

New or little known *Osphryon* species from Sulawesi, Sangihe and Papua State of Indonesia (Coleoptera, Cerambycidae, Prioninae)

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ABSTRACT

In this paper, three new species *Osphryon saitoi*, *O. sanghiricus* and *O. exilis* spp. nov. from Sulawesi, Sangihe, and Papua State of Indonesia are described. They are related to *O. adustus* and as the previous description of *O. adustus* included some errors or unclear parts, it was revised.

KEYWORDS: taxonomy, Coleoptera, Cerambycidae, Prioninae, *Osphryon*, *O. adustus*, *O. tridentatus*, Indonesia, Sulawesi, Sangihe.

ABBREVIATIONS

ADC	:	Alain Drumont Collection, Belgium
JLC	:	Jiri Lorenc collection, Czech
NSMT	:	National Museum of Nature and Science, Tsukuba, Japan
RBINS	:	Royal Belgian Institute of Natural Science, Belgium
MTC	:	Masao Tohyama Collection, Japan
ZKC	:	Ziro Komiya Collection, Japan

Measurements

BL	:	body length measured from apical margin of clypeus to apices of elytra.
EL	:	Length of elytron.
EW	:	Maximum width of elytra.

INTRODUCTION

13 species of the genus *Osphryon* have hitherto been known, 10 from New Guinea Island (Papua New Guinea, Papua and W. Papua states of Indonesia), 1 from New Britain Island, 1 from Woodlark Island and 1 from Sudest Island. No record of this genus has been reported from Sulawesi Island. However, in 2000, specimens of this genus which were captured in Sulawesi Island were deposited by Mr. Masao Tohyama to the author. These specimens obviously belonged to a new species in the genus *Osphryon* but this new species was not described for many years after that time. That was because this new species appeared to be a member of *O. adustus* species group in the genus *Osphryon* and the author could not access any specimen of *O. adustus* to compare with these unidentified *Osphryon* at that time. At the same time, *O. adustus* documented earlier contained some questionable parts, which will be indicated below, and the investigation of *Osphryon* from Sulawesi did not make progress for many years.

Ten years after this, several materials of *Osphryon* including *O. adustus* and some other species from West Papua were added in ZKC. In 2013, Dr. Syusei Saito kindly deposited to the author a long series of Indonesian Prioninae that not only included previously known *Osphryon* from Sulawesi but also different specimens of the same genus from Sangihe Island. In addition,

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a specimen of *O. tridentatus* which was the first record after the original description was included in this series. Then, the study of *adustus* species group of the genus *Osphryon* rapidly went forward and three new species were confirmed. They described in this paper under the names *O. saitoi*, *O. sanghiricus* and *O. exilis* ssp. nov.

This genus was originally described by Pascoe (1869) [1]. Then Lameere (1909) [2], Gressitt (1959) [3], Nylander (1998) [4], and Voitsekhovskii (2020) [5] revised this genus. Five new species were added to this genus by Gressitt [3], two by Nylander [4] and two by Voitsekhovskii [5], and after these works, characteristics of this genus became considerably clear. However, concerning *O. adustus*, every revised descriptions by last four workers [2, 3, 4, 5] contained more or less questionable parts. Then, *O. adustus* and *O. tridentatus* are revised in this paper, since the mentioned three new species are obviously more close to these two known species of *Osphryon*, than to any other known species in the genus.

MATERIALS AND METHODS

In this study, following materials of the genus *Osphryon* were used.

O. adustus, 6♂♂, 1♀, ZKC, 1♂, JLC. 1♂, NSMT. *O. tridentatus* 1♂, ZKC, *O. saitoi* sp. nov. 12♂♂, 1♀, ZKC, 2♂♂, JLC, 2♂♂, MTC. 1♂, ADC. *O. sanghiricus* sp. nov. 3♂♂, ZKC. *O. exilis* sp. nov. 2♂♂, 1♀, ZKC.

They are precisely compared with the following materials of the same genus: *Osphryon granuliger* Aurivillius, 1926, 3♂♂, 4♀♀, ZKC, 6♂♂, 1♀, NSMT, *O. wauensis* Nylander, 1998, 8♂♂, 16♀♀, ZKC, and other 6♂♂, 11♀♀, ADC, JLC, NSMT, *O. bispinosus* Nylander, 1998, 2♂♂, ZKC, 2♀♀, NSMT, *O. hirticollis* Gahan, 1894, 7♂♂, 2♀♀, ZKC, *O. pallidipennis* Gressitt, 1951, 6♂♂, ZKC, *O. subitans* Gressitt, 1958, 1♂, ZKC, 2♂♂, RBINS, *O. woodlarkensis* Gressitt, 1958, 1♂, ZKC, *O. forbesi* Gahan, 1894, 15♂♂, ZKC, 8♂♂, 1♀, RBINS, 6♂♂, 1♀, NSMT.

All specimens examined in this study were mounted and observed under stereo microscope (SMZ-10 Nikon, Japan). Photographs were taken using a camera (D3000, Nikon, Japan).

RESULTS AND DISCUSSION

Result of examinations

Three new species of the genus *Osphryon* were confirmed, one from Sulawesi, one from Sangihe and one from Papua state of Indonesia and they are described in the following lines.

Concerning *O. adustus* and *O. tridentatus*, specific characteristics are revised and some erroneous descriptions are corrected. After these acts, the genus *Osphryon* includes 16 species in total and two islands Sulawesi and Sangihe were added to the distribution range of the genus *Osphryon*.

Discussion on *Osphryon adustus* Pascoe, 1869

Osphryon adustus is the type species of the genus *Osphryon*. It was described by Pascoe (1869) [1], re-examined by Lameere (1909) [2] and revised by Gressitt (1959) [3], Nylander (1998) [4] and Voitsekhovskii (2020) [5]. It is strange that though this species was re-described in the last four documents, the descriptions were more or less not appropriate and not useful to determine this species.

Lameere (1909) [2] noted that this species belongs to, “Premier groupe” of the genus *Osphryon* and species in this group have the 1st antennal segment almost reaching to the posterior margin of eye. However, in this species, the 1st segment does not reach the posterior margin of eye. He also wrote that the antennal segments angulate at internal apex only but this description applicable only to the female and in the male, both apices, internal and external, are acutely angled (see Figures 1, 2). Thus Lameere (1909) [2] might have observed only the female when he made this description.

Gressitt (1959) [3] indicated a key to the genus *Osphryon* [3, p. 73] and in the key 2 (1), he wrote “Antennal segment 3 about twice of each following segments” and this key leads to the species *adustus* etc. This part of key is quite accurate. However, the opposite key of (3) is “Antennal segment 3 not much longer than each of following” and this key leads to the species *tridentatus*, *forbesi* etc. In *tridentatus*, the ratio of 3 to 4 is about 1.4 and in *forbesi* the same ratio is between 1.2-1.7. Hence, the ratios are not twice

but segment 3 is much longer than each of following and this key does not fit to these species.

Nylander (1998) gave a determination key for this genus [4, p. 283] and he described in the key that *adustus* has antennal segments rounded apically (in key 2) and 3rd antennal segment about three times as long as 4th (in key 4). These descriptions are obviously erroneous because this species has distinct apical teeth on antennal segments 3-10 in male (see Figures 1, 2), on 4-7 in female, and the 3rd antennal segment is about twice as long as the 4th (see Figures 1, 2) ratio of 3rd to 4th 1.88-2.08 in 5 males, 1 female).

Voitsekhovskii (2020) wrote the key to species of *Osphryon* [5, p102]. This key was almost the same as Nylander (1998) [4]. Hence in the *adustus* (keys 2 and 4) part included the same errors with Nylander (1998) [3]. Then the correct descriptions are given below.

***Osphryon adustus* Pascoe, 1869**

Osphryon adustus Pascoe, 1869, Ent. Soc. London, Trans. Ser. 3, 3: 662, pl. 23 [1]. Lameere, 1910, Ann. Soc. Ent Belg., 54, 287 [2]. Gressitt, 1959, Pacif. Ins., 1, 69 [3].

Male (Figure 1): Body dark brown for the most parts; segments 4-11 of antennae right brown except joint parts which are blackish. Interspace between dorsal eye-lobes very narrow, less than one tenth of each lobe and thinly separated from each other by a grooved line, interspace between ventral eye-lobes about a third of each lobe. Antenna much shorter than body (0.80-0.85 times as long as body, see Figure 1), depressed dorso-ventrally and a carina running at each sides of segments 4-11; segments 1 and 2, shiny, deeply punctuate and furnished with short setae; segment 3 granulate, provided with short setae and longitudinally shallowly grooved on basal two thirds of dorsal side; from apical third of segment 3 to apex of segment 11 glabrous, matte and strongly striate on dorsal side; segments 3-10 angled at either side of each apex (external angle more acute than internal one); segment 4 about 0.5-0.6 times as long as segment 3. Mandibles short, deeply punctuate and setose at basal half. Prothorax furnished with sub-straight 4 spines at each side (see Figure 1), 1st thick at base and

long, 2nd shortest, 3rd about same length with 1st more slender, 4th slightly longer than 3rd; disc irregularly granulate and with three low swellings, two at each side of apical third and one at middle of basal third. Elytra 2.2 times as long as wide, punctuate throughout and covered with thin minute setae which become thicker near lateral margins; apex rounded, furnished with distinct sutural tooth and external side of apical parts slightly projected but not angled.

Body length: 35-40 mm.

Female: Close to male but antenna shorter (0.75 times as long as body) and more slender; apical acute angles recognizable on segments 4-7 at inner and outer corner but not clear in more apical segments; dorsal side of segment 3 shallowly grooved, segments 4-11 weakly striate on dorsal side. Prothorax provided with 4 teeth at each side as in male.

Body length: 40 mm.

Specimens examined: 1♂, Mt. Arfak, VIII – 1978, ZKC; 2♂♂, Same locality, VI – 1977 NSMT; 1♂, Siroworra River Plane, 300 m, 1993 – 1996, Pusppensat Irja leg, ZKC; 1♂, 1♀, Mt. Fakfak, VII – 2001, ZKC; 2♂♂, 23 km from Marikai, in Van Roes, Mts, Mamberama dist, 19 ~ 26 – VI – 2014, Bretschneider leg. ZKC; 1♂, East Sepic, Maprik prov., Irian Jaya, 17 – VIII – 1998, in JLC.

Distribution: West Papua and Papua of Indonesia.

***Osphryon tridentatus* Gressitt, 1959**

Osphryon tridentatus Gressitt, 1959, Pacif. Ins., 1 (1), 76.

This species was originally described based on a male from New Britain Is. of Papua New Guinea [3] and no other record has been reported after that. This time, a male of this species from Yapen Is, was confirmed. This specimen almost agrees with the original description except for length of 11th segment of antenna which is a little shorter than the description.

Male: Head with broad Y-shaped depression between antennal insertions; inter-space between upper eye-lobes about a fifth of each lobe (see Figure 3). Inter-space between ventral eye-lobes about a half as long as each lobe (see Figure 4). Antenna 0.95 times as long as body, depressed dorso-ventrally



Figures 1, 2. *Osphryon adustus* male, (from Mt. Alfak, Irian-Jaya VIII-1987, BL: 41 mm.), 1: dorsal habitus, 2: ventral side of head.



Figures 3, 4. *Osphryon tridentatus* male, (from Is. Yapen, BL: 32 mm.), habitus, 3: dorsal side, 4: ventral side.

and carina running from apical half of segment 3 to apex; segments 1-2 and basal two fifths of segment 3 punctate and furnished with sparse setae, apical three fifths of segment 3 and segments 4-11 glabrous, not punctate and strongly striate on dorsal side; segment 3 not grooved dorsally; segment 4 about 0.72 times as long as segments 3 (see Figures 3, 4); outer and inner apical angles of segments 3-10 not acute and sub-equal in both sides (see Figure 3). Prothorax 0.47 times as long as broad; furnished with 3 sub-rectangular spines at each side (see Figure 3), 1st and 3rd broad and 2nd more slender; pronotal disk granulose, punctate and sparsely haired, furnished with three swellings, two each side of apical third and one at middle of basal third. Scutellum small, hemicircular, glabrous and weakly punctate.

Elytra sub-parallel, slender, about 2.5 times as long as wide, furnished with a small tooth on apex of suture and outer side roundly projected without tooth. Ventral surface thinly haired except abdomen which is glabrous and feebly punctate.

BL: 32 mm.

Female: Unknown.

Distribution: Is. New Britain (Type locality), Is. Yapen, Indonesia (new record).

Specimen examined: 1♂, Is. Yapen, Irian-Jaya Indonesia, XII – 1997, Native coll.

***Osphryon saitoi* sp. nov.**

Male: Body dark brown for the most parts; sometimes antennae except basal three segments and joining parts of each segment and apical

half of elytra light brown. Dorsal side of body except antennae covered with pubescence which is longer and sparser on head and prothorax and shorter and denser on elytra. Ventral side covered with hairs which are longer and thicker on pro-, meso-, and metasterna, meso- and metepisterna and pro-, meso- and meta-coxae and shorter and sparser on abdomen.

Head two thirds times as long as wide, deeply depressed between antennal insertions and grooved between eyes; vertex punctate; front granulate and haired. Eyes bulging; interspace between dorsal eye lobes about 0.15 times as long as each lobe; interspace between ventral eye lobes about 0.30 times as long as each lobe.

Antennae slender, 0.88-0.98 times as long as body (see Figure 5); scape, segment 2 and basal four fifths of segment 3 roughly punctate and sparsely setose; remainder of segment 3 and segments 4-11 glabrous, matte, not punctate and strongly striate on dorsal side; segments 3-10 furnished with outer apical angles and slightly weaker inner apical angles; segment 11 with short but acute tooth on two thirds of external side; segment 4 about 0.67-0.71 times as long as segments 3, segment 11 subequal to segment 4; segment 3 depressed and flattened at about basal three fourths of dorsal side and sometimes shallowly grooved.

Prothorax 0.4 times as long as broad, widest at basal spines, suddenly narrowed to base and sub-straightly narrowed forward, furnished with three spines at each side and the middle one bifid apicad (see Figure 5); disc weakly convex at middle and irregularly uneven and furnished with three small swellings. Scutellum tongue-shaped, thickly pubescent.

Elytra sub-parallel, widest at about middle, 2.3-2.4 times as long as wide; weakly, minutely granulate and covered with thin pubescence; disk without recognizable costae; with no clear parasutural line on basal half or two thirds; furnished with a distinct sutural apical tooth and external apical tooth very feeble or absent.

Ventral surface finely punctate and thinly haired for the most parts, middle part of meso- and metasternum, pro- and metatrochanter rather thickly haired. Abdomen very thinly haired, each

lateral parts of 1-5 sternum provided with shallow sub-round foveae and the inside of which is filled with long hairs. Legs slender, finely punctate and thinly haired generally but with longer hairs on some parts of femora and densely punctate on apical halves of tibiae.

Genital organ: Median lobe slender and long, about as long as segment 5 of antennae, smoothly arched. Tegmen slender, slightly shorter than median lobe, parameres slender and elongate.

BL: 28-34 mm.

Female: Close to male but body larger and wider. Head 0.9 times as long as wide, inter-space between dorsal eye-lobes about a seventh of each lobe (see Figure 6), inter-space between ventral eye-lobes about two fifths of each lobe (see Figure 7). Antennae 0.8 times as long as body, more slender than in male (see Figure 6), outer apical corners of segments 3-10 acutely angled. Each side of prothorax with three lateral spines (middle one not bifid apicad as in male, see Figures 6, 7).

BL: 41 mm.

Distribution. Is. Sulawesi (North Sulawesi, South Sulawesi).

Type specimens: Holotype ♂, Tondano, N. Sulawesi, III – 1988, N. Nishikawa leg. NSMT. Allotype 1♀, Toa Barana Rante Kamese Sumarorong Mamasa, W. Sulawesi, 27~29 – XII – 2006, S. Saito leg., NSMT. Paratypes, 2♂♂, same data as the holotype, MTC. ZKC; 2♂♂, Mt. Makawemben, nr. Manado. Is. Sulawesi, III – 2016, captured by a native collector, ZKC. 1♂, same place, 20 – I – 2016, ZKC; 1♂, same place, 2 – IV – 2015, ZKC; 1♂, same place, 7 – III – 2015, RBINS; 1♂, same place, 13 – XII – 2014, ADC; 1♂, Kamarora village, Palolo, C. Sulawesi, VII-2014, local collector leg. ADC. 1♂, Torajaland, Hohe 1600 m, 2~7 – IV – 1996, JLC; 1♂, Palu, Marowola Mts. 1400 m, N. Sulawesi, 15 – II – 1989, JLC.

Diagnosis: This new species is close to *O. adustus* but easily distinguishable from the latter in having inter-space between dorsal and ventral eye-lobes more separated; antennae longer and more slender, with ratio of segment 4 to 3 about 0.7 (0.5-0.6 in *adustus*); in male, prothorax furnished

with three lateral spines and middle one bifid apicad (four in *O. adustu*; three and middle one not bifid in *O. tridentatus*); in female, prothorax with three lateral spines which is not bifid apically (four in *adustus*, unknown in *tridentatus*); elytron more thickly pubescent.

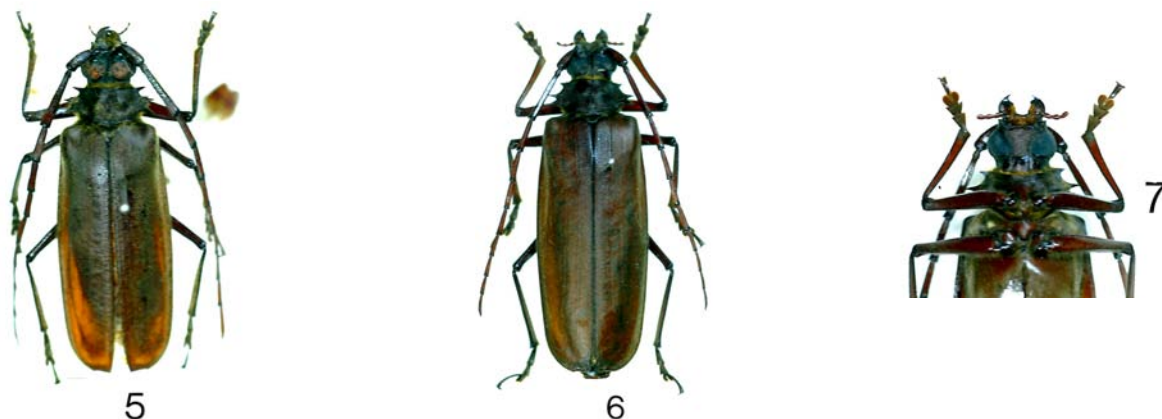
Etymology: The name of this species is given in honor of Dr. Shusei Saito who contributed to this study.

***Osphryon sanghiricus* sp. nov.**

Male: Body dark brown for the most parts, joining parts of antennal segments blackish. Dorsal side of head and prothorax sparsely haired and elytra rather densely covered with pubescence. Ventral side covered with rather thick hairs.

Head two thirds times as long as wide, deeply depressed between antennal insertions and grooved between eyes; vertex punctuate; front granulate and haired. Eyes bulging; interspace between dorsal eyelobes about one seventh of the width of each lobes; interspace between ventral eye lobes one eighth. Antennae slightly longer than body (see Figure 8); segments 1-3 each apical ends of segments 3-10 angled but not clearly toothed (see Figure 8); segment 4 about 0.7 times of segment 3; segment 11 subequal to segment 5; segment 3 furnished with longitudinal groove on basal four fifths of dorsal side.

Prothorax 0.38 times as long as wide, furnished with three lateral spines and the middle one bifid apicad (see Figures 8, 9).



Figures 5, 6, 7. *Osphryon saitoi* sp. nov. 5, male Holotype, (BL: 35 mm.) dorsal habitus; 6, 7: female Allotype, (BL: 41 mm) 6: dorsal habitus, 7: ventral side of head.



Figures 8, 9. *Osphryon sanghiricus* sp. nov. male Holotype, (BL: 37 mm.) 8: dorsal habitus, 9: ventral side of head.

Elytra 2.5 times as long as wide; without clear costae nor clear raised parasutural line; each elytron furnished with distinct two subequal apical teeth (see Figure 8).

Ventral surface thickly haired especially on prosternum, middle part of meso- and metasternum, metaepisternum, pro- and metatrochanter and underside of femora provided with rather long and thick hairs. Abdominal sternum 1-5 furnished with foveae as in *O. saitoi* but inside and outside of foveae similarly haired.

BL: 32-34 mm.

Female: unknown.

Distribution: Is. Sangihe, Indonesia.

Type specimens: Holotype 1♂, Sangir Is. Indonesia, 27 – X – 2000, Native coll. NSMT. Paratypes 2♂♂, same data as holotype, ZKC.

Diagnosis: This new species is close to *O. saitoi* sp. nov. but it can be distinguished from the latter by the longer antennae which are longer than body (shorter than body in *O. saitoi* sp. nov.), narrower inter-space between ventral eyelobes (about 0.13 times while in *O. adustus* 0.50, in *O. tridentatus* 0.50 and in *O. saitoi* sp. nov. 0.30). It is also distinguished from the latter by thicker hairs on ventral side especially on abdomen, and a more distinct external tooth on apex of elytron.

Etymology: The species name is given after the name of the island where the species was found (Latin, masculine).

***Osphryon excilis* sp. nov.**

Male (Figure 6): Body brown, reddish brown on elytra and antennae excepting joint part of each segment which is dark brown. Head, disc of prothorax, basal half of mandibles, 1st, 2nd and basal third of 3rd segments of antennae sparsely setose, elytra and abdomen very thinly pubescent.

Head 0.6 times as long as wide, with broad triangular depression between antennal insertions, largely granulose; mandibles about a third as long as head, roughly punctuate on basal half; eyes bulging, interspace between upper eye-lobes 0.1 times as wide as each lobe, under eye-lobes 0.33 times as wide as each lobe. Antennae about 1.05 times as long as body (see Figures 10, 11); segments 1, 2 and basal third of segment 3 punctuate and sparsely setose; apical two thirds of segment 3

and remainder segments glabrous and striate on dorsal side; inner and outer apices of segments 3-10 acutely angled; segment 4 about 0.80-0.85 times as long as segment 3; segment 11 about as long as segment 4.

Prothorax about one third as long as wide; furnished with three lateral spines which are about a half as long as the width of disk without lateral spines; 1st and 2nd sub-rectangular to body line and 3rd obliquely extending posteriorly (see Figures 10-13), three spines having similar width; disk sparsely granulose and provided with three low irregular swellings, two each sides of middle and one just posterior to basal line.

Elytron about 5 times as long as wide, provided with parasutural line at basal two thirds and humeral carina to apex; surface finely punctuate at about basal fifth and punctures extending along suture to about basal third, minutely granulose on remainder; furnished with acute and rather long sutural tooth (see Figure 10) and outer apical tooth absent.

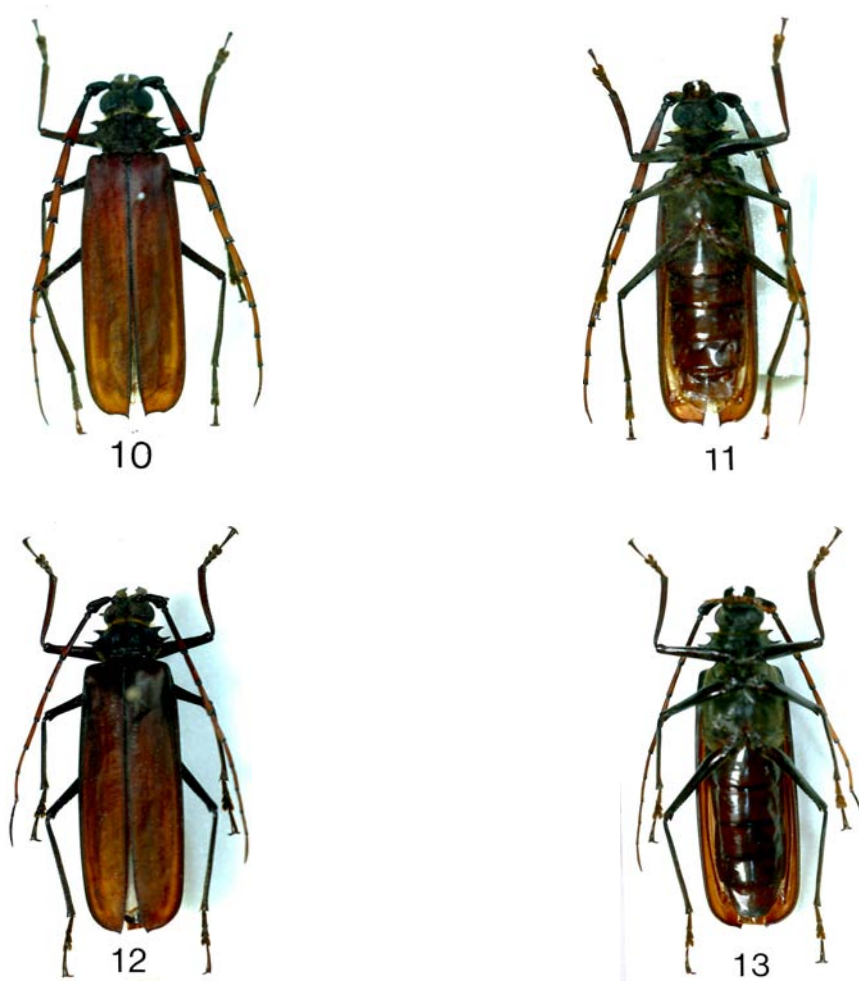
Female (Figure 7): Dorsal side glabrous and hairs on ventral side thinner than male. Antenna about 0.8 times as long as body (see Figure 12), segments 1-2 and basal three fourths of segment 3 punctuate and with sparse setae, apical fourth of segment 3 and remainder segments glabrous and strongly striate on dorsal side; inner and outer apices of segments 3-10 rounded. Elytron slightly wider than male. Furnished with a distinct sutural tooth.

Body length: 42 mm.

Distribution: Timika, Papua, Indonesia.

Type specimens: Holotype, 1♂, Timika, Irian-Jaya, Indonesia, 10-X-2002, ZKC and will be deposited to NSMT. Allotype, 1♀, same place, XI-2001, no collector recorded, ZKC. Paratype, 1♂, same place, 21-VIII-1998, ZKC.

Diagnosis: This new species is close to *O. tridentatus* but is distinguished from the latter by longer antennae which are clearly longer than body, having head with triangular shape not Y-shaped depression between antennal tubercles, acuter and longer sutural tooth of the apex of elytron. It is also different in having more yellowish color of elytra, slender body, longer three spines on each sides of prothorax with the



Figures 10, 11, 12, 13. *Osphryon exilis* sp. nov. 10, 11, male Holotype (BL: 31 mm), habitus, 10: dorsal side, 11: ventral side, 12, 13: female Allotype (BL: 42 mm), 12: dorsal side, 13: ventral side.

3rd one obliquely extending posteriad and more slender and longer legs (compare Figures 4 and 11). In female, this species has three not-bifid lateral spines of prothorax as in *O. saitoi* sp. nov. but this species has antennal segments 3-10 with rounded apices, while in *O. saitoi* sp. nov. antennal segments 3-10 have distinctly angled apices.

Etymology: The species name is taken from the ward “exil” meaning thin by the slender body-shape of this species (Latin, masculine).

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CONFLICT OF INTEREST STATEMENT

The author has no conflict of interest to declare.

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