excoffieri* Rég. (3 paratypes). 1 paratype ♂ (MP); locality: Tonkin, Hoa Binh.

Affinities: This species is very closely related to *P. (s.str.) excoffieri*



Rég, but is sufficiently well defined morphologically to be considered as a distinct species. Its small size, the slender parameres, and the aedeagus which is, in lateral view, depressed dorsally just before apex distinguish it from *P. (s.str.) excoffieri* Rég. and the other species.

Distribution: China (Yunnan) and Vietnam (Hoa Binh).

**6. *Platambus (s.str.) incrassatus* Gschw.** Figs 7, 18, 30,  
50, 69, 90, 106, 133, 134.

*Platambus incrassatus* GSCHWENDTNER, 1935, Koleopt. Rdsch. 21: 62. – GSCHWENDTNER, 1935, Rec. Ind. Mus. 37: 370. – VAZIRANI, 1965, Proc. Zool. Soc. Calcutta 18: 30. – VAZIRANI, 1977, Rec. Zool. Surv. India, Occ. Pap. 6: 66.

Short-oval, slightly convex, dark brown with testaceous markings (Fig. 7).

Head dark brown, the labrum, clypeus and vertex ferrugineous. Antennae completely testaceous. Reticulation consisting of weakly impressed meshes, variable in size, with 1–5 very small punctures, or sometimes more, within them; some larger punctures visible here and there on their intersections, particularly on the disc. With a short row of large punctures alongside the eyes and a small depression beside the eyes. Clypeal grooves consisting of 1–2 rounded groups of punctures.

Pronotum somewhat ferrugineous at sides, particularly on anterior angles. Reticulation consisting of small polygonal meshes, variable in size, with 1–6 very small punctures within them, and some scattered larger punctures on their intersections; the meshes becoming coarse, smaller and more impressed at sides. Anterior row of punctures not interrupted at middle; punctures irregular, mostly in groups. Posterior row of punctures broadly interrupted on disc; punctures not deeply impressed. Lateral margins finely bordered, with some shallow punctures along the groove.

Elytra dark brown to black, the extreme lateral margin, a half-moon stripe at the shoulder, an elongate postmedian patch and a small narrow preapical stripe testaceous. Epipleura testaceous (Fig. 18). Reticulation consisting of small, weakly impressed polygonal meshes with 1–4 punctures within them and, here and there a larger puncture at their intersections. A very fine and scarcely visible microreticulation gives the elytra a light shagreened lustre. Sutural row of punctures visible on posterior half and consisting of about 7 medium-sized and well-spaced punctures. Discal, sublateral and lateral row of punctures almost reaching the base; punctures irregularly distributed and more numerous on apical third, in well-spaced groups on anterior 2/3.

Epipleura moderately broad at base, rather strongly narrowed as far as first sternite and then evenly but slightly tapered until apical part (Fig. 7).

Underside ferrugineous. Legs testaceous, mesotibiae, metatibae and metatarsi somewhat darker. Prosternal process tectiform, broadly bordered at sides, suddenly tapered and produced into a long point (Fig. 30). Metasternal wings very narrow (Fig. 50). Metacoxae with coarse sculpture. Metatrochanters elongate, with short point. Metafemora broad, with a short row of fine setae at distal posterior angle. Ventral surface of metatibiae with a row of irregularly distributed and very large punctures along outer margin, and with 3 smaller punctures at distal posterior angle.

♂. Protarsi and mesotarsi somewhat dilated, with numerous elongate pads on the first three joints. Anal sternite with coarse sculpture on posterior third and strongly striate longitudinally. Posterior margin broadly rounded and finely bordered (Fig. 69). Parameres with a short base; the apical part twice as long as base and broadened at apex (Fig. 106). Aedeagus, in lateral view, strongly curved, evenly tapered in apical part and pointed at apex (Fig. 133); in dorsal view, broad, slightly and evenly tapered towards apex and rounded at apex (Fig. 134).

♀. Similar to ♂. Anal sternite almost smooth; the sculpture consisting of a fine reticulation and a few large punctures on each side of the mid-line (Fig. 90). Posterior margin finely bordered and distinctly flattened at middle.

Total length: 5.7–6.2 mm; width: 3.4–3.6 mm.

Types: In addition to the 5 types mentioned by VAZIRANI (1965) and apparently deposited in ZSI, I have found 3 specimens labelled as paratypes (1 ♂ and 2 ♀, OLM). Locality: Burma, Mongmit State, Ruby Mines Distr., Man Ton, 4200 ft, II–IV.1915, J. Coggin Brown, Ind. Mus.

Affinities: This species can be distinguished from all others by its small size and by the aedeagus, which is rounded at apex. The closely-related species, *P. (s.str.) wittmeri* Wewalka, is larger in size and the aedeagus is pointed at apex.

Distribution: Burma.

**7. *Platambus* (s.str.) *fletcheri* Zimmermann** Figs 8, 19, 31, 51,  
70, 107, 135, 136.

*Platambus fletcheri* ZIMMERMANN, 1928, Wien. Ent. Ztg. 44: 176. – GSCHWENDTNER, 1935, Rec. Ind. Mus. 37: 370. – GSCHWENDTNER, 1935, Koleopt. Rdsch. 21: 61. –



VAZIRANI, 1965, Proc. Zool. Soc. Calcutta 18: 33. – VAZIRANI, 1976, Newsl. zool. Surv. India 2(2): 63. – VAZIRANI, 1977, Rec. Zool. Surv. India, Occ. Pap. 6: 65.

Body elongate-oval, slightly convex, shining, dark brown to black, with ferrugineous-testaceous markings (Fig. 8).

Head black, the labrum dark brown, the anterior part of clypeus and two rounded patches on vertex ferrugineous-brown, shining. Reticulation consisting of small polygonal meshes, with 1–3 minute punctures within them and larger ones on the intersections of many meshes. With medium-sized, irregularly distributed punctures on the disc. Also with of a row of confluent punctures alongside the eyes and a small depression formed by the confluence of several larger punctures beside the eyes. Clypeal grooves oblique, short and weakly impressed.

Pronotum black, narrowly dark brown at sides, shining. Reticulation consisting of small polygonal meshes with numerous minute punctures within them inner and, here and there, larger ones on their intersections. Anterior row of punctures not interrupted at middle; punctures medium-sized well-spaced at middle, closer and even confluent laterally. Posterior row of punctures very broadly interrupted at middle; punctures large and confluent, forming some short longitudinal striae laterally.

Elytra shining, black with testaceous markings as follows: a short basal band on outer 2/3 connected to a short oblique sublateral longitudinal band, a large median and angular patch, and a subapical elongate patch (Fig. 8). Epipleura dark brown. Reticulation consisting of small, weakly impressed polygonal meshes with 1–3 minute punctures within them and, here and there, slightly larger ones on their intersections. Sutural row of punctures restricted to apical third; punctures rather small and very widely spaced. Discal, sublateral and lateral rows of punctures not reaching base; punctures medium-sized, sparse, mostly in well-spaced groups of 2 or 3. Epipleura very slightly tapered posteriorly, slightly dilated in apical third (Fig. 19).

Underside ferrugineous-brown. Prosternal process triangular, broadly bordered on anterior half and evenly tapered posteriorly, ending in a very narrowly rounded point (Fig. 31). Metasternal wings narrow (Fig. 51). Metacoxae with coarse but superficial sculpture. Meta-trochanters elongate, produced distally into a short but sharp point. Metafemora with a few short punctures with very short hairs at apical distal posterior angle. Ventral surface of metatibiae with only 3 large punctures, arranged in a line on outer 2/3.

♂. Protarsi and mesotarsi slightly dilated and with numerous small pads on the first three joints. Anal sternite rather smooth, only marked with a slight reticulation and a few punctures situated medially (Fig. 70). Posterior margin broadly rounded and finely bordered. Parameres short, the base somewhat transverse, the apical part narrow, elongate, 1.7 times as long as base (Fig. 107). Aedeagus, in lateral view, strongly curved at base, otherwise rather straight, tapered the apical 1/5 and narrowly rounded at apex (Fig. 135); in dorsal view, narrow, slightly tapered on apical part and narrowly rounded at apex (Fig. 136).

♀. Unknown.

Total length: 7.3 mm; width: 4 mm.

Types: This species was described from 2 specimens. I have seen the holotype (ZSM), and the paratype is apparently in the IARI collections. Locality: India, Assam, Shillong, Khasi Hills, Fletcher, coll. A. Zimmermann.

Affinities: This species can be easily distinguished from all the other species known of this genus by its elongate-oval, rather narrow form, by the shining lustre without trace of bronze, by the sparse punctures on the intersections of the meshes, and by the aedeagus which is elongate in lateral and dorsal views.

Distribution: India (Assam).

## 8. *Platambus* (s.str.) *biswasi* Vazirani

Figs 9, 32, 52,  
71, 91, 108, 137, 138.

*Platambus biswasi* VAZIRANI, 1965, Proc. Zool. Soc. Calcutta 18: 32. – VAZIRANI, 1977, Rec. Zool. Surv. India, Occ. Pap. 6: 65. – BRANCUCCI, 1982, Entomologica Basiliensia 7: 228, partim.

Body broadly oval, slightly convex, shining with a bronze lustre, dark brown to black with testaceous markings particularly on elytra (Fig. 9).

Head shining, dark brown; labrum testaceous, anterior part of epistoma and 2 rounded patches on vertex ferrugineous. Reticulation consisting of small, very weakly impressed meshes, with numerous very small punctures within them. With a row of punctures alongside the eyes; punctures close together but mostly not or at most slightly confluent. Also with a small depression beside the eyes, formed by 2–3 medium-sized punctures. Clypeal grooves oblique, consisting of 3 medium-sized and confluent punctures.

Pronotum shining with a bronze lustre, black, narrowly ferrugineous at sides, particularly in front of the anterior angles. Reticulation

as on head, consisting of small and very slightly impressed polygonal meshes with numerous minute punctures within them. Anterior row of punctures not interrupted at middle; punctures medium-sized, not confluent, even rather well-spaced at middle, becoming closer together and denser towards sides. Posterior row of punctures broadly interrupted at middle; punctures medium-sized, slightly confluent in front of posterior angles. Lateral margins strongly bordered, with some strong punctures along the groove.

Elytra shining, with a bronze lustre, black with a short subbasal transverse testaceous band and with an oblique sublateral longitudinal testaceous stripe which is broadened postmedially and subapically, and which reaches the epipleura at base (Fig. 9). Epipleura testaceous-brown. Reticulation consisting of small, very slightly impressed polygonal meshes with numerous minute punctures within them. Sutural row of punctures practically non-existent, limited to 2–4 medium-sized punctures in apical half. Discal row of punctures broadly interrupted before the base; punctures in well-spaced groups of 4 or 5. Sublateral and lateral rows of punctures also not reaching the base; punctures in well-spaced groups of 2 or 3. Epipleura moderately broad at base, rather narrowed as far as first sternite and then evenly but slightly tapered to the apical part.

Underside dark brown; legs, except hind tibiae and hind tarsi, slightly paler, ferrugineous-brown. Prosternal process broad, flattened, finely punctured, narrowly bordered, evenly tapered in apical half and produced into a long point (Fig. 32). Metasternal wings narrow (Fig. 52). Metacoxae with strong but obsolescent sculpture. Metatrochanters transverse, shortly pointed at apex. Metafemora with a short row of punctures at distal posterior angles with short but strong setae. Ventral surface of metatibiae with an irregular row of very large punctures on outer third.

♂. Protarsi and mesotarsi slightly dilated, with numerous small pads on the first three joints. Anal sternite very strongly and deeply striate longitudinally on posterior 2/3, except on the middle part which is indistinctly striate and very finely puncturate. Posterior margin flattened at middle (Fig. 71). Parameres elongate, basal piece short, transverse, the apical part long and narrow, 2.1 times as long as base (Fig. 108). Aedeagus, in lateral view, broad, attenuated and flattened dorsally on apical 2/3 (Fig. 137); in dorsal view, of constant width on basal 2/3, evenly tapered on apical third, and ending in a sharp point (Fig. 138).

♀. Similar to ♂. Anal sternite rather shining, covered with a very fine reticulation and puncturation; on posterior 2/3 with 5–6 medium-sized punctures on each side of the mid-line (Fig. 91).

Total length: 7.3–8.3 mm; width: 4.2–4.6 mm.

Types: This species was described from 2 specimens (ZSI); I have seen the paratype. Localities: Nepal, Nepal Valley, Thankot, 27°42', 85°12' (and not 88°12' as stated in the original description), 21.IV.1947, S. Biswas (holotype ♂); Nepal Valley, Chandragiri, 28.III.1947, S. Biswas (paratype ♂).

Additional material studied: Nepal: Kathmandu Valley, Godawari, 1500 m, 22–25.VI.1983, M. Brancucci (11 ex., MB). Ramechhap, Janakpur, Khimti Khola, Shivalya, 1800 m, 15.X.1979, S. Uéno, *P. biswasi* Vazirani, det. Brancucci 1982 (NSMT).

India: U.P., W. Almora Div., Kumaon, III.1918, 1968, H.G.C., coll. H.G. Champion, BM 1953–156 (1 ex., BM); Idem, IV.1918, 2133 (1 ex., BM); idem, I.1920, *Platambus fletcheri* Zimm., det. J. Balfour-Browne (1 ex., BM).

Affinities: This species can easily be distinguished from all the others by its shining bronze lustre, by the usually extensive testaceous markings on the elytra, by the absence of any medium-sized puncturation on the upperside, and by the aedeagus, in lateral view, is strongly attenuated on apical third, broad at base, and sharply pointed at apex.

Distribution: Nepal (vicinity of Kathmandu and Khimti Khola) and India (U.P., Almora Div.).

## 9. *Platambus* (s.str.) *wittmeri* Wewalka

Figs 10, 33, 53,  
72, 92, 109, 139, 140.

*Platambus wittmeri* WEWALKA, 1975, Entomologica Basiliensia 1: 158. – BRANCUCCI, 1982, Entomologica Basiliensia 7: 228.

Body rather broadly oval, slightly convex, dark brown to black with testaceous markings (Fig. 10).

Head black, the labrum, anterior part of clypeus and two rounded patches on vertex ferruginous to testaceous. Antennae testaceous. Reticulation consisting of rather large, sometimes open, polygonal meshes with numerous minute punctures within them and with numerous medium-sized punctures at their intersections; the latter occupy the whole surface. With a short deep row of large confluent punctures alongside median part of the eyes. Clypeal grooves rounded or slightly transverse, formed by the confluence of several large punctures.

Pronotum dark brown, somewhat ferruginous at sides, broadly so

on anterior angles. Reticulation consisting of medium-sized meshes with numerous minute punctures within them and numerous medium-sized punctures on their intersections. Anterior row of punctures not interrupted at middle; punctures large, irregularly distributed, more widely spaces on disc, closer and even confluent at sides. Posterior row of punctures broadly interrupted at middle; punctures medium-sized, strongly confluent at sides, forming short but deep striae. Lateral margin distinctly bordered, with some punctures along the groove.

Elytra black with an irregular, longitudinal, sublateral testaceous band and with a subapical, weakly distinct patch; the former is generally more than half as long as elytra. In dull specimens (for instance in the holotype, Fig. 10), it is divided into one short humeral band and one large angular sublateral and postmedian patch. Epipleura testaceous-brown. Reticulation consisting of relatively large meshes with numerous very small punctures within them and larger, regularly distributed ones on their intersections. Sutural row of punctures short, restricted to apical third, with only 7–8 medium-sized and isolated punctures. Discal, sublateral and lateral rows of punctures not reaching base; punctures irregularly distributed on apical third, in aligned and well-spaced groups anteriorly. Epipleura moderately broad at base, rather narrowed as far as first sternite and then evenly but weakly tapered to the apical part.

Underside ferrugineous-brown, dark brown to black on the metacoxae and abdomen as well as on the mesotibiae, metatibiae and metatarsi. Prosternal process broad, almost flat, very slightly tectiform, broadly but finely bordered at sides on anterior half, evenly tapered and elongated in posterior half and ending in a sharp point (Fig. 33). Metasternal wings narrow (Fig. 53). Metacoxae with weak and obsolescent sculpture. Metatrochanters short, slightly pointed at apex. Metafemora with 1 or 2 punctures at distal posterior angles with very short hairs. Ventral surface of metatibiae with 8–12 large punctures, more or less regularly distributed on outer half.

♂. Protarsi and mesotarsi slightly dilated, with numerous small rounded pads on the first three joints. Anal sternite with very coarse sculpture on posterior 2/3, with deep longitudinal striations; posterior margin flattened and slightly incised at middle, finely bordered (Fig. 72). Parameres short, the apical piece short, rather broad, 1.2 times as long as base (Fig. 109). Aedeagus, in lateral view, evenly rounded and curved, tapered in apical fourth and narrowly rounded at apex (Fig. 139); in dorsal view, broad at base, gently and tapered anteriorly, nar-

rowly rounded at apex (Fig. 140).

♀. Similar to ♂. Anal sternite rather shining, finely reticulate, evenly covered with small dense punctures, and with an irregular row of large punctures situated on posterior 2/3, on both sides of the mid-line; posterior margin broadly rounded and finely bordered (Fig. 92).

Total length: 6.9–7.7 mm; width: 3.9–4.6 mm.

Types: This species was described from the holotype ♂ (NHMB) and 1 ♂ paratype (GW). Locality: Bhutan, Paro, 2300 m, VIII.1972, K. Nishioka (holotype); Bhutan, Wangdiphodrang, 1400 m, 7.VI.1972, Exp. NHM–Basel.

Additional material studied: Nepal: Thamur Valley, Dhankuta-Hile, 1150–2000 m, 24–25.V.1983, M. Brancucci (22 ex., MB); Kathmandu Valley, Burhanilkanth, 1440–1650 m, 16.VI.1983, M. Brancucci (84 ex., MB); Idem, 21.VI.1985 (1 ex., MB); Kathmandu Valley, Sundarikal, 1465 m, 15–21.VI.1983, M. Brancucci (54 ex., MB); Patma Khola, 1500 m, 31.III.1980, P. Galland (1 ex., MB). India: West Bengal, Jalpaiguri Distr., Bagra Kote, 100–300m, 16–22.XII.1985, B. Bhakta (17 ex., MB).

Affinities: This species is closely related to *P. (s.str.) nepalensis* (Guéorguiev) and to *P. (s.str.) satoi* Brancucci. It can be easily distinguished from both by its more broadly oval form, by its more extensive testaceous colour pattern on the elytra, by the prosternal process which is smooth and strongly attenuated into a point on apical half, by the narrow metasternal wings, by the strongly striate and distinctly incised anal sternite, and by the aedeagus which is, in lateral view, less elongated in apical part than in *P. (s.str.) nepalensis* (Guéorguiev) and is distinctly flattened dorsally in apical 1/4.

Distribution: Nepal, India (West Bengal) and Bhutan.

**10. *Platambus* (s.str.) *nepalensis* (Guéorguiev) n.comb.** Figs 34, 54, 73, 110, 141, 142.

*Stictogabus nepalensis* GUÉORGUIEV, 1968, Bull. Inst. Zool. Mus. 28: 42. – VAZIRANI, 1977, Rec. Zool. Surv. India, Occ. Paper 6: 61.

*Platambus bhutanensis* WEWALKA, 1975, Entomologica Basiliensia 1: 157. – VAZIRANI, 1977, Rec. Zool. Surv. India, Occ. Paper 6: 98. – **n.syn.**

Body elongate-oval, distinctly convex, dark brown to black with weakly visible patches on the elytra.

Head dark brown with the clypeus and two patches on the vertex ferrugineous-brown. Antennae testaceous-brown. Reticulation consisting of small polygonal and slightly impressed meshes, with several minute punctures within them and with numerous medium-sized punctures on their intersections. With a groove along the eyes, formed by the



confluence of numerous large punctures, and a small rounded depression beside the eyes. Clypeal grooves slightly impressed, short, consisting of 2–3 confluent punctures.

Pronotum dark brown, slightly paler at sides. Reticulation consisting of polygonal and well-impressed meshes, with minute punctures and, here and there, medium-sized punctures on the intersections, particularly numerous along anterior and posterior margins. Anterior row of punctures not interrupted at middle; punctures very large, slightly more spaced in the middle, becoming closer together and confluent towards sides. Posterior row of punctures broadly interrupted at middle; punctures very large, irregularly distributed, particularly numerous and dense, more widely spread laterally, crowded together on each side of the mid-line. Lateral margin distinctly but narrowly bordered, with some medium-sized and obsolescent punctures along the groove.

Elytra dark brown, with an indistinctly defined, lateral and antemedian ferrugineous patch and a somewhat paler and larger postmedian lateral patch. Epipleura dark brown. Reticulation coarse, consisting of small and well-impressed polygonal meshes with numerous medium-sized punctures on their intersections, becoming very coarse posteriorly. Sutural row of punctures limited to posterior half, consisting of some medium-sized and well-spaced punctures. Discal, sublateral and lateral rows of punctures not reaching base; punctures well-spaced, seldom confluent, irregularly distributed at extreme apex, in a straight line on the rest of the surface. Epipleura moderately broad at base, rather strongly tapered as far as first abdominal sternite, of constant width posteriorly.

Underside ferrugineous-brown, the metatibiae and metatarsi as well as the first three abdominal sternites slightly darker. Prosternal process broad, flattened, strongly bordered on anterior half, then suddenly tapered after middle and attenuated into a long sharp point (Fig. 34). Metasternal wings relatively broad (Fig. 54). Metacoxae with coarse sculpture and covered with a microreticulation. Metatrochanters rounded on distal part. Metafemora with several medium-sized punctures at distal posterior angles with very short and fine setae. Ventral surface of metatibiae with a straight row of large punctures along outer margin and with an irregular row of unequal punctures at middle.

♂. Protarsi and mesotarsi with numerous very small pads on the first three joints. Anal sternite with coarse sculpture on posterior  $\frac{2}{3}$ , covered with mixed small and very large punctures, and with a deep

longitudinal striation. Posterior margin somewhat flattened at middle (Fig. 73). Parameres short; the basal part transverse, the apical part relatively broad, 1.3 times as long as basal part (Fig. 110). Aedeagus, in lateral view, strongly but evenly curved, flattened dorsally in apical portion, narrow and slightly bent ventrally at apex (Fig. 141); in dorsal view, broad at base, evenly tapered as far as apex which ends in a stout point (Fig. 142).

♀. Unknown.

Total length: 7.4–7.6 mm; width: 4.0–4.2 mm.

Types: This species was described from 2 ♂ (holotype, in ZSM according to the original description; paratype, ZSI). I was only able to locate and study the paratype. Locality: Nepal, Sun Khosi Tal, 2150 m, 2.V.1962, G. Ebert.

Remark: The aedeagus of the paratype was broken in 2 places, but its form can easily be recognized from other species.

After comparing the holotype of *P. bhutanensis* Wewalka with the paratype of *P. nepalensis* (Guéorguiev), no significant differences could be found. Consequently I propose treating *P. bhutanensis* Wewalka as a junior synonym of *P. nepalensis* (Guéorguiev). *P. bhutanensis* Wewalka was described from 2 ♂ (holotype, NHMB; paratype, GW). Locality: Bhutan, Paro, 2300 m, VI.1972, K. Nishioka.

Affinities: This species is closely related to *P. (s.str.) wittmeri* Wewalka and especially to *P. (s.str.) satoi* Brancucci, but can be easily distinguished by the strong reticulation, by the reduced colour pattern, by the very broad prosternal process, by the relatively broad metasternal wings, by the short apical segment of the parameres, and by the aedeagus which is, in lateral view, strongly curved, flattened in apical portion, and slightly bent ventrally at apex.

Distribution: Nepal, Bhutan. This species seems to be widespread but rare.

# 11. *Platambus* (s.str.) *satoi* Brancucci

Figs 11, 35, 55,  
74, 93, 111, 143, 144.

*Platambus satoi* BRANCUCCI, 1982, Entomologica Basiliensia 7: 226.

*Platambus biswasi* VAZIRANI, BRANCUCCI, 1982, Entomologica Basiliensia 7: 228, partim.

For a full description see BRANCUCCI (1982).

Colour pattern (Fig. 11). Epipleura dark brown, moderately broad at base, rather narrowed as far as the first sternite and then evenly but weakly tapered as far as the apical part.



Prosternal process flattened, strongly punctured, distinctly bordered on anterior part, strongly tapered on posterior half and ending in a sharp point (Fig. 35). Metasternal wings narrow (Fig. 55). Metacoxae strongly sculptured. Metacoxal process short and very broad. Metafemora with a few medium-sized punctures at distal posterior angles. Ventral face of metatibiae with about 10 very large punctures restricted to outer half.

♂. Anal sternite strongly sculptured and deeply striate on posterior half. Posterior margin weakly incised at middle (Fig. 74). Parameres (Fig. 111). Aedeagus (Figs 143–144).

♀. Anal sternite wrinkled, particularly laterally and narrowly rounded on posterior margin (Fig. 93).

Total length: 7.5–8 mm; width: 4.2–4.5 mm.

Types: Holotype ♂ (NMST); locality: East Nepal, Ramechhap Distr., Thodung, 3100 m, 14.X.1979, Tomokuni, 2 paratypes (1 ♀, NMST; 1 ♀, MB); locality: Nepal, Solukhumbu, Nangbung, 1600 m, 5.X.1979, M. Satô. 1 paratype ♀ (NMST); locality: Nepal, Solukhumbu, Jorsale, 2800 m, 4.X.1979, M. Satô.

Additional material studied: Nepal: E. of Lamjura, 3500 m, 12.X.1979, Y. Nishikawa, *Platambus biswasi* Vazirani, det. M. Brancucci 1982 (1 ex., MB).

Affinities: This species is closely related to *P. (s.str.) nepalensis* (Guéorguiev) and *P. (s.str.) wittmeri* Wewalka. It can be easily distinguished from the former by the prosternal process, which is puncturate and not at all attenuated in apical half, and by the aedeagus which is, in lateral view, evenly tapered (elongated and curved in *P. (s.str.) nepalensis* (Guéorguiev). It can be distinguished from *P. (s.str.) wittmeri* Wewalka by its darker colour, by its more elongate form, by the prosternal process, by the more strongly sculptured metacoxae, by the anal sternite of the ♂ which is not incised but only flattened at middle, and by the aedeagus which is, in lateral view, not flattened dorsally in apical part.

Distribution: East Nepal.

## 12. *Platambus* (s.str.) **balfourbrownei** Vazirani Figs 12, 20, 36, 56, 75, 94, 112, 145, 146.

*Platambus balfourbrownei* VAZIRANI, 1965, Proc. Zool. Soc. Calcutta 18: 28. – VAZIRANI, 1976, Newsl. Zool. Surv. India 2(2): 63. – VAZIRANI, 1977, Rec. Zool. Surv. India, Occ. Pap. 6: 65, 98. – ROCCHI, (1980) 1982, Boll. Ass. Romana Entomol. 35: 58. – BRANCUCCI, 1982, Entomologica Basiliensia 7: 229.

Oval, slightly convex, black with discrete ferrugineous and testaceous markings (Fig. 12).

Head black with 2 discal ferrugineous patches on vertex. Labrum ferrugineous on disc. Antennae testaceous. Reticulation consisting of well-impressed polygonal meshes, sometimes with 1–3 very small punctures within them. A short row of large punctures alongside the eyes and a small depression consisting of a few confluent medium-sized punctures beside the eyes. Clypeal grooves in the form of a deep transverse depression, consisting of 3 or 4 large and confluent punctures.

Pronotum completely black. Reticulation consisting of wellimpressed polygonal meshes which are smaller and more impressed at sides; meshes sometimes with 1–3 very small punctures within them. Anterior row of punctures irregular but almost complete, leaving only a very small portion at the middle free of punctures; the punctures medium-sized, irregularly distributed, and confluent at sides. Posterior row of punctures broadly interrupted at middle and briefly so on lateral third; the punctures medium-sized and well-spaced, becoming more dense and confluent at sides. Lateral margins distinctly and broadly bordered with numerous punctures along the groove.

Elytra black with 2 testaceous lateral patches, an angular post-median one and a small longitudinal preapical one (Fig. 12). Epipleura black. Reticulation consisting of weakly-impressed polygonal meshes with 1–6 punctures within them. Sutural row of punctures restricted to apical  $\frac{1}{4}$  and consisting of some small and well-spaced punctures. Discal, sublateral and lateral rows reaching the basal  $\frac{1}{4}$  and consisting of well-spaced groups of medium-sized punctures. Epipleura moderately broad at base, rather narrowed as far as first sternite and then evenly but slightly tapered as far as apical part (Fig. 20).

Underside black. Legs black-ferrugineous, trochanters, distal part of femora, protarsi and mesotarsi distinctly ferrugineous. Prosternal process flattened, elongate, finely bordered and produced into a short but sharp point (Fig. 36). Metasternal wings broad (Fig. 56). Metacoxae covered with an elongate reticulation. Metatrochanters slightly pointed posteriorly. Metafemora with a short row of strong setae at distal posterior angle. Ventral surface of metatibiae with only a row of punctures along outer margin.

♂. Protarsi and mesotarsi distinctly dilated with numerous rounded pads on the first three joints. Anal sternite with weakly impressed polygonal meshes which are complete on posterior third and larger and incomplete on anterior  $\frac{2}{3}$ , and with numerous isolated medium-sized

punctures on posterior  $\frac{1}{3}$ ; posterior margin finely bordered (Fig. 75). Base of the parameres transverse, the apical part 2.1 times as long as base and with a narrow style (Fig. 112). Aedeagus, in lateral view, broad, slightly curved, evenly tapered, narrowly rounded at apex and with a small bend on ventral face just before apex (Fig. 145); in dorsal view, narrow, slightly twisted to the right, and narrowly rounded at apex (Fig. 146).

♀. Similar to ♂. The punctures of the posterior  $\frac{1}{3}$  of the anal sternite confluent and slightly larger (Fig. 94).

Total length: 8.4–9.8; width: 4.7–5.5.

Types: VAZIRANI (1965) described this species from 3 specimens (ZSI). Localities: Assam, Shillong, 25°32'N, 91°56'E, 28.IX.1926, B.N. Chatterjee (holotype ♂ and 1 ♂ paratype); Assam, Shillong, stream near Polo ground, 28.IX.1926, R.B.S. Sewell (1 ♂ paratype). I have seen 1 ♂ paratype.

Additional material studied: India: U.P., West Almora Div., Kumaon, III.1917, H.G.C. Nr. 607, H.G. Champion coll., B.M. 1953–156 (*Platambus championi* with an unpublished Balfour-Browne name) (1 ex., BM); West Bengal, Darjeeling Distr., Rang, 580 m, 23–24.III.1983, Bhakta B. (1 ex., MB).

Nepal: Jiri, 20.V.1980, E. Migliaccio (1 ex., MB); Jiri, 20–24.V.1980, G. Sabatinelli, *P. balfourbrownei* Vazirani, det. S. Rocchi 1980 (1 ex., SR). 20 km NW Pokhara, Lumle, 1600 m, 2.V.1984, N. 2, G. Wewalka (7 ex., GW). 30 km NW Pokhara, Birethanti, 1100 m, 4.V.1984, N. 3, G. Wewalka (1 ex., GW). 55 km NW Pokhara, Tatopani, 1200 m, 8.V.1984, N. 9, 13, G. Wewalka (3 ex., GW). 25 km NW Pokhara, Landrung, 1500–2000 m, 12.V.1984, N. 20, G. Wewalka (1 ex., GW). Thamur V., Hile-Arun R., 1800 m, 26.V.1983, M. Brancucci (MB, numerous ex.).

Affinities: This species can easily be distinguished from all other *Platambus* (s.str.) species by its larger size, its dark colour, and the broad and strong aedeagus (Figs 145–146)

Distribution: India: U.P. (Almora Div.), West Bengal and Assam (Shillong); Nepal.

### 13. *Platambus* (s.str.) *lindbergi* Guéorguiev Figs 13, 21, 37, 57, 76, 77, 95, 96, 113, 114, 147–150.

*Platambus lindbergi* GUÉORGUIEV, 1963, Opusc. Ent. 28: 218.

*Platambus guignoti* VAZIRANI, 1965, Proc. Zool. Soc. Calcutta 18: 27. – WEWALKA, 1975, Entomologica Basiliensia 1: 156. VAZIRANI, 1977, Rec. Zool. Surv. India, Occ. Pap. 6: 66, 98. – BRANCUCCI, 1979, Entomologica Basiliensia 4: 201. BRANCUCCI, 1982, Entomologica Basiliensia 7: 229. – **n.syn.**

Body broadly oval, flat, dark brown to black with 2 rounded testaceous patches on each elytron (Fig. 13).

Head black with the labrum, anterior part of the clypeus, and two discal rounded patches on the frons dark brown. Antennae testaceous. Reticulation consisting of small, coarsely impressed meshes with 1–4 very small punctures within them; meshes obsolescent on anterior part, deeply impressed on disc. With a deep row of confluent punctures alongside the eyes. Clypeal grooves consisting of a short but deep transverse depression.

Pronotum dark brown to black with the sides ferruginous to dark brown. Reticulation consisting of small and well-impressed polygonal meshes, constantly with 1–5 very small punctures within them. In specimens other than the holotype, the reticulation is distinctly less impressed but is characteristic because of the small punctures within almost every mesh. Anterior row of punctures broadly interrupted at middle; punctures large, sparse, well-spaced and mostly not confluent. Posterior row of punctures also broadly interrupted at middle, restricted to lateral  $\frac{1}{3}$ ; punctures medium-sized and seldom confluent. In the holotype there are indications of a weak longitudinal striation. Lateral margins distinctly bordered, with several medium-sized punctures along the groove.

Elytra mostly black, somewhat dark brown at sides, with 2 rounded testaceous patches; both of these are situated at lateral  $\frac{2}{3}$ , the first one subbasal and the second one postmedian (Fig. 13). Epipleura dark brown. Reticulation consisting of small polygonal meshes with 1–5 minute punctures within them; the meshes becoming coarse and more impressed laterally and posteriorly, giving a rugose lustre to the apex. Sutural row of punctures with some medium-sized punctures, restricted to posterior third. Discal, sublateral and lateral rows of punctures not reaching the base and consisting of relatively small punctures which are mostly grouped in 2's to 4's; these groups irregularly distributed at apical  $\frac{1}{4}$ , becoming smaller and in a straight line towards base. Epipleura gently tapered posteriorly, slightly broadened in apical third before disappearing (Fig. 21).

Underside dark brown. Legs brown, mesotibiae and mesotarsi as well as metatibiae and metatarsi distinctly darker. Prosternal process oval, flat, bordered at sides and produced into a short point apically (Fig. 37). Metasternal wings narrow (Fig. 57). Metacoxae with coarse sculpture. Metatrochanters elongate, narrowly rounded distally. Metafemora with a row of short setae at distal posterior angle. Ventral surface of metatibiae with several very large punctures, confined to outer  $\frac{1}{3}$ .

♂. Protarsi and mesotarsi somewhat dilated, with numerous very small elongated pads on the first three joints. Anal sternite strongly and deeply striate longitudinally; a fine reticulation visible, particularly along anterior margin. Posterior margin somewhat flattened at middle (Figs 76–77). Parameres elongate, the base narrow, the apical part broader than usual, about 1.9 times as long as base (Figs 113–114). Aedeagus, in lateral view, evenly curved, tapered in apical  $\frac{1}{4}$  and narrowly rounded at apex (Figs 147–148); in dorsal view, broad at base, evenly tapered, weakly but distinctly constricted at apical  $\frac{1}{4}$ , narrowly rounded at apex (Figs 149–150).

♀. Similar to ♂. Anal sternite with coarse sculpture on posterior half. Posterior margin flattened (Figs 95–96).

Total length: 8.0–8.8 mm; width: 4.4–4.8 mm.

Types: *P. lindbergi* Guéorguiev was described on a single specimen (MZEL); locality: Afghanistan, Paghām–Kaboul, 15.VII.1960, 1984–498, K. Lindberg.

Synonymy: After comparing the holotype of *P. lindbergi* Guéorguiev with the types of *P. guignoti* Vazirani, no significant differences could be found. Consequently, I propose considering *P. guignoti* Vazirani as a junior synonym of *P. lindbergi* Guéorguiev. This species was described from a holotype ♂ (ZSI), an allotype ♀ and 8 paratypes (4 ♂ and 4 ♀; ZSI). I had the opportunity of studying 1 ♂ paratype. Localities: West Pakistan, Murree, 33°55'N, 82°12'E, stream near Dhobighat, 14.XI.1928, H.S. Pruthi (holotype and 6 paratypes). India, Punjab, Kangra Valley, Stn. 27, 31.V.1926, S.L. Hora (1 paratype).

Additional material studied: Afghanistan: Kabul district, 1740 m, 6.VII.1952, J. Klapperich (2 ex., MB); Nuristan, Bashgul Valley, Purstam, 1700 m, 19.VII.1952, J. Klapperich (1 ex., MB).

Pakistan: Murree, near Dhobie Ghat, small stream, ca. 7242 ft, 14.IX.1928, H.S. Pruthi, Zool. Surv. Ind. (1 ex., OLM). Madyan, 35°13'N, 72°34'E, streams, wells, 8–9.VII.1978, M. Holmen (1 ex., ZMK). Talegram, 35°03'N, 72°34'E, streams, wells, 13–15.VII.1978, M. Holmen (2 ex., ZMK). Hunza, Nagar, VII.1981, T. Porion (1 ex., MB).

India: Himachal Pradesh, Chopal–Khangna, Nallah, 2500 m, 7.V.1977, W. Wittmer & M. Brancucci (7 ex., MB); Uttar Pradesh, Chakrata, Mohna, 5000 ft, 2.V.?, Dr. Cameron, *Platynectes* sp., det. F. Guignot 1954, *Platambus guignoti* Vazirani, det. G. Wewalka 1974 (1 ex., ZSM). Uttar Pradesh, W Almora Div., Kumaon, III.1917, H.G.C., H.G. Champion coll., BM 1953–156 (1 ex., BM); Idem, 20.IX.1920, with an unpublished Balfour-Browne name (1 ex., BM). Uttar Pradesh, Kempty, near Mussoorie, 1200 m, 3.VI.1981, M. Brancucci (2 ex., MB); Uttar Pradesh, Barkot, 5–12.VI.1981, M. Brancucci (numerous ex., MB).

**Affinities:** This species can be easily distinguished from all the others, particularly by its colour and its evenly rounded form. It is closely related to *P. guttulus* (Rég.) but the latter has only one postmedian lateral testaceous patch on the elytra and an aedeagus which, in dorsal view, is broad and broadly rounded at apex.

**Distribution:** Afghanistan, Pakistan, India (Punjab, Himachal Pradesh, Uttar Pradesh).

14. **Platambus** (s.str.) **guttulus** (Rég.) n.comb. Figs 38,  
58, 78, 115, 151, 152.

*Platynectes guttula* RÉGIMBART, 1899, Ann. Soc. Ent. Fr. 68: 283. – FENG, 1932–33, Peking Nat. Hist. Bull. 7: 26. – FENG, 1933–34, Peking Nat. Hist. Bull. 8: 108. – GSCHWENDTNER, 1935, Koleopt. Rdsch. 21: 68. – GUÉORGUIEV, 1972, Bull. Inst. Zool. Mus. 34: 45.

Body broadly oval, slightly depressed, probably dark brown to black when mature: the single specimen available to me is immature and is brown in color.

Head dark brown (brown in holotype). Antennae testaceous. Reticulation consisting of small, very slightly impressed polygonal meshes, with numerous minute punctures within them. With a short row of punctures alongside middle part of the eyes, and with a short depression situated beside the eyes and formed by the confluence of 3 punctures. Clypeal grooves slightly impressed, consisting of 3 grouped punctures.

Pronotum probably dark brown (brown in holotype), with the sides slightly paler. Reticulation consisting of polygonal meshes, with punctures within them. Anterior row of punctures not interrupted; punctures medium-sized, irregularly distributed and well-spaced at middle, closer together and confluent towards sides. Posterior row of punctures broadly interrupted at middle; punctures medium-sized, becoming confluent, coarse and forming striations towards sides. Lateral margin distinctly bordered.

Elytra probably dark brown (brown in holotype), with only a rounded postmedian patch. Epipleura slightly paler, testaceous-brown. Reticulation consisting of small polygonal meshes with numerous minute punctures within them; the meshes becoming coarser towards sides and posteriorly. Sutural row of punctures visible only on apical third and consisting of some medium-sized and very well-spaced punctures. Discal row of punctures not reaching base; punctures irregularly distributed at apex, in well-spaced groups of 4's to 5's anteriorly. Sub-



lateral and lateral rows of punctures also not reaching base; punctures medium-sized, closer together, seldom grouped or at most in pairs. Epipleura broad at base, very slightly tapered posteriorly, remaining broad as far as the apical region (Fig. 21).

Underside probably dark brown (brown in holotype). Prosternal process very slightly convex, broadly bordered on anterior half, evenly tapered on posterior half and ending in a stout point (Fig. 38). Metasternal wings very narrow and elongated (Fig. 58). Metacoxae coarsely sculptured. Metatrochanters elongate, ending in a sharp point. Metafemora with a few, poorly visible punctures at distal posterior angles. Ventral surface of the metafemora with an irregular row of large punctures on outer half.

♂. Protarsi and mesotarsi very slightly dilated, with small pads on the first three joints. Anal sternite with a very fine reticulation consisting of small polygonal meshes with numerous minute punctures within them, particularly visible posteriorly, and with some medium-sized punctures situated on disc and at sides in posterior  $\frac{2}{3}$ . Posterior margin very finely bordered, strongly narrowed and slightly incised at middle (Fig. 78). Parameres elongate, basal piece transverse, apical piece 1.7 times as long as base (Fig. 115). Aedeagus, in lateral view, narrow, strongly curved and very thin in apical part (Fig. 151); in dorsal view, very broad, slightly constricted on posterior  $\frac{3}{4}$  and broadly rounded at apex (Fig. 152).

♀. Unknown.

Total length: 7.9 mm; width: 4.6 mm.

Types: I was only able to find one ♂ specimen labelled as type in MP. As it is not clear if Régimbart had more specimens at his disposal when he made his description, I am considering this to be the holotype. Locality: China, Chang-Hai.

Affinities: Because of the postmedian testaceous elytral patch and the slightly convex broadly oval form, this species is near *P. (s.str.) lindbergi* Guéorguiev. However, it can be easily distinguished by the lack of subbasal rounded patches on the elytra, by the rather smooth anal sternite, by the prosternal process which is less tapered in posterior part and ends in a stout point, and by the aedeagus which in dorsal view is broad and rounded at apex.

Distribution: China (Shanghai).

# 15. *Platambus* (s.str.) *lunulatus* (Steven)

Figs 14, 39, 59, 79,  
97, 116, 153, 154.



- Agabus lunulatus* STEVEN, 1829, Mus. Hist. Nat. Univ. Mosquens. 2: 36. ZAITSEV, 1909, Rev. Russe Ent. 9: 407.
- Platambus lunulatus* (STEVEN), ZIMMERMANN, 1920, Coleopt. Cat. 4(71): 151. – GSCHWENDTNER, 1935, Koleopt. Rdsch. 21: 63. – ZAITSEV, 1953, Fauna SSSR 58(4): 273. – GUÉORGUIEV, 1965, Reichenbachia 5: 116. – GUÉORGUIEV, 1981, Acta Ent. Mus. Nat. Pragae 40: 412.
- Platambus sinuatus* AUBÉ, 1836, Icon. Col. 5: 148. – AUBÉ, 1838, Spec. Col. 6: 313. – MOTSCHULSKY, 1839, Bull. Moscou 12: 82. – KIESENWETTER, 1868, Nat. Ins. Deutschland 1(2): 113. – SHARP, 1873, Trans. Ent. Soc. London: 49. – RÉGIMBART, 1878, Ann. Soc. Ent. Fr. 8: 462. – SHARP, 1880–82, Sci. Trans. R. Dublin Soc. 2: 549. – SEIDLITZ, 1887, Verh. Nat. Ver. Brünn. 25: 97. – APFELBECK, 1904, Käfer Balkanhalbinsel 1: 384. – ZAITSEV, 1909, Rev. Russe Ent. 9: 407. – SCHOLZ, 1916, Ent. Mitt. 5: 181.

Body matt, dark brown to black with testaceous markings (Fig. 14).

Head ferrugineous-brown, labrum, clypeus and two rounded patches on the vertex slightly paler. Antennae ferrugineous. Reticulation consisting of small, polygonal, very impressed meshes, with numerous medium-sized punctures within them, in particular on the disc and at sides. A broad row of very dense and confluent punctures alongside the eyes, and a small rounded depression beside the eyes. Clypeal grooves broad, deep, formed by the confluence of several large punctures.

Pronotum black, ferrugineous-brown at sides and along the anterior margin. Reticulation consisting of very small and well-impressed elongate meshes, mixed with very dense puncturation; punctures particularly dense at sides and on anterior and posterior margins, more spaced on disc. Anterior and posterior row of punctures not distinctly visible, formed by the confluence of a large number of punctures. Lateral margins distinctly bordered.

Elytra black with ferrugineous-testaceous markings as follows: a subbasal patch continued sublaterally as an indented and irregular longitudinal band which reaches as far as apical third, a lateral band, and a preapical rounded patch (Fig. 14); the subbasal and sublateral bands often shortened and, in extreme cases, reduced to patches. Epipleura testaceous, broad at base, strongly tapered in the basal third, of constant width as far as apical area. Reticulation consisting of very small polygonal meshes with numerous mixed medium-sized and minute punctures; punctures becoming very dense and confluent on posterior third. Row of punctures no longer visible, the punctures mixed with the others but their position marked by a superficial groove that is only visible with lateral light.

Underside ferrugineous, the legs slightly paler. Prosternal process

oval, elongate, depressed, finely bordered laterally, evenly tapered on posterior part and ending in a sharp point (Fig. 39). Metasternal wings short and broad (Fig. 59). Metacoxae with coarse sculpture. Metatrochanters broad, pointed distally. Distal posterior angle of the metafemora with 5–6 medium-sized punctures with very short, poorly distinct setae. Ventral surface of the metatibiae covered with several very large and aligned punctures on outer third and numerous medium-sized ones over the rest of the surface.

♂. Protarsi and mesotarsi slightly dilated, with small pads on the first three joints. Anal sternite with very coarse sculpture, deeply striate on posterior  $\frac{2}{3}$  of disc, strongly punctured at sides. Posterior margin rounded (Fig. 79). Parameres elongate, basal part rather transverse, apical part 2.5 times as long as this (Fig. 116). Aedeagus, in lateral view, curved, narrow, tapered around posterior  $\frac{3}{4}$  and elongate in apical part (Fig. 153); in dorsal view, it is evenly tapered, distinctly constricted around posterior  $\frac{3}{4}$ , then evenly tapered until apex where it ends in a sharp point (Fig. 154).

♀. Similar to ♂. Anal sternite with coarse sculpture, covered with coarse and confluent punctures on posterior half. Posterior margin narrowly rounded (Fig. 97).

Total length: 7.7–8.8 mm; width: 4.2–4.9 mm.

Type: I found 1 ♂ specimen in ZMM, labelled as type in Zaitsev's handwriting. Consequently, I consider this specimen to be the holotype. It was originally labelled as follows: *lunulatus*? Fitch.? Cauc., and also has a red label.

Additional material studied: Greece: without locality, coll. Gschwendtner, *Platambus lunulatus* Steven, det. L. Gschwendtner (1 ex., OLM). Olympe, *Platambus sinuatus* Aubé (1 ex., MP).

Turkey: without locality (2 ex., MNB; 2 ex., MP; 1 ex., ZIL); ex. Musaeo D. Ch. Martin (1 ex., MP); coll. v. Seidlitz, *Platambus sinuatus* Aubé (2 ex., ZSM); Mus. Vindob (1 ex., NHMW); Hang (1 ex., MP); coll. Odier, BM 1921–288 (1 ex., BM); Merkl, coll. Hauser (1 ex., NHMW); Merkl, 1883 (2 ex., NHMW); coll. Cl. Müller (2 ex., ZSM); coll. A. Zimmermann (1 ex., ZSM); coll. L. Weber, coll. A. Zimmermann (1 ex., ZSM). Bebek, Bosphorus, Wichgraf, Kulkali (1 ex., MNB). Constantinople (1 ex., MNB). Constantinople, coll. de Bonvouloir, D. Sharp Monogr. (1 ex., MP). Brussa, 20–30.VI.1934, Frl. Neuhauser (3 ex., MNB). Kilik Taurus, Umg. Camardi, 6.IX.1981, M. Jäch (3 ex., NHMW). Bulghar Maaden, v. Bodemeyer (1 ex., MNB; 1 ex., MP). Kayseri, Hisarcik, Seidenstücker (1 ex., ZSM). Kayseri, Erdschias-Dagh, 18.VI.1962, Seidenstücker, *Platambus lunulatus* Steven, det. G. Wewalka 1970 (2 ex., ZSM); Idem, 3.VI.1967 (2 ex., ZSM). Flusssufer nördl. Tunçeli, 26.VII.1965, X Korge and W. Heinz (1 ex., MB). Tal zw. Tunçeli u. Ovacik, 1200 m, 20.VII.1985, W. Heinz (1 ex., MB). Trebizonde, 1889 (1 ex., MP). Erzeroum, ex Musaeo D. Ch. Martin (3 ex., MP). Zigana, 2200 m, 16.III.1962, E. Janssens, BM 1963–307 (1 ex., BM).

USSR: Caucasus (1 ex., MNB). Armenia: coll. Gärtner, coll. Gschwendtner, *Platambus lunulatus* Steven, det. L. Gschwendtner (1 ex., OLM). Eczmiadzin, 14.VI.1916, W. Eichler (1 ex., NHMW). Erivan, Maljushenco (1 ex., ZIL). Erivan, VI.1912 (1 ex., ZIL). dist. Zangezur, Ochci Tativ, 16.VII.1911 (1 ex., ZIL). Azerbaidzhan: Adzlikent prov., Elisavetpol, 20.VIII.1913 (1 ex., ZIL). Circ. Nucha, Kamarova, VIII.1904 (1 ex., ZIL). Georgia: Zchneti, pr. Tbilisi, 20.VII.1985, Wrase (1 ex., MNB). Manglisi, Ph. Zaitsev, *Platambus sinuatus* Aubé (1 ex., MP). Gori prov., Bakuriani, 30.VI.1916 (2 ex., ZIL); Idem, 16.VII.1916 (2 ex., ZIL). Duset dist., Mleti, 17.VIII.1916 (7 ex., ZIL). Achalzych (1 ex., ZIL). Kazbek, Tereka, Ananov (1 ex., ZIL). N. Caucasus: Umgb. Teberda, 9.VI.1967, F. Hieke (3 ex., MNB; 1 ex., MB); Idem, 10–11.VI.1967 (1 ex., MNB; 1 ex., MB); Idem, 19.VI.1968 (1 ex., MNB); idem, 17.VI.1968 (1 ex., MB). Kislovodsk, 16.IX.1928, coll. F. v. Poschinger (1 ex., ZSM). Iran: Persia sept, 1862–3, 835, G. Doria, Sharp coll. 1905–313, *Agabus sinuatus* Aubé, Type mihi, D.S. (1 ex., BM). Elbare, Roudbarah, 1500 m, 15.VIII.1972, Ledoux (1 ex., SR). Derbend, 25 km N v. Teheran, 2000 m, 7–15.VI.1963, Kazy & Vartian (1 ex., NHMW). Teheran, Oberh. Shemahak, nördl. Teheran, 2400–3000 m, 18.VIII.1967, W. Heinz (1 ex., MB). Elburs mts. c.s., Tacht i Suleiman, Sārdab Tal (Vandarban), 19–2200 m, 10–14.VII.1937, E. Pfeiffer, W. Forster, *Platambus lunulatus* Steven, det. F. Guignot 1955 (3 ex., ZSM). Egypt: Cairo, coll. Gschwendtner, *Platambus lunulatus* Steven, det. L. Gschwendtner (1 ex., OLM). Cairo, coll. Zimmermann (4 ex., ZSM; 1 ex., MB). Cairo, partim *Platambus sinuatus* Aubé (3 ex., MP).

**Affinities:** This species can be distinguished from all other known species by its size and by its particularly coarse sculpture.

**Distribution:** Greece, Turkey, USSR, Iran, Egypt.

**16. *Platambus* (s.str.) *angulicollis* (Rég.)** Figs 22, 40, 60, 80, 98, 117, 155, 156.

*Agabus angulicollis* RÉGIMBART, 1899, Ann. Soc. Ent. Fr. 68: 273.

*Agabus* (*Gaurodytes*) *angulicollis* (RÉGIMBART), ZIMMERMANN, 1920, Coleopt. Cat. 4(71): 156. – ZIMMERMANN, 1934, Koleopt. Rdsch. 20: 161.

*Agabus* (*Stictogabus*) *angulicollis* RÉGIMBART, GUIGNOT, 1948, Bull. mens. Soc. linn. Lyon 17(9): 167.

*Gaurodytes angulicollis* RÉGIMBART, GSCHWENDTNER, 1923, Arch. Naturg. A 89(8): 110. *Gaurodytes* (*Anagabus*) *angulicollis* (RÉGIMBART), ZAITSEV, 1953, Fauna SSSR 58(4): 264.

*Stictogabus angulicollis* (RÉGIMBART), GUÉORGUEV, 1968, Bull. Inst. Zool. Mus. 28: 42. *Platambus angulicollis* (RÉGIMBART), BRANCUCCI, 1982, Mitt. Schweiz. Ent. Ges. 55: 115. – BRANCUCCI, 1982, Entomologica Basiliensia 7: 226.

Body oval, convex, ferrugineous to black, paler on vertex and lateral sides of pronotum.

Head ferrugineous-brown to black, the labrum and clypeus slightly paler and the vertex with 2 rounded ferrugineous patches. Antennae testaceous. Reticulation consisting of small polygonal meshes, with several minute punctures within them and larger ones on their intersections; the latter particularly numerous on disc; meshes distinctly im-

pressed, becoming coarse at sides. With a long row of punctures alongside the eyes, and sometimes a small rounded depression beside the eyes. Clypeal grooves consisting of a large rounded depression and a smaller one adjacent and mesad of it.

Pronotum dark brown to black with the sides slightly ferrugineous. Reticulation very coarse, consisting of polygonal meshes with several minute punctures within them and with numerous larger ones on their intersections; the meshes becoming very clearly and deeply impressed at sides. Anterior row of punctures not interrupted at middle; punctures very large, isolated at middle, deep and confluent at sides. Posterior row of punctures broadly interrupted at middle; punctures somewhat smaller than those on anterior row and confluent, forming longitudinal striae at sides. Lateral margins finely bordered. A weak pronoto-elytral angle present.

Elytra black, somewhat ferrugineous-brown at sides. Epipleura dark brown. Reticulation very coarse, consisting of very small and polygonal meshes, with 1–3 minute punctures within them and numerous larger ones on their intersections, particularly near scutellum and along suture; on the rest of the surface, they are only poorly visible because of the coarse reticulation. Sutural row of punctures distinct as far as basal third; punctures medium-sized, close together but mostly not confluent. Discal and lateral rows of punctures not reaching them and consisting of groups of medium-sized punctures. Sublateral row reaching almost to base. Epipleura moderately broad at base, rather narrowed as far as first sternite and then evenly but weakly tapered to the apical part (Fig. 22).

Underside ferrugineous-brown to dark brown. Trochanters and femora ferrugineous, tibiae and tarsi slightly darker. Prosternal process broad, rounded at sides, tapered distally and ending in an obtuse point (Fig. 40). Metasternal wings moderately broad and evenly tapered towards apex (Fig. 60). Metacoxae with very coarse sculpture. Metatrochanters elongate, not produced posteriorly and narrowly rounded. Metafemora with 1 or 2 large punctures at distal posterior angle with very short setae. Ventral surface of metatibiae with a complete row of medium-sized, closely-placed but not confluent punctures along outer margin, and with 3–6 large punctures on disc as well as numerous but well-spaced small punctures distributed all over the surface.

♂. Anal sternite finely reticulate, rather smooth on anterior  $\frac{1}{3}$ , with coarse deep sculpture, longitudinally striate on posterior  $\frac{2}{3}$ . Posterior margin rounded (Fig. 80). Parameres elongate, the basal part short,

transverse, the apical part broad, about 2.2 times as long as base (Fig. 117). Aedeagus, in lateral view, strongly curved on basal  $\frac{1}{3}$ , then flattened and constricted, evenly tapered on apical  $\frac{1}{7}$  and narrowly rounded at apex (Fig. 155); in dorsal view, it is evenly tapered, slightly constricted on apical  $\frac{1}{6}$ , and evenly tapered and narrowly broadened at apex (Fig. 156).

♀. Similar to ♂. Anal sternite reticulate and puncturate, particularly on posterior half, longitudinally striate on both sides of mid-line (Fig. 98).

Total length: 9.1–9.8 mm; width: 4.9–5.3.

Types: I was able to find 3 specimens belonging to the typeseries (MP). 1 ♂ is herewith designated as lectotype and 2 ♀ as paralectotypes. Localities: Tibet: Tà-tsien-loú, chasseurs indigènes, 1894 (lectotype), 1893 (paralectotypes).

Affinities: This species can be easily distinguished from all the others, particularly by its more elongate form and rather uniform colour, and by the strong sculpture covering the whole upper surface.

Distribution: Tibet.

### Subgenus **Agraphis** Guignot

Type species: *Agraphis confossus* Guignot (by monotypy).

*Agraphis* GUIGNOT, 1954, Rev. Fr. Ent. 21(3): 199. – VAZIRANI, 1970, Or. Ins. 4: 329.

– VAZIRANI, 1977, Rec. Zool. Surv. India, Occ. Paper 6: 61.

*Platambus (Agraphis)* GUIGNOT, SATOI & BRANCUCCI, 1984, Akitu 67: 5.

This subgenus now includes 3 species, *P. sawadai* (Kamiya) from Japan, *P. punctatipennis* Brancucci from Fukien (China) and *P. kempi* (Vazirani) from Darjeeling District and Sikkim. The species are characterised by their broadly oval, rather convex form and the strong puncturation on the upperside. The body is also completely black.

### Key to the species of the subgenus **Agraphis**

1. Larger species (7.9–8.2 mm). Punctures on the elytra variable in size, irregularly distributed, partly arranged in rows (Figs 15, 17) ..... 2

- Smaller species (6.4 mm). Punctures on the elytra very dense, constant in size and regularly distributed (Fig. 16). China (Fukien).

## 2. *P. punctatipennis* Brancucci

2. Size: 6.9–7.5 mm. Elytra completely black. ♂. Basal part of the parameres broad (Fig. 118). Aedeagus, in lateral view, evenly tapered in apical part (Fig. 157); asymmetrical in dorsal view (Fig. 158). Japan.

## 1. *P. sawadai* (Kamiya)

- Size: 7.9–8.2 mm. Elytra with a lateral postmedian rounded ferrugineous-brown patch (Fig. 17). ♂. Basal part of the parameres narrow and strongly transverse (Fig. 120). Aedeagus, in lateral view, strongly broadened in apical part (Fig. 161); symmetrical in dorsal view (Fig. 162). India (Darjeeling Distr. and Sikkim).

## 3. *P. kempi* (Vazirani)

1. *Platambus (Agraphis) sawadai* (Kamiya)      Figs 15, 41, 61, 81, 99, 118, 157, 158.

*Agabus sawadai* KAMIYA, 1932, Mushi 5: 6.

*Agabus (Gaurodytes) sawadai* KAMIYA, KAMIYA, 1938, J. Tokyo Nogyo Daigaku 5: 37.

– KAMIYA, 1938, Fauna Nippon 10(8–11): 85.

*Gaurodytes sawadai* (KAMIYA), GSCHWENDTNER, 1939, Koleopt. Rdsch. 25: 45. –

NAKANE, 1959, Akitu 8: 95. – NAKANE, 1963, Icon. Ins. Jap. 2(Col.): 59. – SATÔ &

NARUSE, 1963, Nat. Yahagi Riv.: 165. – NAKANE, 1964, Fragm. Coleopt. Japon.

1: 3.

*Gaurodytes (Gaurodytes) sawadai* (KAMIYA), SATÔ, 1961, Niigata-ken no Konchû 6: 9.

*Agraphis sawadai* (KAMIYA), SATÔ, 1983, Aquatic Insects 5: 164 (= *A. confossus* Guignot).

*Platambus (Agraphis) sawadai* (KAMIYA), SATÔ & BRANCUCCI, 1984, Akitu 67: 3. – SATÔ,

1985, Col. Jap. in Color 2, Dytiscidae, 69: 193. – SATÔ, 1985, Illust. Book. Aquat.

Insects Japan 9. Col.: 238.

*Agraphis confossus* GUIGNOT, 1954, Rev. franç. Ent. 21: 200. – SATÔ, 1983, Aquatic Insects 5: 164 (n.syn.).

*Platambus (Agraphis) confossus* (GUIGNOT), NAKANE, 1964, Fragm. Coleopt. Japon. 1: 1.

Body broad oval, completely black except for two rounded ferrugineous-brown patches on the vertex (Fig. 15).

Head black with the labrum, the anterior part of the clypeus and 2 rounded patches on the vertex ferrugineous-brown. Antennae ferrugineous-brown. Reticulation consisting of distinctly impressed small meshes, with extremely minute punctures on the inner surfaces and, on the disc, with several larger ones. A row of punctures alongside eyes



and 2 close-set punctures beside eyes deeply impressed. Clypeal grooves deep, formed by the confluence of several punctures.

Pronotum completely black, somewhat paler alongside lateral margins. Reticulation weakly impressed; meshes with 2–3 minute punctures on their inner surfaces and numerous larger ones which are well-spaced and evenly distributed over the whole surface. Anterior row of punctures not interrupted at middle; punctures very large, irregularly distributed, becoming confluent at sides. Posterior row of punctures broadly interrupted at middle; punctures very large, deeply impressed on lateral third, becoming confluent towards sides. Lateral margins distinctly bordered with several large but obsolescent punctures along the groove.

Elytra completely black. Epipleura ferrugineous-brown. Reticulation weakly impressed, consisting of very small polygonal meshes sometimes with 1 minute puncture on the inner surface and a somewhat larger one here and there. The whole surface irregularly covered with very large and deep punctures. Sutural row of punctures complete; punctures medium-sized, close together and in a straight line. Discal, sublateral and lateral rows of punctures not distinct among the coarse puncturation (Fig. 15).

Underside dark ferrugineous-brown, the abdominal sternites completely black. Prosternal process elongate, broadly bordered at sides medially, somewhat arched, particularly on apical part, and covered with fine puncturation (Fig. 41). Metasternal wings narrow, weakly curved (Fig. 61). Metacoxae strongly rugose. Metatrochanters transverse, narrowly rounded at apex. Metafemora with a very few small punctures distally of posterior angles, setae very short, poorly distinct and actually not different of those present along posterior edge of the metafemora. Ventral surface of the metatibiae with several very large punctures on the outer third.

♂. Protarsi and mesotarsi slightly dilated, with small pads on the first three joints. Anal sternite coarsely sculptured; the puncturation confluent on almost the whole surface, forming longitudinal wrinkles. Posterior margin finely bordered and broadly rounded (Fig. 81). Parameres elongate, basal part transverse, apical part 1.55 times as long as the basal piece (Fig. 118). Aedeagus, in lateral view, strongly curved on basal half, ventral margin straight on apical half (Fig. 157); in dorsal view, evenly tapered and asymmetrical, with the apical fourth turned to the right (Fig. 158).

♀. Similar to ♂. Anal sternite distinctly reticulate and covered with



a dense and minute puncturation. Posterior margin finely bordered and narrowly rounded (Fig. 99).

Total length: 7.9–8.2 mm; width: 4.3–4.6 mm.

Types: *Platambus (Agraphis) sawadai* (Kamiya) was probably described from a single specimen (TUA). Locality: Japan, Honshu, Akasawa, Chichibu, 30.IV.1930, H. Sawada.

Additional material studied: Japan: Honshu: Gifu Pref., Mt. Norikura, 2500 m, 12.VIII.1978, M. Satô (1 ex., SA). Gunma Pref., Ozegahara, 20–24.VIII.1979, M. Satô (SA; 1 ex., MB). Gunma Pref., Karuizawa, Kumanotaira, 13.VII.1908, E. Gallois (2 ex., MB). Miyagi Pref., Futakuchi, 20.VIII.1977, M. Satô (SA; 2 ex., MB). Miyagi Pref., Mts Zaou, 22–25.VIII.1978, M. Satô (SA; 1 ex., MB).

Synonymy: As stated by SATÔ (1983), *Platambus (Agraphis) confossus* Guignot is a junior synonym of *P. (A.) sawadai* (Kamiya). *P. (A.) confossus* Guignot was apparently described from 2 specimens (MP), a holotype ♂ and an allotype ♀. Locality: Japan, Saga-Kyou-shu, IX.1953.

Affinities: This species is closely related to *P. punctatipennis* Brancucci and *P. kempi* (Vazirani), but can be easily distinguished by its larger size, by the irregular puncturation on the elytra, and by the aedeagus which is, in dorsal view, asymmetrical on apical part.

Distribution: Japan (Hokkaido, Honshu, Shikoku, Kyushu).

## 2. *Platambus (Agraphis) punctatipennis* Brancucci      Figs 16, 42, 62, 82, 119, 159, 160.

*Platambus punctatipennis* BRANCUCCI, 1984, Mitt. Schweiz. Ent. 57: 153.

For a full description, see BRANCUCCI (1984). Colour pattern (Fig. 16). Prosternal process (Fig. 42). Metasternal wings (Fig. 62). Anal sternite (Fig. 82). Parameres (Fig. 119). Aedeagus (Fig. 159, 160).

♀: Unknown.

Total length: 6.4 mm; width: 3.9 mm.

Type: Holotype ♂ (MB). Locality: China, Fukien, Kuatun, 1.VI.1946, J. Klapperich.

Affinities: This species is close to *Platambus sawadai* (Kamiya), but can be easily distinguished by its smaller size and by the puncturation of the elytra, the punctures being smaller, denser and more evenly distributed.

Distribution: China (Fukien).

## 3. *Platambus (Agraphis) kempi* (Vazirani)      Figs 17, 43, 63, 83, 100, 120, 161, 162.

*Agraphis kempi* VAZIRANI, 1970, Or. Ins. 4: 330. – VAZIRANI, 1977, Rec. Zool. Surv. India, Occ. Pap. 6: 60.

Body broadly oval, completely black, except for 2 small, rounded, distinct, ferrugineous-brown patches on the vertex and a lateral and postmedian rounded patch on the elytra (Fig. 17).

Head black, with 2 rounded patches on the vertex. Labrum dark ferrugineous-brown. Antennae ferrugineous-brown. Reticulation consisting of distinctly impressed meshes, with minute punctures on their inner surfaces and, on the disc, numerous larger ones. A row of punctures alongside eyes and 2 close-set punctures beside eyes deeply impressed (frontal grooves). Fronto-clypeal grooves deep, formed by the confluence of several punctures.

Pronotum completely black, indistinctly paler along lateral margins. Reticulation weakly impressed; meshes with 2–4 extremely minute punctures on their inner surfaces, sometimes more and numerous larger ones which are well-spaced and evenly distributed over the whole surface. Anterior row of punctures not interrupted at middle; punctures very large, irregularly distributed, becoming suddenly distinctly smaller and confluent at sides. Posterior row of punctures broadly interrupted at middle; punctures medium-sized, strongly confluent, decreasing in size towards sides. Lateral margins distinctly bordered with several medium-sized but obsolescent punctures along the groove.

Elytra black with a lateral postmedian and rounded ferrugineous-brown patch (Fig. 17). Epipleura ferrugineous-brown. Reticulation weakly impressed, consisting of very small polygonal meshes with 1 to 3 extremely minute punctures on their inner surfaces and with larger and sparser ones on some intersections. The whole surface irregularly covered with very large and deep punctures; on the discal part punctures mostly grouped along the normal row of punctures. Sutural row of punctures complete; punctures medium-sized, close together and in a straight line, except around the scutellum.

Underside dark ferrugineous-brown. Prosternal process rather elongate, distinctly bordered on the basal half and covered with a coarse and dense puncturation along the groove (Fig. 43). Metasternal wings narrow, evenly tapered (Fig. 63). Metacoxae strongly rugose. Metatrochanters transverse, pointed at apex. Metafemora with a very few small minute punctures distally of posterior angles, setae absent. Ventral surface of the metatibiae with 8–10 large punctures on the outer third.

♂. Protarsi and mesotarsi slightly dilated, with small pads on the first three joints. Anal sternite very coarsely sculptured, strongly wrinkled longitudinally and with a longitudinal median depression (Fig. 83). Posterior margin slightly excavated at middle. Parameres with the basal part unusually transverse and the apical part elongate (Fig. 120). Aedeagus, in lateral view, slightly curved, narrowed at posterior  $\frac{2}{3}$  and strongly broadened in apical part, on the dorsal side of which the internal sac protrudes in the form of a triangular membranous process (Fig. 161); in dorsal view, it is distinctly tapered in posterior  $\frac{3}{4}$  and very narrowly rounded at apex (Fig. 162).

♀. Similar to ♂. Anal sternite distinctly reticulated and covered with a small puncturation; punctures confluent, forming small longitudinal wrinkles on lateral part of the posterior half. Posterior margin finely bordered, distinctly flattened at middle (Fig. 100).

Total length: 6.9–7.5 mm; width: 4.1–4.4 mm.

Type: A single specimen (holotype ♂, ZSI). Locality: West Bengal, Darjeeling District, stream between Ghoom and Sonaha, 29.VI.1918, S. Kemp.

Additional material studied: India: E. Sikkim, Lagyap, 2500 m, 4.VII.1984, Ch.J. Rai (1 ex., MB). E. Sikkim, Khyonthang, 1800 m, 25.IV.1985, Ch.J. Rai (9 ex., MB).

Affinities: By its size and rounded form this species comes close to *P. (Agraphis) punctatipennis* Brancucci, but its puncturation is reminiscent of that of *P. (Agraphis) sawadai* (Kamiya). It can, however, be very easily distinguished from both species by the presence of ferruginous-brown rounded spots on the elytra, by the parameres with their short and unusually transverse base, and by the aedeagus which is, in lateral view, strongly broadened in apical part.

Distribution: India (Darjeeling District and Sikkim).

### Subgenus *Anagabus* Jakovlev

Type species: *Anagabus semenovi* Jakovlev (by original designation).

*Anagabus* JAKOVLEV, 1897, L'Abeille 29: 38. – JACOBSON, 1905, Käfer Russlands: 417, 431. – RÉGIMBART, 1899, Ann. Soc. Ent. Fr. 68: 271. – ZIMMERMANN, 1920, Coleopt. Cat. 4(71): 184. – VAZIRANI, 1970, Oriental Insects 4(3): 331. – VAZIRANI, 1977, Rec. Zool. Surv. India, Occ. Paper 6: 61.

The subgenus *Anagabus* includes 4 species (*P. semenovi* (Jak.), *P. sogdianus* (Jak.), *P. wewalkai* Brancucci and *P. lineatus* Gschw.) from

western Turkestan to the Himalayas. They are all characterised by a pronotum which is cordiform and in all cases with its base distinctly narrower than the base of elytra.

For descriptions of the species, see BRANCUCCI (1982). Only the key is reproduced here:

1. Elytra with one or more longitudinal testaceous bands, sometimes also with a large basal patch. ♂. Apex of aedeagus evenly tapered in lateral view ..... 2
- Elytra without longitudinal testaceous bands or a basal patch. ♂. Apex of aedeagus not evenly tapered in lateral view.
  3. **P. wewalkai** Brancucci
2. Head and pronotum black, the latter at most somewhat paler laterally. Pronoto-elytral angle very distinct and deep. Elytra with at most 2 longitudinal testaceous bands which occupy only the outer margin ..... 3
- Head and pronotum brown. Pronoto-elytral angle obtuse. Elytra with 3 to 4 longitudinal testaceous bands which occupy the whole surface.
  4. **P. lineatus** Gschw.
3. Large species, at most 9 mm. Elytra very large. Anterior angles of pronotum somewhat testaceous. 1. **P. semenovi** (Jak.)
- Smaller species, at most 8.2 mm. Elytra moderately large. Anterior angles of pronotum broadly testaceous.
  2. **P. sogdianus** (Jak.)

### III. ZOOGEOGRAPHICAL NOTES

The genus *Platambus* is distributed throughout the whole of the Palaearctic region. Its global distribution is from the western edge of the Palaearctic region to Korea and Japan in the East.

The epicentre of distribution is undoubtedly the Himalayas, where the species concentration is very high and from where the genus has dispersed all over the Palaearctic region. In fact no fewer than 10 species occur in the Himalayas, 8 of which are endemic whilst the other 2 (*P. (s.str.) lindbergi* Guéorguiev and *P. (Anagabus) sogdianus* (Jak.) reach Afghanistan, the latter even Turkestan. *P. (Anagabus) semenovi* (Jak.) seems to be endemic in Turkestan and *P. (s.str.) incrassatus* Gschw. in Burma. Further west, the species become more scarce: *P.*

(s.str.) *lunulatus* (Steven), which reaches Greece and Egypt through USSR and Turkey, and *P. (s.str.) maculatus* (L.), which is widespread throughout Europe.

China, and particularly Tibet and the adjacent regions such as Yunnan, include 5 species. One of those, *P. (s.str.) schaeffleini* n.sp., reaches the northern part of Vietnam, whilst two others, *P. (Agraphis) punctatipennis* Brancucci and *P. (s.str.) guttulus* (Rég.), are localised in Fukien and in the Shanghai area respectively. Through western China and Korea the genus *Platambus* has also reached Japan, where it is represented by 3 species: *P. (s.str.) fimbriatus* Sharp, *P. (s.str.) pictipennis* Sharp and *P. (Agraphis) sawadai* (Kamiya). Curiously, only one *Platambus* species (*P. (s.str.) pictipennis* Sharp) from one single locality has been recorded from Taiwan.

#### IV. ECOLOGICAL NOTES

All *Platambus* species that I have seen in the field were observed in running water.

*Platambus (s.str.) maculatus* is an exception as it also occurs in small lakes or ponds, but always in clear and mineralised water. However, it is usually found in rills, streams and at the edges of larger rivers. It occurs in the lowlands as well as over 2500 m (GUÉORGUEV, 1957) in mountainous regions.

Other *Platambus* species that I was able to observe in the Himalayas were found in rills or streams between 1500 and 2500 m.

*P. (s.str.) biswasi* and *P. (s.str.) wittmeri* are found at different localities in the Katmandu Valley. Both species are restricted to flowing rills at places where the water is only a few centimeters deep, mostly under small stones along the edge. Curiously enough, these species have never been found together at the same biotope. I also collected *P. (s.str.) wittmeri* Wewalka in East Nepal, at the edge of a large and very deep water-hole. It was accompanied by *P. (s.str.) balfourbrownei* Vazirani, *Platynectes kashmiranus* Balfour-Browne and *Agabus amoenus sinuaticollis* Rég. In the Kathmandu Valley, *P. (s.str.) wittmeri* Wewalka is also associated with *Platynectes kashmiranus* Balfour-Browne and *Agabus amoenus sinuaticollis* Rég.

I was able to observe *P. (s.str.) lindbergi* Guéorguiev on several occasions, very often at the edge of large holes or, as at Kempty Falls (In-

dia, Uttar Pradesh), at the foot of a large waterfall. It also appears to colonise vegetation at the edge of artificial, fast-flowing and 20–30 cm deep channels constructed to irrigate fields or to bring water to the villages.

## V. CONCLUSIONS

One result of this paper is the recognition of twenty-three species, one of which is described as new. There are several aspects, such as faunistics, that could be further developed during the next decades, but few changes are to be expected except perhaps from some of the poorly-collected areas such as China. Further and more extensive material will also lead to a more satisfactory resolution of some of the outstanding problems, such as the *excoffieri*-complex.

## VI. RESUME

Le genre *Platambus* Thomson est révisé. 3 sous-genres (*Platambus*, *Agraphis* et *Anagabus*) sont reconnus avec un total de 23 espèces. Le sous-genre *Anagabus*, qui a été révisé dernièrement, ne sera pas traité dans la présente révision. Le sous-genre *Platambus* comprend maintenant 16 espèces dont une est décrite comme nouvelle: *P. maculatus* (L.) (région paléarctique), *P. fimbriatus* Sharp (Japon, Corée, Chine), *P. pictipennis* Sharp (URSS: Sachalin; Japon, Taiwan), *P. excoffieri* Rég. (Chine), *P. schaeffleini* n.sp. (Chine, Vietnam), *P. incrassatus* Gschw. (Burma), *P. fletcheri* Zimmermann (Inde: Assam), *P. biswasi* Vazirani (Népal et Inde: Uttar Pradesh), *P. wittmeri* Wewalka (Népal, Inde: West Bengal, Bhoutan), *P. nepalensis* (Guéorguiev) (Népal, Bhoutan), *P. satoi* Brancucci (Népal), *P. balfourbrownei* Vazirani (Népal et nord de l'Inde), *P. lindbergi* Guéorguiev (Afghanistan, Pakistan et nord de l'Inde), *P. guttulus* (Rég.) (Chine, Changhaï), *P. lunulatus* (Steven) (Grèce, Turquie, URSS, Iran et Egypte) et *P. angulicollis* (Rég.) (Tibet). Le sous-genre *Agraphis* comprend 3 espèces: *P. sawadai* (Kamiya) (Japon), *P. punctatipennis* Brancucci (Chine: Fukien) et *P. kempi* Vazirani (Inde: District de Darjeeling et Sikkim).

Le genre *Stictogabus* est considéré comme synonyme du genre *Platambus* (s.str.), *P. guignoti* Vazirani est considéré comme synonyme de *P. lindbergi* Guéorguiev, *P. bhutanensis* Wewalka de *P. nepalensis*

(Guéorguiev) et *P. escalerae* Rég. de *P. maculatus* (L.). Enfin, *Platynectes guttula* Rég. est transféré dans le genre *Platambus*.

Une clé de détermination permet l'identification des sous-genres et des espèces. L'habitus de la plupart des espèces, les derniers segments abdominaux, l'édéage et les paramères sont illustrés.

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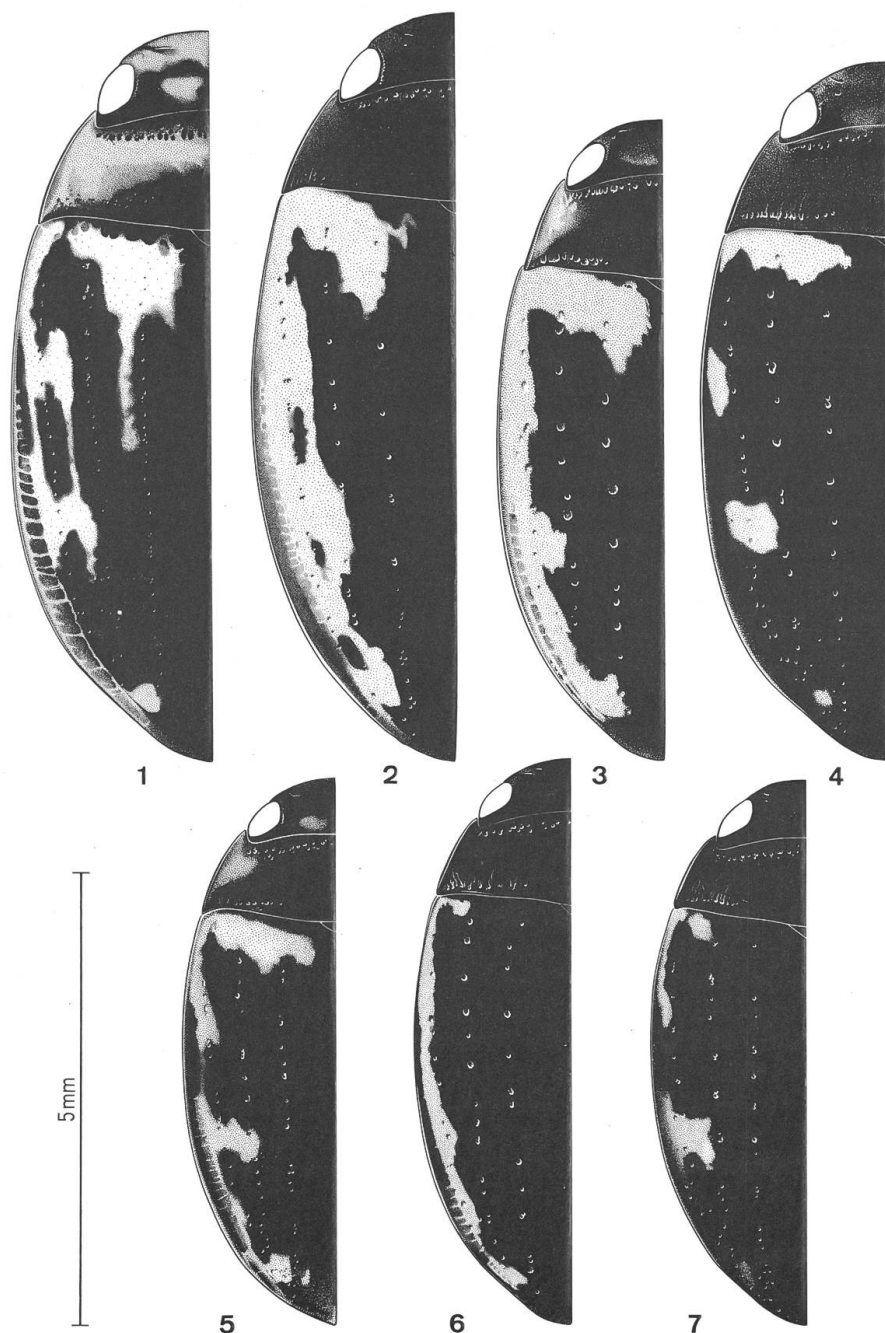
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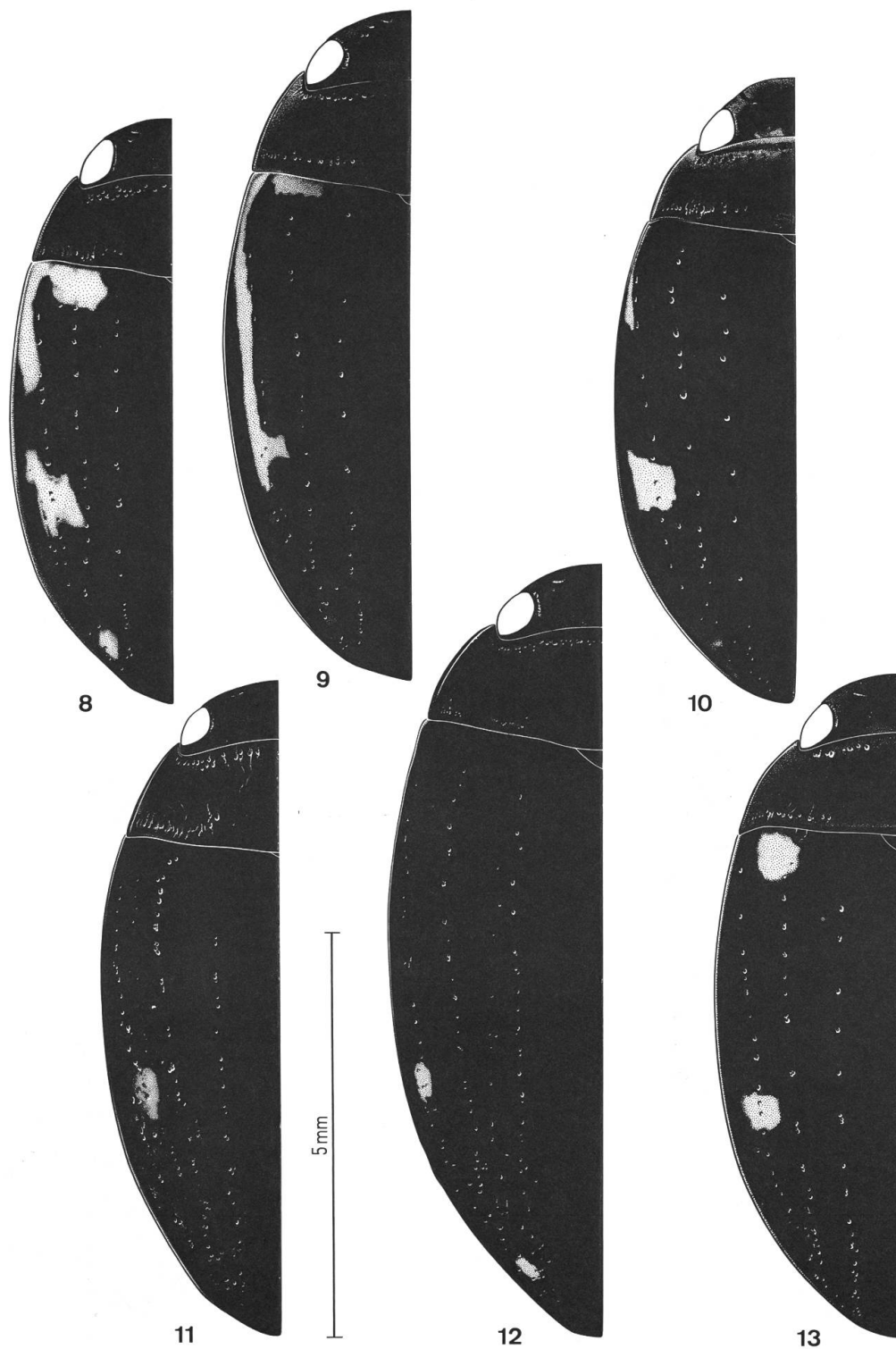
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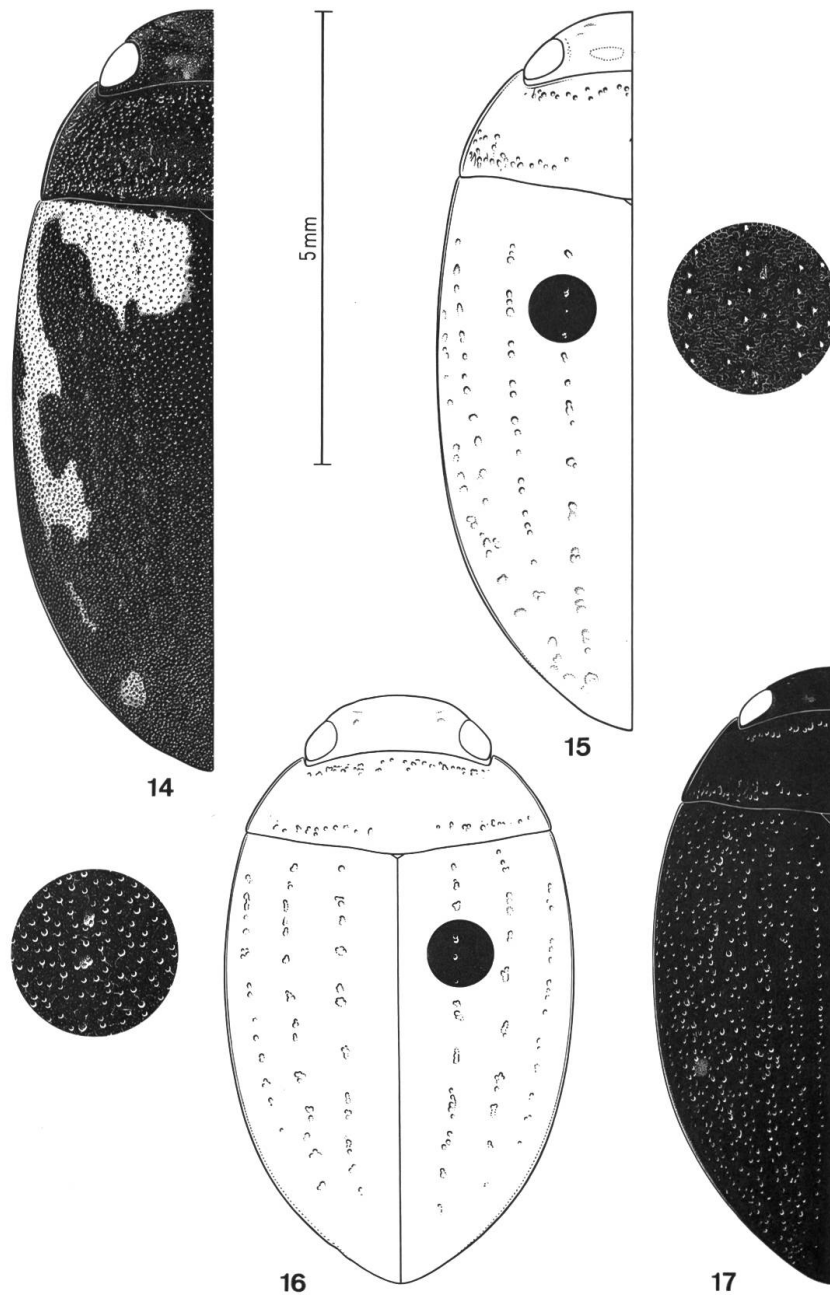
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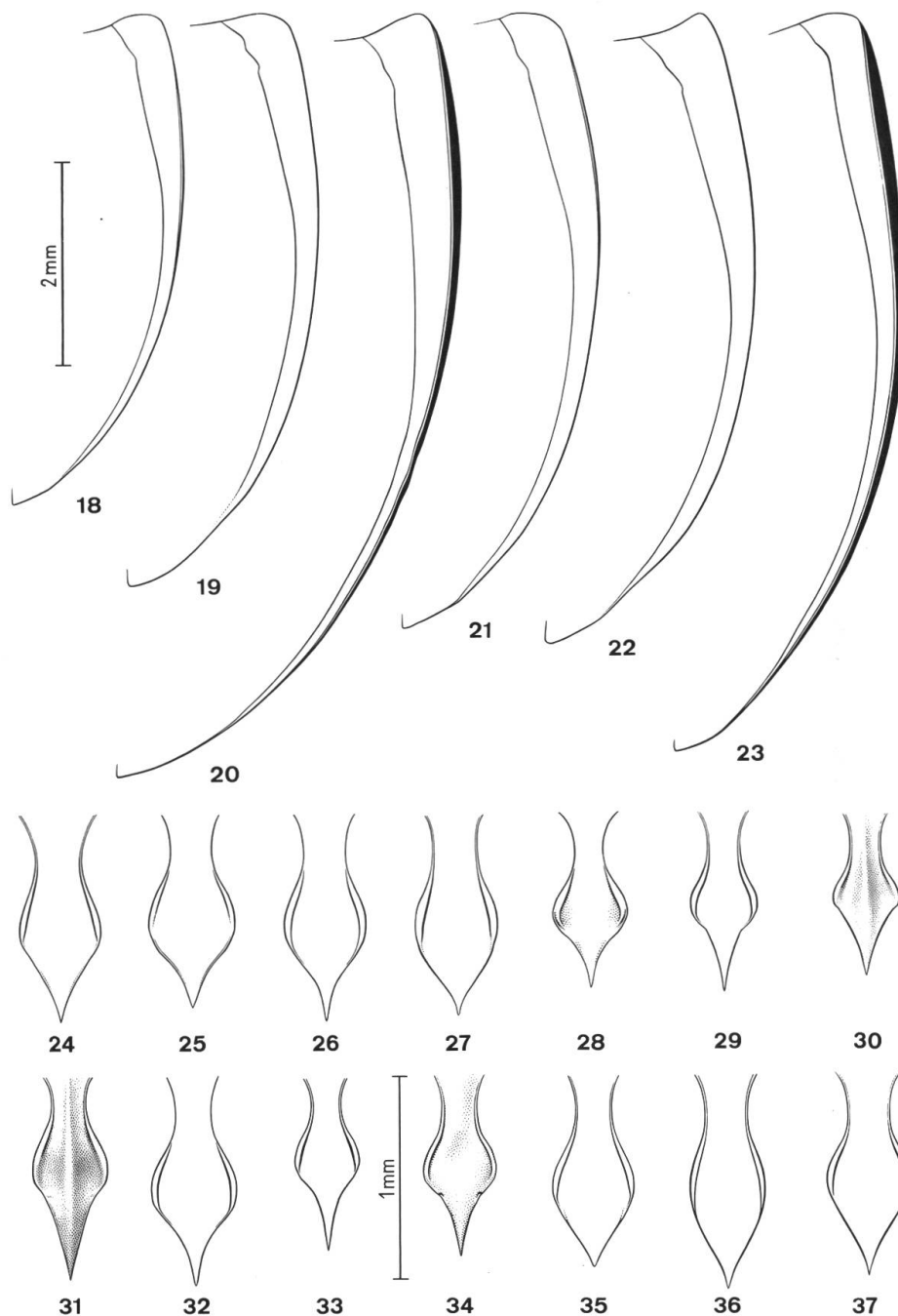
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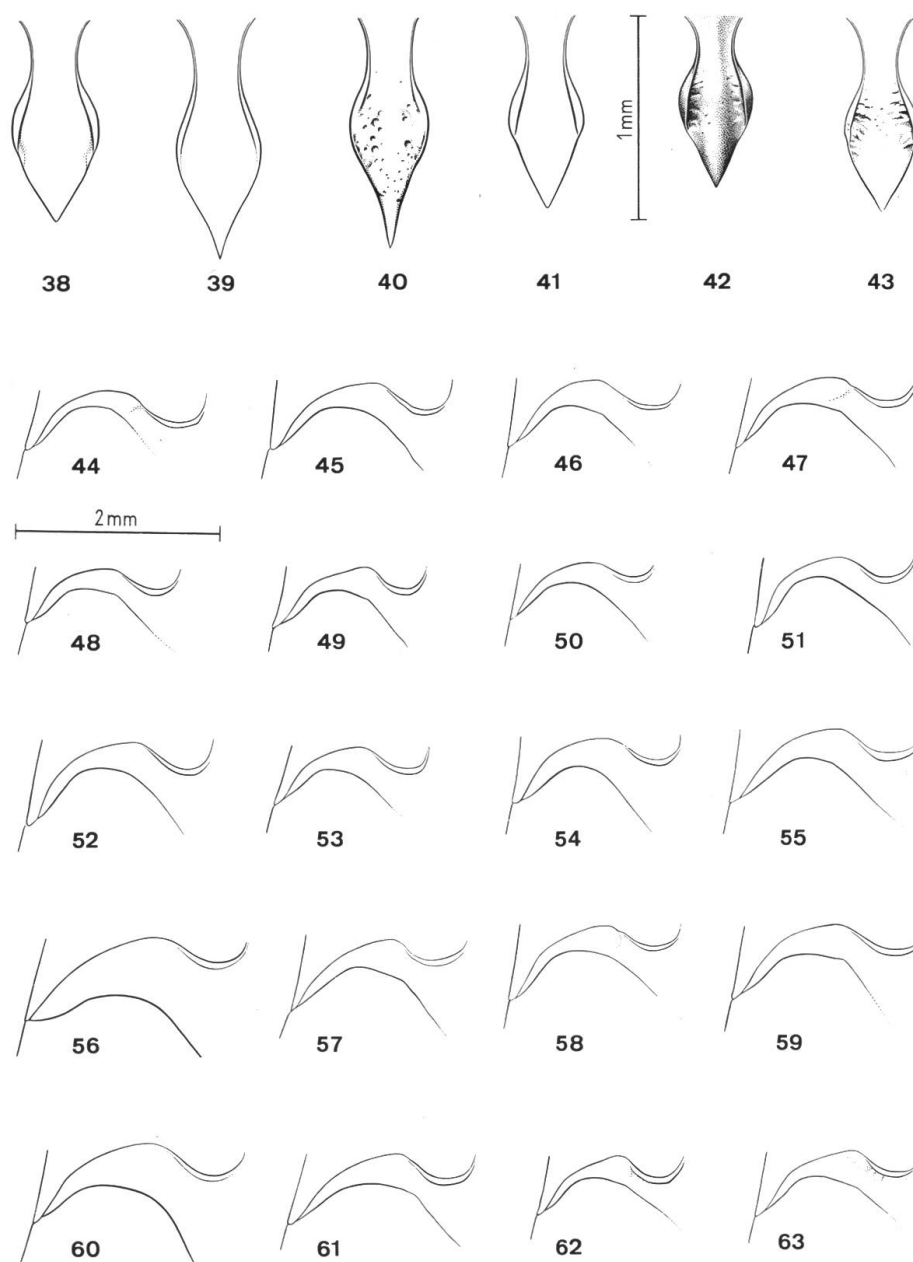


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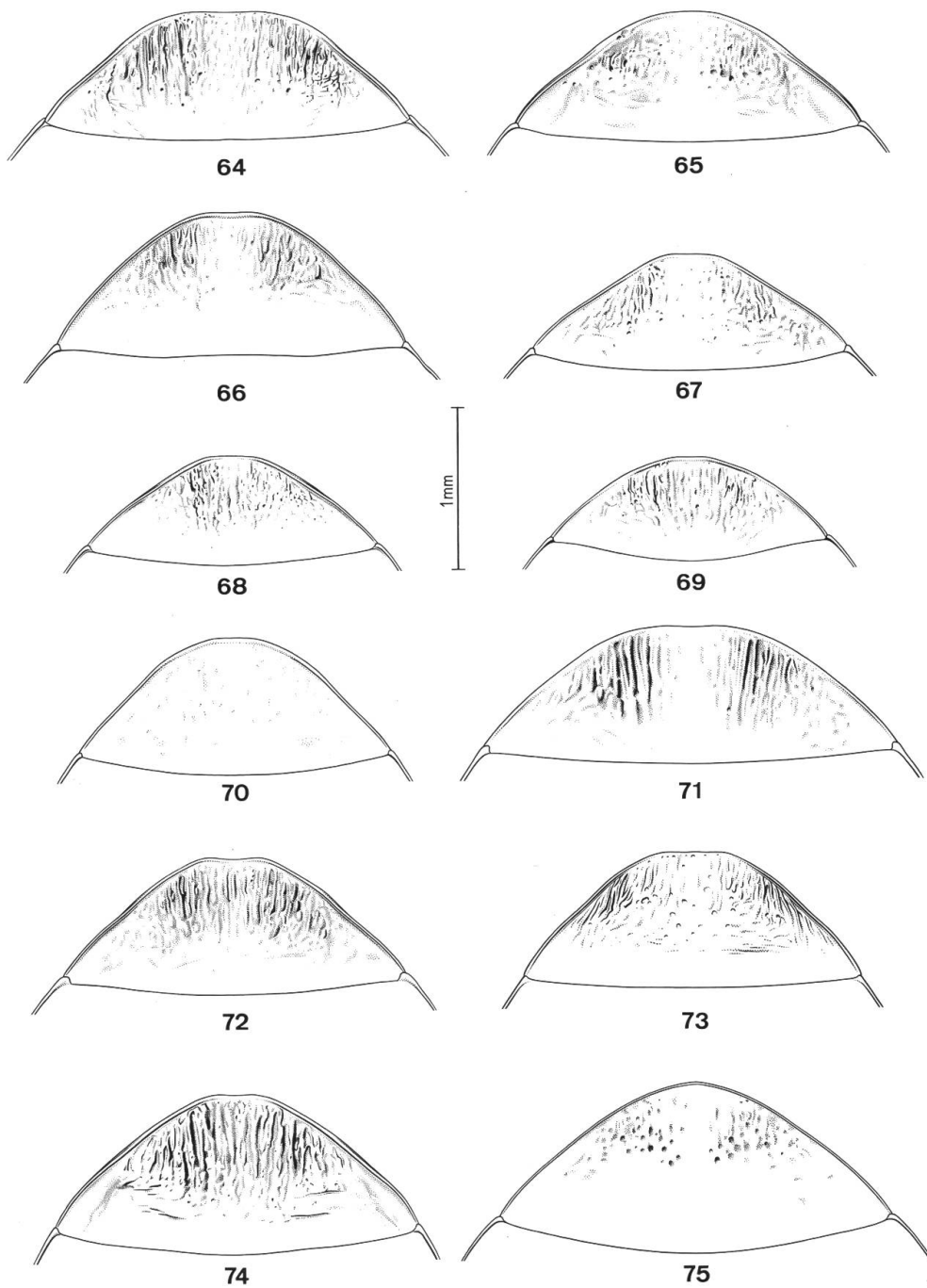


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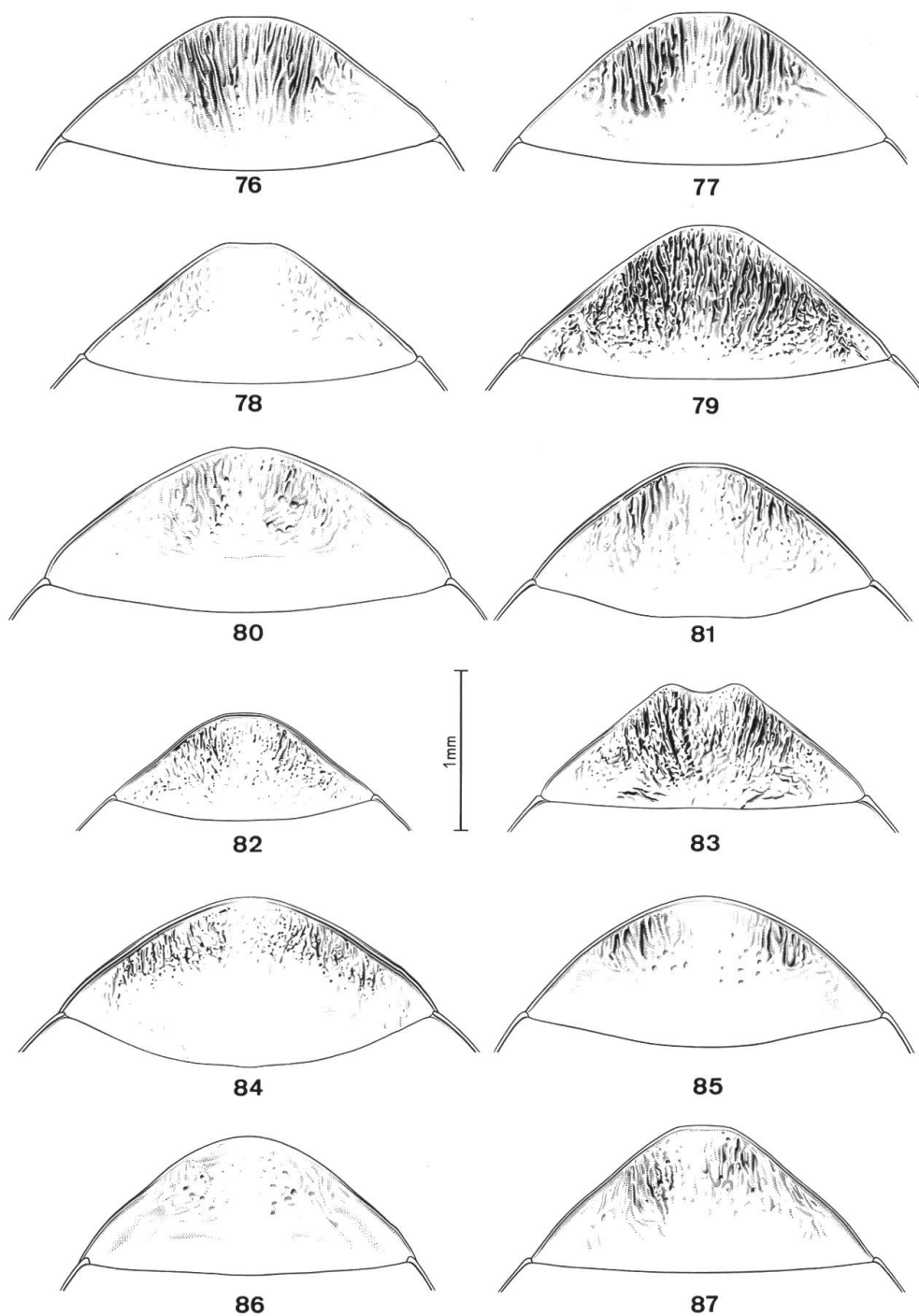




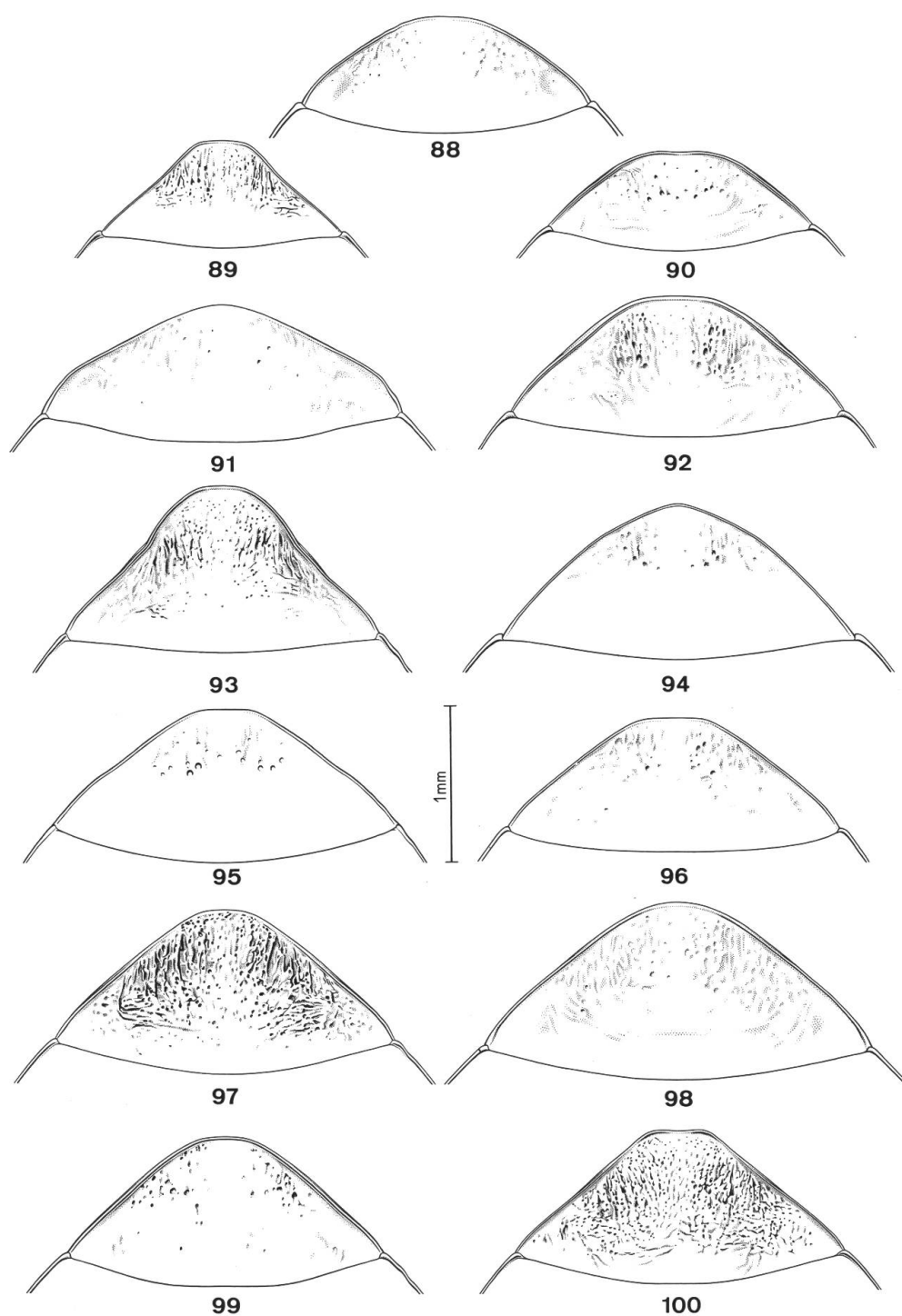
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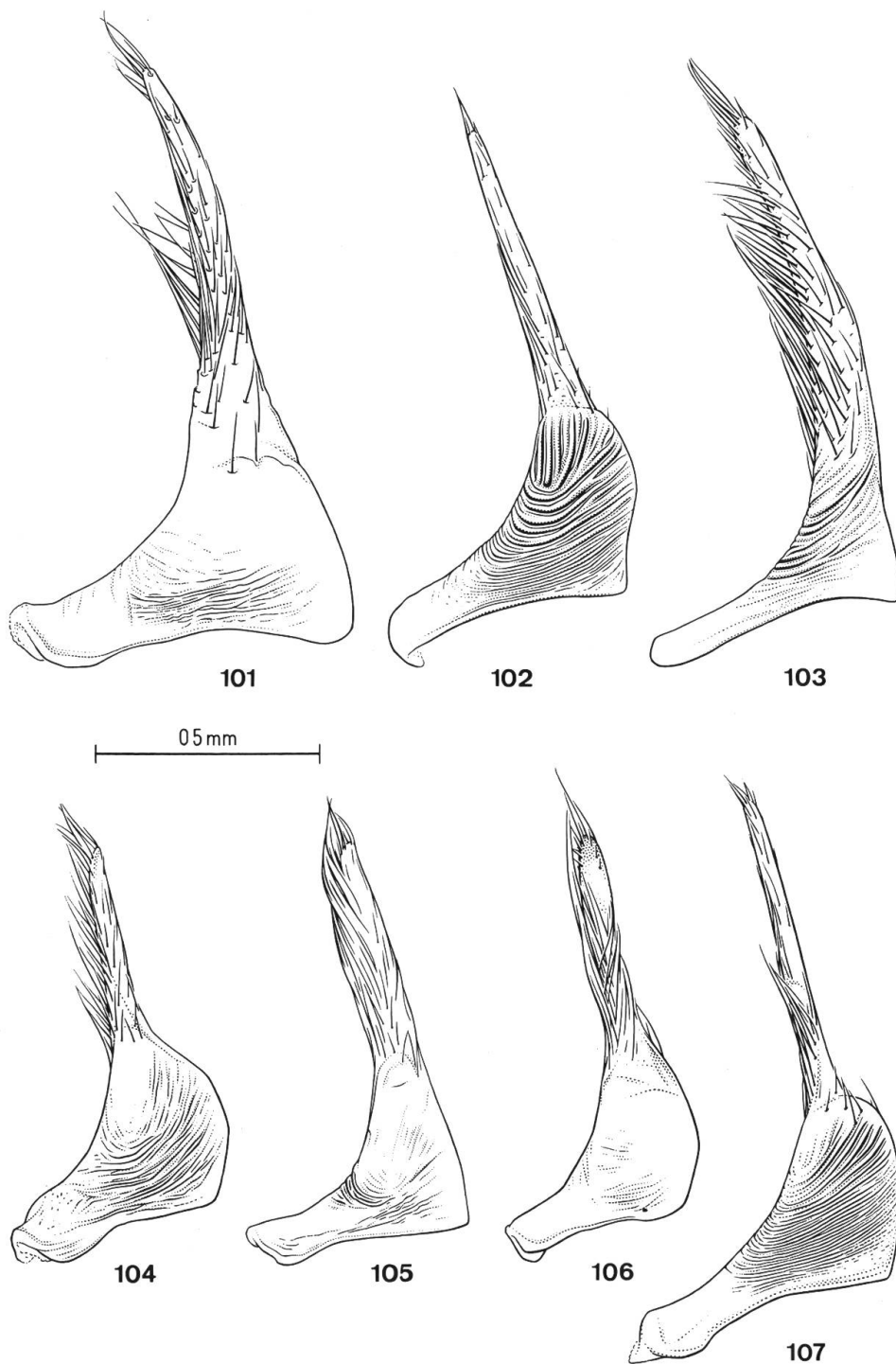
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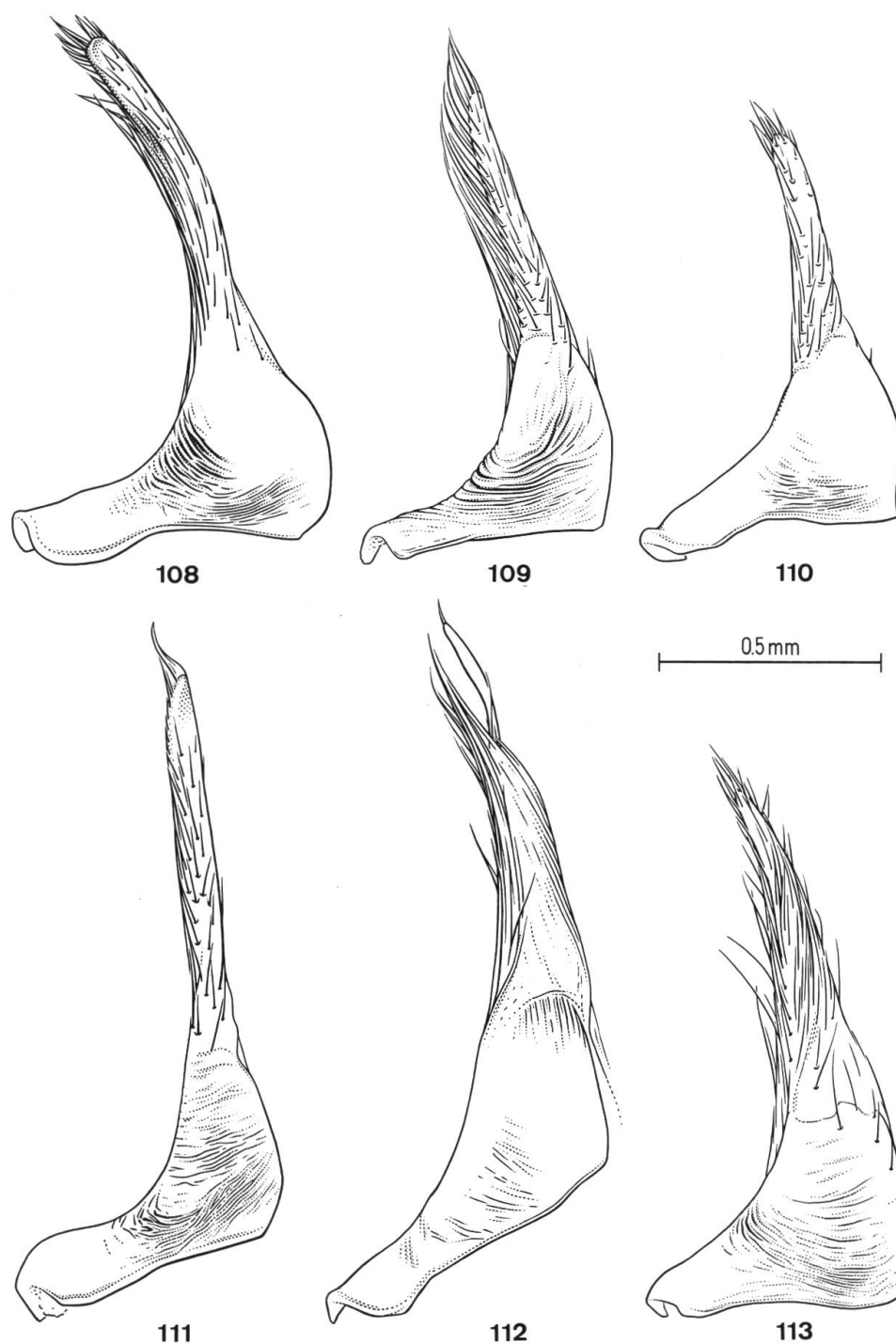
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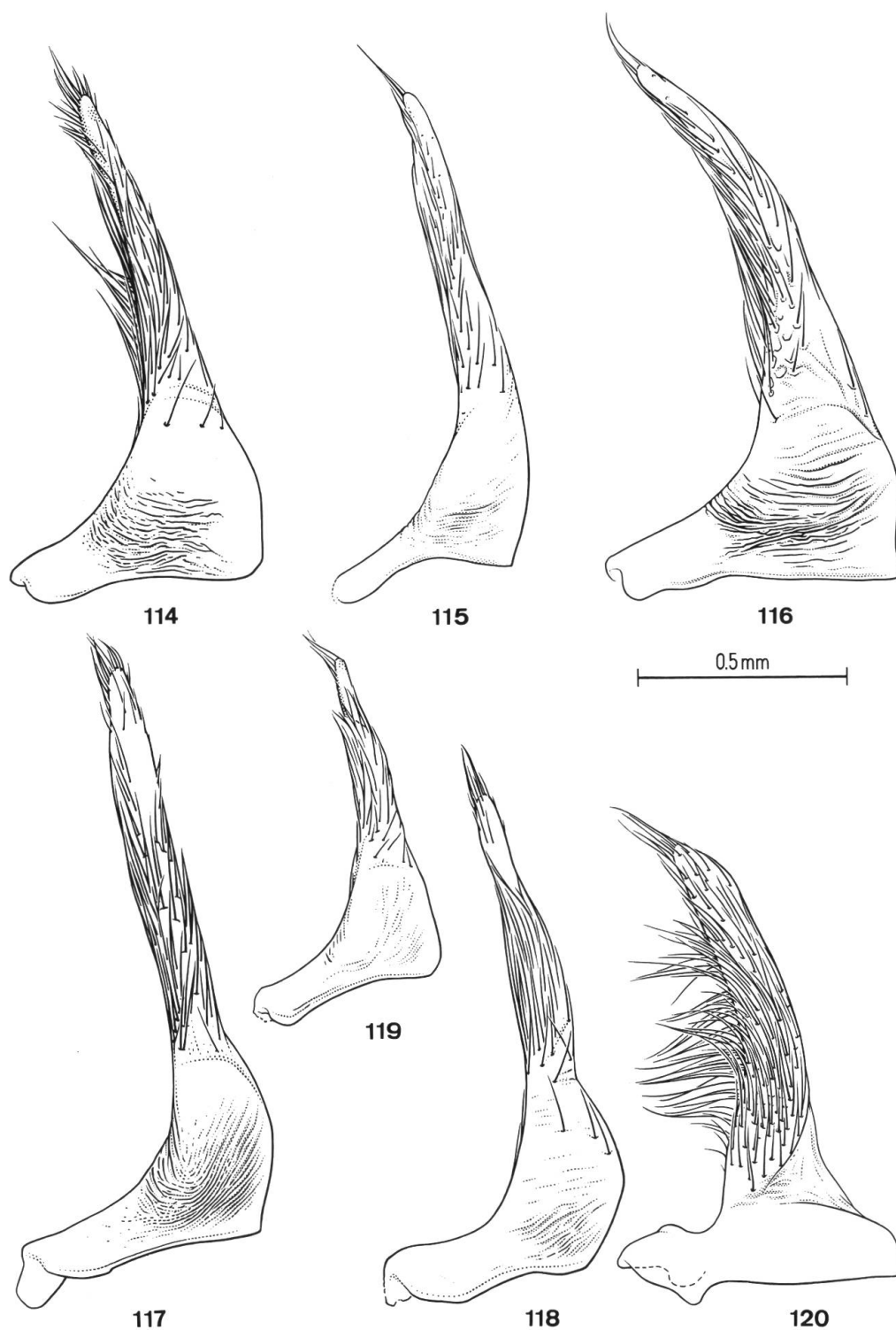


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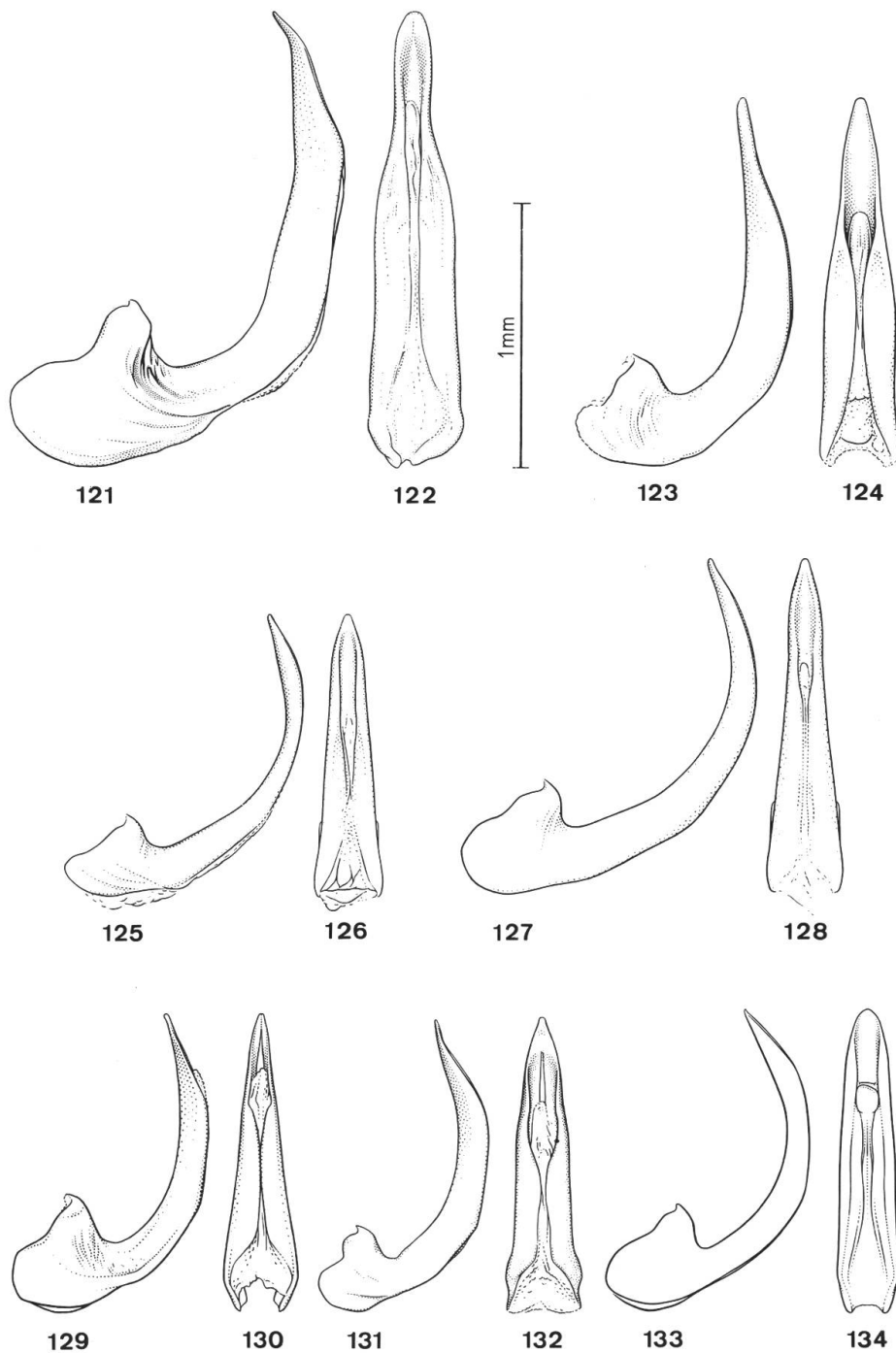


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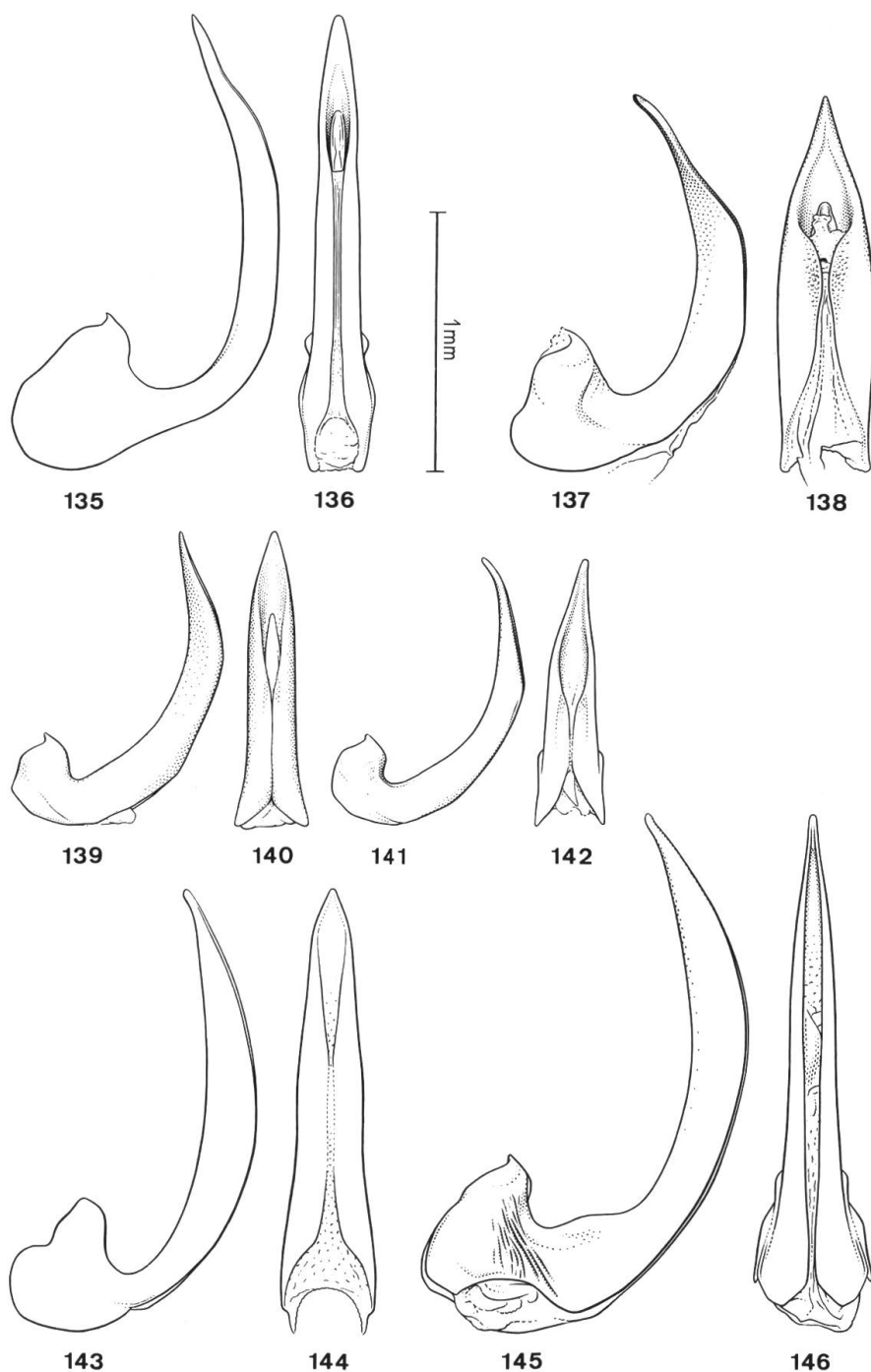




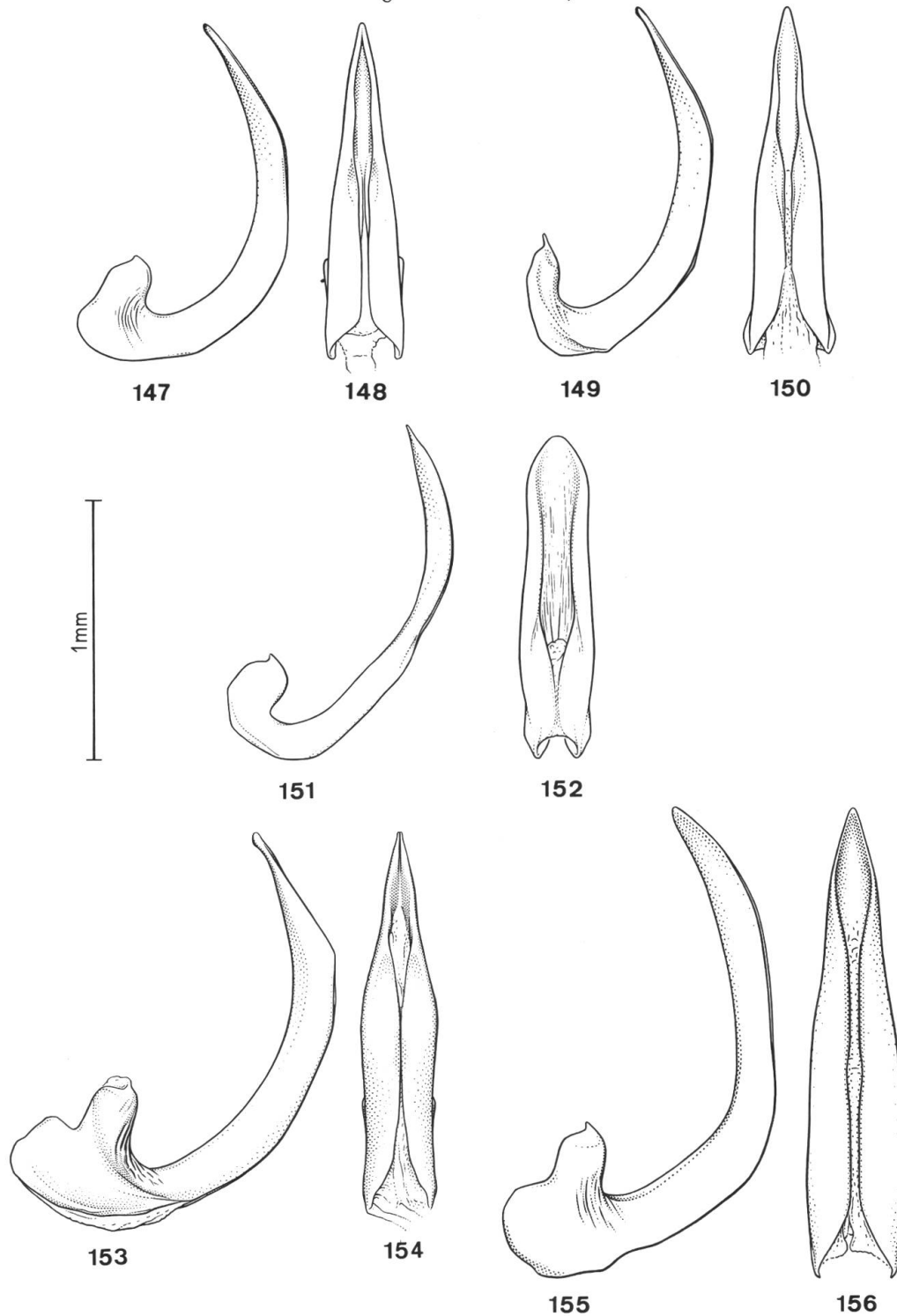
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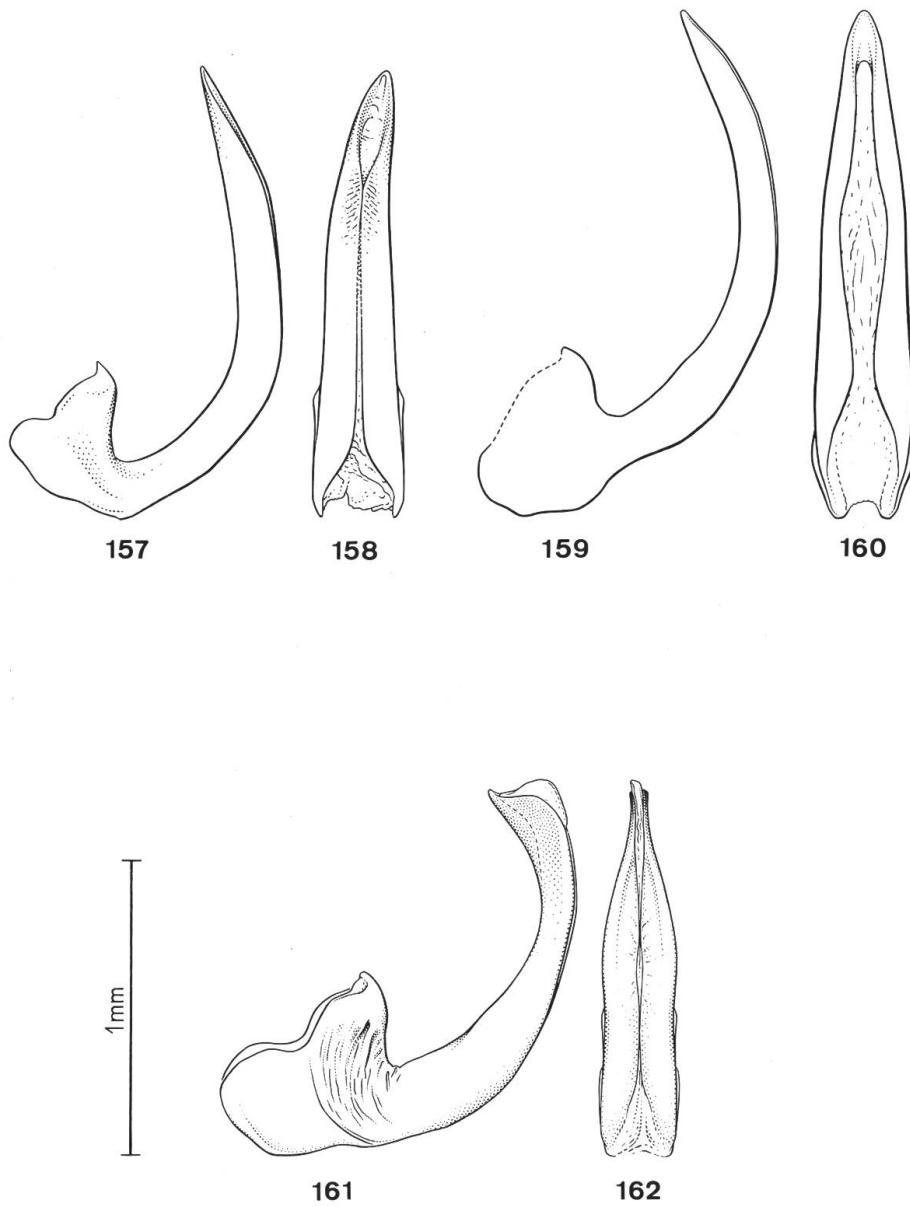
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