

Notes on the genus *Bandar* (Coleoptera, Cerambycidae, Prioninae) with description of a new species

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ABSTRACT

A new species in the genus *Bandar* from Arunachal Pradesh state in India is described. A female specimen of *Bandar khooi* Hayashi, 1975, is reported for the first time and a note on sexual dimorphism in this species is given.

KEYWORDS: taxonomy, Coleoptera, Cerambycidae, Prioninae, *Bandar*, *B. khooi*, *B. maedai* sp. nov., India, Arunachal Pradesh, Malaysia

ABBREVIATIONS

- ADC : Alain Drumont Collection, Brussels, Belgium
NSMT : National Museum of Nature and Science, Tokyo
RBINS : Royal Belgian Institute of Natural Science, Brussels Belgium
ZKC : Ziro Komiya Collection, Tokyo, Japan

INTRODUCTION

Bandar, a small genus in the subfamily Prioninae in the Tribe Macrotomini, currently contains three species and three subspecies [1]. *Bandar khooi* (Hayashi) [3] was originally described as a subspecies of *Macrotoma (Bandar) fisheri*, and Quentin and Villiers [4] considered it to be synonymous to *Bandar pascoei*. Komiya [1] revived this name and raised *Bandar khooi* to a species status. In the original description by Hayashi [3], the holotype

of this species was considered to be a female. However, following the capture of a confirmed female of this species at the type locality (Fraser's Hill, Pahang, Malaysia) in 2012, it became clear that the holotype was a male and not a female as originally described by the author. A conspicuously new species in the genus *Bandar* was captured from Arunachal Pradesh State in northeastern India on 10th August, 2014. This new species, referred to here as *Bandar maedai* sp. nov., has some of the characteristics that are not included in the original description of the genus.

MATERIALS AND METHODS

Bandar khooi (1♀) from western Malaysia (Figs. 1 & 2) and *Bandar* sp. (4♂♂) from Arunachal Pradesh state in India (described here as *Bandar maedai* sp. nov.) (Figs. 3 & 4) are considered in this study. These two species are compared with the following *Bandar* spp. materials used previously by Komiya [1]: *Bandar pascoei pascoei* 4♂♂, ADC, 21♂♂, 4♀♀, NSMT, 101♂♂, 9♀♀, ZKC; *Bandar pascoei gressitti*, 2♂♂, ADC, 3♂♂, 1♀, RBINS, 10♂♂, 1♀, ZKC; *Bandar pascoei formosae*, 7♂♂, 1♀, NSMT, 4♂♂, 1♀, ZKC; *Bandar kurosawai* 4♂♂, 1♀, ZKC and *Bandar khooi* 1♂, ZKC.

RESULTS AND DISCUSSION

Discussion on the sex of the *B. khooi* holotype

The holotype of *Bandar khooi* is preserved in Osaka Museum of Natural History, Japan. The specimen collected from Bukit Tinggi, Pahang,

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Figs. 1 & 2. (1) Female from Fraser's Hill, Pahang, Malaysia. (2) Male from Bukit Tinggi, Pahang, Malaysia.



Figs. 3 & 4. (3) Male, Holotype. (4) Male, Paratype, a large and robust form, both from Arunachal Pradesh State, India.

Malaysia, which is shown in fig. 2 was carefully compared with the holotype, and was determined to be *B. khooi* (Komiya [1]). It was confirmed to be a male by the extracted genitalia from the specimen; however, the sex of the holotype could not be confirmed in the same manner, as the holotype was strongly sclerotized and the genitalia could not be observed without damaging the abdomen. After superficial observation by the author, the original assessment that the sex of the holotype is female was considered to be accurate. In his study, Komiya [1] assessed that the sexual dimorphism in *B. khooi* was very subtle. However, this assessment turned out to be erroneous. While the specimen shown in fig. 1, which was collected in 2012 at the type locality of *B. khooi*, shared numerous features with male *B. khooi*, such as having rather

short antennae with very short and teardrop-shaped 3rd antennal segments, elytral sides subparallel, and short legs, it also bore characters that were typical of females such as having a slender body, relatively shorter antennae, narrower elytra, and more slender forelegs. Thus, the specimens shown in fig. 1 and fig. 2 should be regarded as female and male of the same species *B. khooi*, and as the holotype of *B. khooi* is almost same as the specimen shown in fig. 2, it must be male. *B. khooi* thus exhibits similar levels of sexual dimorphism observed in most of the other species in the tribe Macrotonini to which the genus *Bandar* belongs.

Discussion on *Bandar* sp. from Arunachal Pradesh in northeastern India

The type species of the genus *Bandar pascoei* is widely distributed from Nepal through northern India to southeastern China. In 2014, a specimen belonging to this genus but clearly different from *B. pascoei*, was collected by T. Maeda from Arunachal Pradesh, India, which is considered to be lying near the center of the region in which *B. pascoei* is distributed (Fig. 4). Despite clearly belonging to a new species, the affiliation of the new species to the genus *Bandar* was uncertain because the body was too robust for it to be regarded as a member of this genus and it shared similarities with the genus *Rhaesus* Motschulsky (i.e., robust body and relatively short 3rd antennal segment). However, this question was resolved when three males that were clearly conspecific to the specimen shown in fig. 4 were collected in 2015; one of these specimens (Fig. 3) was somewhat similar in appearance to the male of *B. khooi*. It then became clear that this new species exhibited marked polymorphism in terms of body width while bearing many of the definitive characteristics of the genus *Bandar*.

CONCLUSION

The author concludes that the holotype of *Bandar khooi* is a male and that the original description should be corrected. This correction of the sex of the holotype from female to male, as well as the description of the real female of this species, are provided below. The new species from northeastern India is described as *Bandar maedai* sp. nov. and the description is given below.

***Bandar khooi* (Hayashi) 1975**

Macrotowa (sic!) (*Bandar*) *fisheri* subsp. *khooi* Hayashi, 1975, Bull. Osaka Jonan Women's Jr. Coll., (10): 168, pl. 1, Fig. 2.

Bandar pascoei pascoei Quentin & Villiers, 1981 (nec LANSBERGE, pro parte), Ann. Soc. ent. Fr., (N.S.), 17: 363-364.

Bandar khooi Komiya, 2001, Elytra, 29: 298-303, -----, 2005, Gekkan-Mushi, 417: 23-32.

Male

The morphology of the male specimen agrees well with the original description by Hayashi [3].

Antennae about two thirds as long as body and with segment 3 about 1.3 times as long as segment 1 and slightly longer than half of pronotum. Elytral sides sub-parallel, about 2.3 times as long as wide. Femora and tibia relatively short compared to other species in this genus. Length of body 48-53 mm.

Female

Similar to male but antennae about a half as long as body and more slender, with segment 3 slightly longer than segment 1 and about as long as half of pronotum. Pronotum trapezoid in dorsal view with the lateral margin sub-straight and provided with several minute teeth and a distinct tooth at basal corner; pronotal disc strongly convex, depressed, shiny at center, and deeply punctate at side. Elytral sides sub-parallel, about 2.6 times as long as wide; basal fourth of elytra deeply and rather regularly punctate and gradually becoming more roughly towards apices. Femora and tibia short as in male but more slender; spines on underside very short and not acute, and ventral groove of femora very short. Length of body 53 mm.

Correction of the sex of holotype

The holotype was a male, and not a female as given in the original description.

Specimen examined

1♀, Fraser's Hill (type locality), Pahang, West Malaysia, 19~24 – IX – 2012, captured by Troshkov NIKOLAY.

Distribution

Known only in the western Pahang State around Fraser's Hill, West Malaysia.

Bandar maedai* sp. nov.*Male**

Integument reddish brown; dark brown or black eyes, mandibles, antennae and legs. Dorsal surfaces mainly glabrous, shiny on middle of pronotum, basal part of elytra, antennae and legs, and matte on remainders of elytra. Furnished with long orange setae on labium, basal and apical margins of prothorax, and apical margin of fifth abdominal sternum; setae sparse on sides of prothorax and along margins of 1st to 4th abdominal sterna; covered with thick orange pubescence on meta-sternum and meta-coxa; covered with thin pubescence on meso- and meta-epimeron, and meso- and meta-episternum.

Head wider than long, sub-parallel-sided; front sparsely punctate; vertex strongly punctate with punctures suddenly becoming finer towards basal margin. Mandibles large, about two thirds as long as head; external line bent inwards at apical third and furnished with obtuse external tooth; internal line weakly arched inwards and provided with two distinct internal teeth, larger apical tooth close to the apex which bifid apically, and another smaller tooth at about basal fourth. Eyes bulging, interspace between upper eyelobes less than half of each lobe. Antenna about 0.60 times as long as body, 11-segmented and segment 11 furnished with fused trace of segment 12 at about middle; segments 1–7 or 8 sparsely punctate, 7–11 feebly striate; segment 1 about two thirds as long as head, thick, twice as long as wide, strongly depressed and shallowly concave at middle; segment 3 about 0.7 times as long as segment 1, prism-shaped and rounded at basal and apical ends; segment 4 about 0.3 times as long as segment 1, reverse conical-shaped, narrowest immediately posterior to base and becoming widest just anterior to apex, then roundly ending; segments 8–10 simply shaft-shaped and segments 5–7 gradually transiting from the shape of segment 4 to the shape of segment 8; segment 11 about twice as long as segment 10, slightly arched and furnished with the trace of fused 12th segment; relative length of each segments 11>1>3>10=9=8>7>5>6>4>2.

Pronotum trapezoidal in dorsal view, 2.0-2.2 times as wide as long; apical and basal margins sub-straight, lateral margin minutely serrated, apical

corner rounded and having a short but acute spine at basal angle; disc moderately convex, shiny, smooth, slightly concave at center and punctate around shiny part; becoming increasingly punctate towards lateral margins; sparsely and minutely setose immediately inside basal corner though most parts of disc being glabrous. Scutellum tongue-shaped and matte.

Elytra 2.3-2.4 times as long as wide, sides sub-parallel, usually widest at about apical third and broadly rounded apically; each elytron somewhat irregularly punctate at basal third, becoming more irregularly punctate towards apices and interspersed with irregular granules at apical two thirds; furnished with four sub-parallel subtle costae.

Gula sparsely granulate and matte. Prosternum, metasternum and meta-episternum sparsely punctate. Meta-episternum about 2.7 times as long as wide. Abdomen mostly shiny except lateral parts close to margin which are feebly punctate.

Legs slender compared with *B. pascoei* or *B. khooi*; femora depressed and roughly dentate ventrally; tibiae depressed, dilated apically and dentate ventrally; tarsi narrow, 1st segment slightly longer than 2nd, 2nd about as long as 3rd, 5th much longer than combined length of segments 1–3, traces of 4th segment clearly recognized at base of 5th segment, claw as long as 1st tarsal segment.

Length of body without mandibles: 43 mm-58 mm.

Type series: Holotype. ♂, Lower Subansiri Dist. Alt. 1700 m, Arunachal Pradesh State, NE India, 12~20 – VIII – 2015, captured by T. Maeda at ZKC and will be deposited at RBINS. Paratypes 2♂♂, same data as holotype, 1♂, same locality, 10~20 – VIII – 2014, captured by T. Maeda at ZKC.

Differential diagnosis

This new species is close to *Bandar khooi* Hayashi but differs by having the 3rd antennal segment much shorter than the 1st segment while in the latter species, the segment 3 is obviously longer than segment 1. The new species can also be easily distinguished from the latter by the presence of a conspicuously long 5th tarsal segment which is longer than the combined length of the basal three tarsal segments, and by a wider meta-episternum, which is about 2.7 times as long as wide. These differences distinguish the new species from any known species in the same genus.

Individual variation

The ratio of body width to body length is close to that of *Bandar pascoei* in small-sized specimens, but in larger specimens, the body becomes conspicuously robust (see Fig. 4).

Etymology

The species is named in honor of Takeshi Maeda of Ibaraki Prefecture, Japan, who collected this interesting species after several expeditions to north eastern India.

Female

Unknown.

Emendation of characteristics of the genus *Bandar*

The following characteristics are to be changed in the description of the genus *Bandar* given by Quentin and Villiers [4].

- (1) The interspace between the upper eye lobes is 0.4-0.9 times as long as each eye lobe.
- (2) The antennae are 0.6-1.04 times as long as body in males, and about 0.50-0.76 times in females. Segment 3 of the antennae is 0.50-1.24 times as long as the pronotum in males, and 0.50-1.01 times in females.
- (3) The disc of pronotum is mostly flat except for that in the female of *B. khooi*.

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CONFLICT OF INTEREST STATEMENT

The author has no conflicts of interest to declare.

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