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Two new species of *Beccariola* ARROW from Celebes Island (Coleoptera: Endomychidae)

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ABSTRACT. Two new species of the Oriental genus *Beccariola* (*B. elongata* and *B. celebensis*) from Celebes Is. are described and illustrated. A key to the known species of the genus from Celebes Is. is provided.

Key words: entomology, taxonomy, new species, key, Coleoptera, Cucujoidea, Lycoperdininae.

INTRODUCTION

The name *Beccariola* was introduced by ARROW (1943) to replace *Beccaria* of GORHAM (1885), which was preoccupied previously in Mollusca. Within Endomychidae *Beccariola* belongs in the subfamily Lycoperdininae (TOMASZEWSKA 2000), sharing the following synapomorphies with other genera of this subfamily: stridulatory area (occipital file) on the head and ovipositor with fused coxites (TOMASZEWSKA 2000). The stridulatory membrane on the anterior margin of the pronotum, postulated as one more synapomorphy of Lycoperdininae – occurring in all other genera, although distinctly reduced in a few cases – is absent in *Beccariola*.

Studying Endomychidae material borrowed recently from the Natural History Museum in London (England) - BMNH and Naturhistorisches Museum in Vienna (Austria) - NHMV, two new species of *Beccariola* from Celebes Is. were found and are described here as *B. elongata* and *B. celebensis*, bringing the number of

known species from Celebes Is. up to 3 and the total number of species in the genus to 31, which are distributed widely in the Oriental Region (including New Guinea and Solomon Is.) and one Madagascan species is known from outside the Orient (TOMASZEWSKA 2002).

TAXONOMY

***Beccariola elongata* n. sp.**

(figs 1-8)

ETYMOLOGY

The name *elongata* refers to, unusually for this genus, elongate body.

DIAGNOSIS

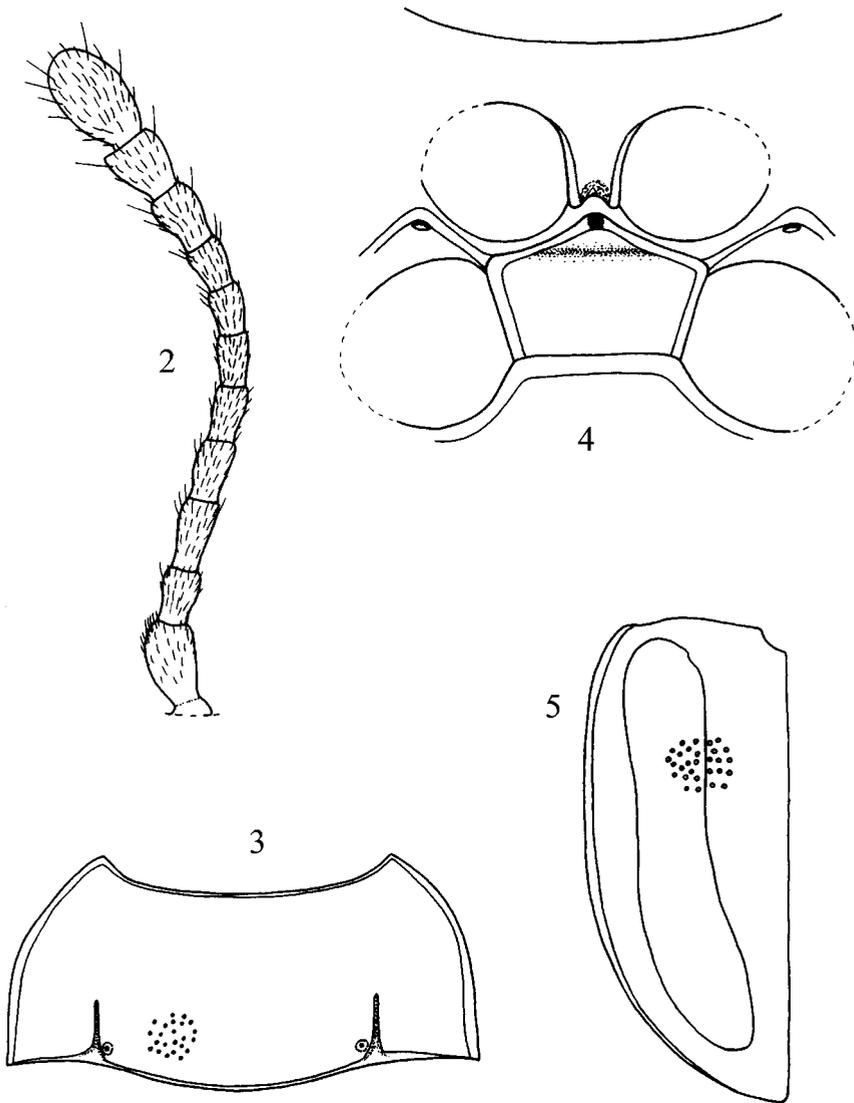
The most elongate, most flattened body and the reddish-brown elytra covered with black, long stripes (figs. 1, 5) can easily separate *Beccariola elongata* from all its congeners.



1. Habitus of *Beccariola elongata* n. sp.

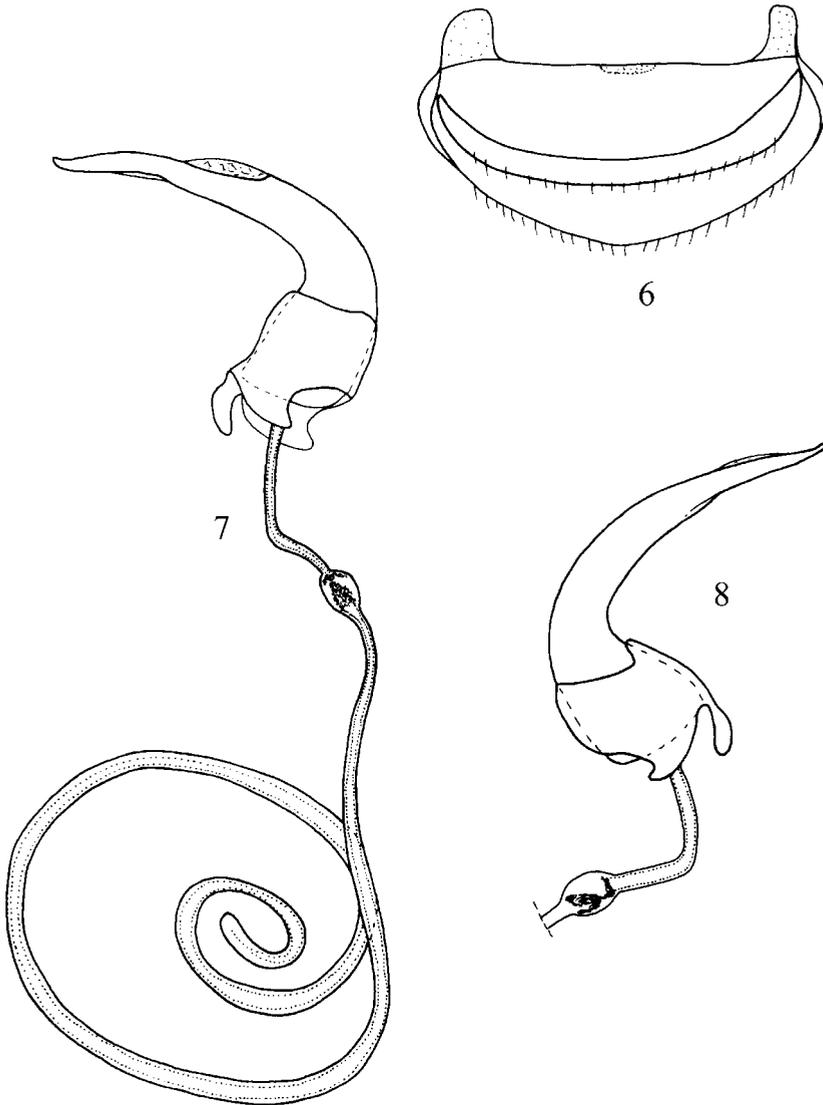
DESCRIPTION

Length 4.25-4.85 mm. Body (fig. 1) elongate-oval, 1.57-1.76 times as long as wide; moderately convex; strongly shiny; colour reddish-brown with metaventrite, intercoxal process of abdomen and elongate stripe on each elytron black.



2-5. *Beccariola elongata* n. sp.: 2 – antenna, right, dorsal, 3 – outline of pronotum, 4 – pro- and mesosternum, 5 – left elytron, dorsal

Antenna (fig. 2) 11-segmented, rather slender and as long as width of pronotum, with all antennomeres longer than wide; scape about 1.6 times longer than pedicel and 1.5 times longer than antennomere 3; antennomeres 3-8 gradually getting slightly shorter; club 3-segmented, narrow and loose. Pronotum (fig. 3) 0.65-0.83 mm long, 2.07-2.10 mm wide (0.31-0.39 times as long as wide); rather finely and moderately densely punctate; disc evenly, weakly convex; basal sulcus absent,



6-8. *Beccariola elongata* n. sp.: 6 – male abdominal segment 8, ventral, 7 – aedeagus, ventral, 8 – aedeagus, dorsal

lateral sulci distinct, linear, moderately long; anterior angles produced and weakly acute; hind angles almost right-angled; lateral and anterior margins narrowly bordered; hind margin bisinuate. Scutellum moderately large, strongly transverse, widely rounded apically, not angulate. Elytra (fig. 5) 3.10-3.35 mm long, 2.70-2.75 mm wide; 1.15-1.23 times as long as wide; 4.00-4.77 times longer than pronotum and 1.30-1.31 times wider than pronotum; coarsely, deeply and densely, irregularly punctate and additionally each elytron with two more or less regular rows of black punctures near suture and near lateral margin, and with irregular black punctures near apex; each elytron decorated with elongate, black stripe. Lateral margins moderately widely flattened. Epipleura wide basally, gradually narrowing posteriorly, incomplete short distance before apex. Prosternal process (fig. 4) moderately wide; shallowly excised at apex and weakly concave, bordered laterally. Intercoxal process of mesoventrite pentagonal, widely separates mid coxae, almost flat, weakly concave anteriorly (fig. 4). Metaventrite slightly more than 2 times wider than long and scarcely longer than abdominal ventrite 1; provided with two pairs of postcoxal pits; discrimen extending along about 2/3 length of metaventrite. Abdomen with ventrite 1 almost as long as three following ventrites combined, femoral lines absent; ventrites 2-4 gradually, slightly shorter; ventrite 5 simple. Segment 8 retracted; in male sternite 8 very narrow with almost straight apical margin (fig. 6). Aedeagus (figs 7, 8) rather short and moderately stout, well sclerotized; penis strongly curved near base with submembranous, small gonopore at apex; tegmen placed basally with vestigial tegminal strut; ejaculatory duct very long, stout and coiled apically.

TYPE MATERIAL

Holotype male: "Indonesia: Sulawesi Utara, Dumoga-Bone N.P., January 1985/ at light/ Base camp area ca 190 m/ R. Ent. Soc. Lond. Project Wallace, B.M. 1985-10." (BMNH). **Paratypes:** same data as holotype (1: BMNH); same but March 1985 (1: BMNH); same but August 1985 (1: MIIZ).

One paratype is kept in the collection of the Museum and Institute of Zoology, Warszawa (MIIZ).

DISTRIBUTION

Indonesia (Celebes Is.).

Beccariola celebensis n. sp.

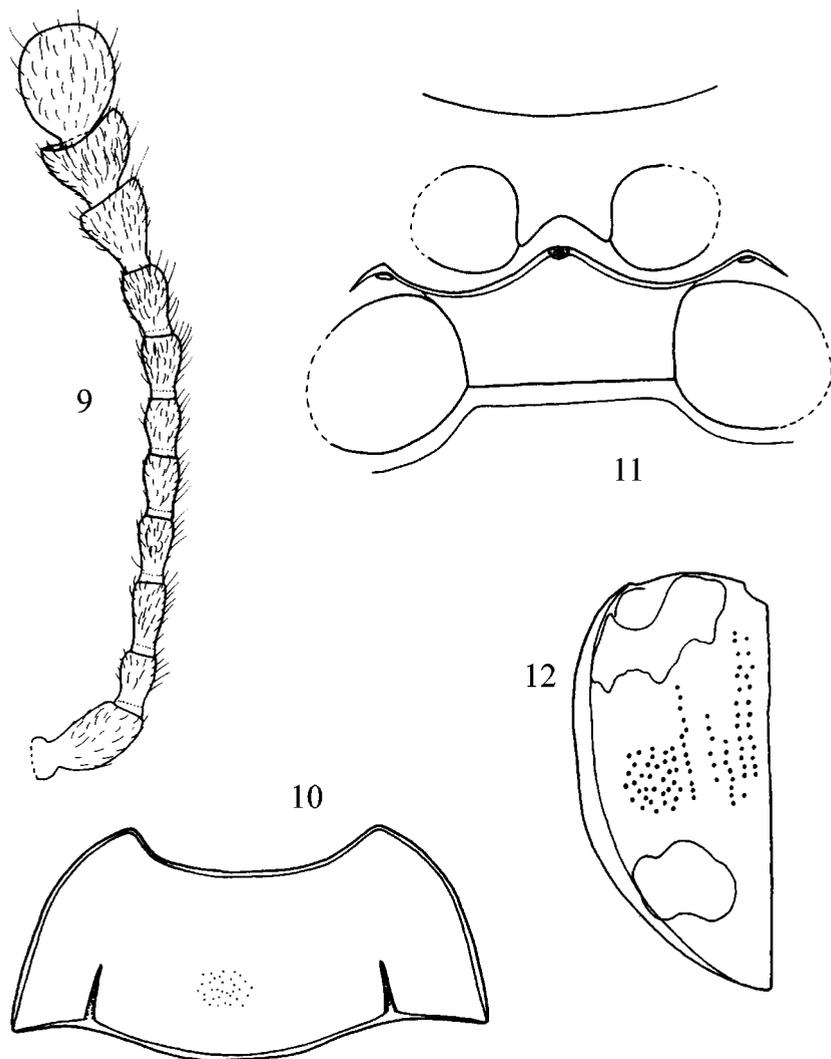
(figs 9-18)

ETYMOLOGY

The name *celebensis* is derived from the name of its native island.

DIAGNOSIS

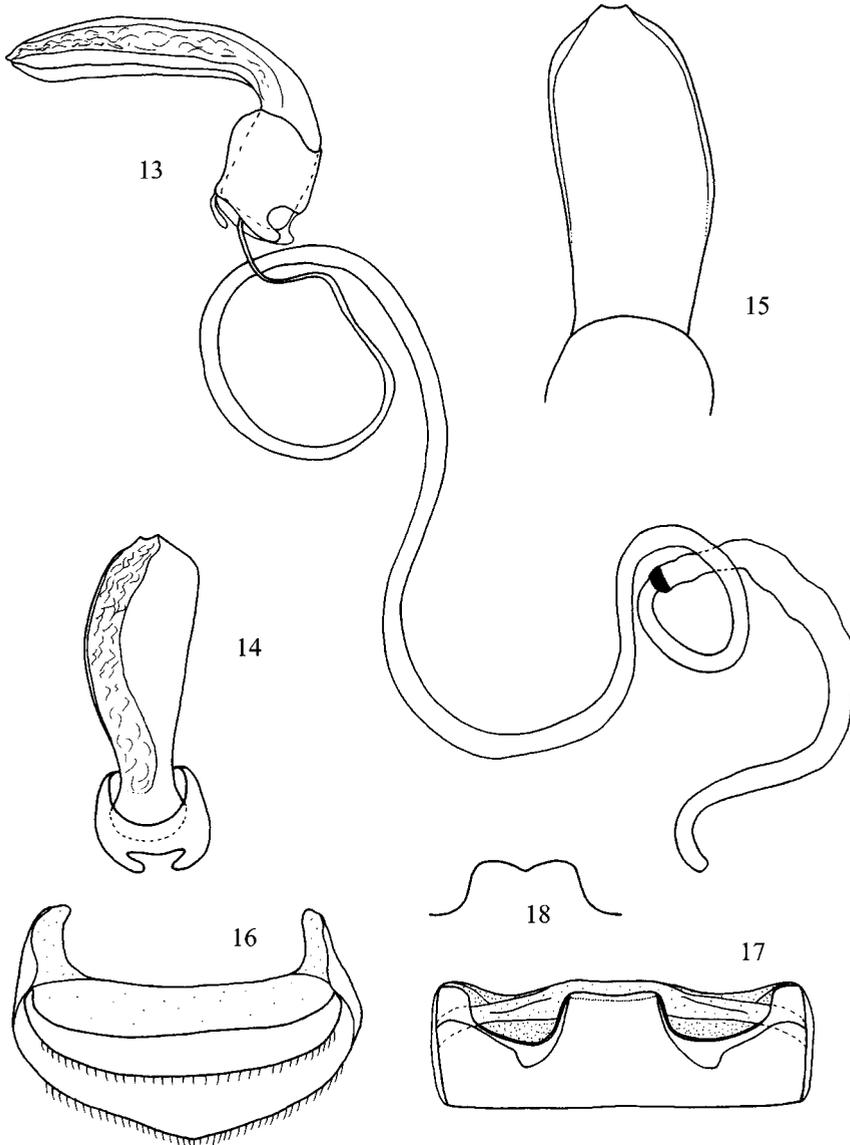
This species is very similar to *B. orca*. *B. celebensis* however can be separated in having slightly smaller body size, less flattened and narrower terminal antennomere and larger, more irregularly shaped anterior elytral band, surrounding shoulder from behind and almost touching base of elytron (fig. 12).



9-12. *Beccariola celebensis* n. sp.: 9 – antenna, left, dorsal, 10 – outline of pronotum, 11 – pro- and mesosternum, 12 – left elytron, dorsal

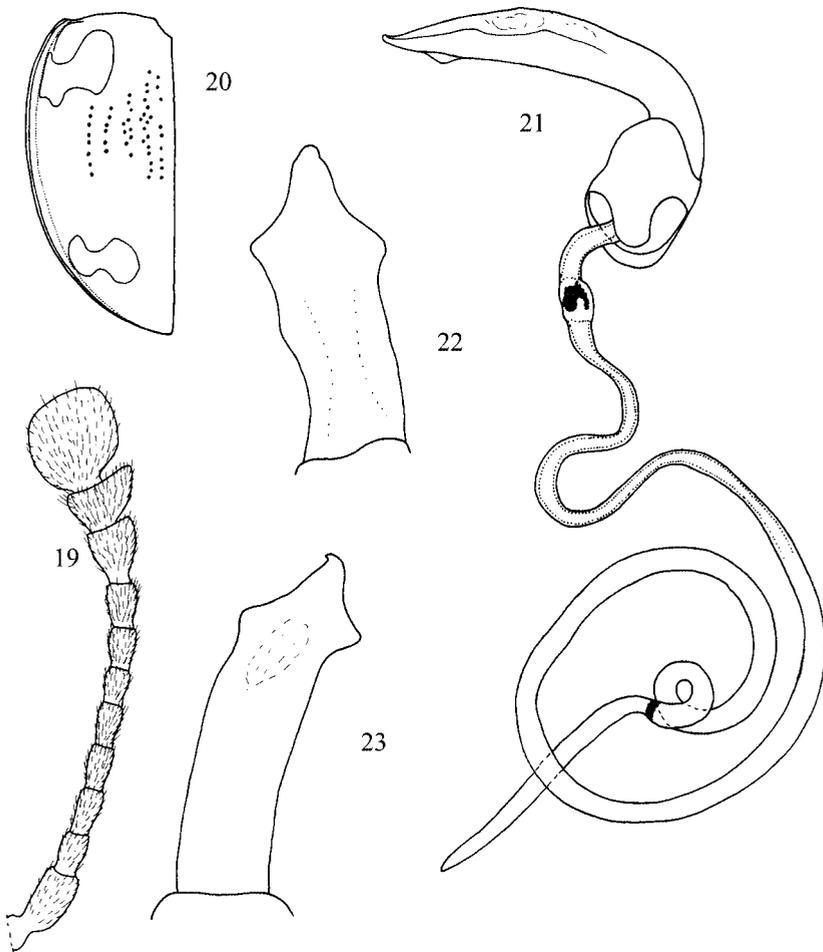
DESCRIPTION

Length 5.15-5.40 mm. Body short-oval, 1.27-1.33 times as long as wide; convex; strongly shiny; dorsal surfaces black or reddish-black, venter slightly lighter, much reddish.



13-18. *Beccariola celebensis* n. sp.: 13 – aedeagus, ventral, 14 – aedeagus, outer view, 15 – apical part of aedeagus, inner view, 16 – male abdominal segment 8, ventral, 17 – abdominal ventrite 1, male, 18 – intercoxal process of abdominal ventrite 1, female

Antenna (fig. 9) 11-segmented, moderately slender and at least as long as width of pronotum, with antennomeres 1-9 and 11 distinctly elongate, antennomere 10 transverse; scape about twice as long as pedicel; antennomere 3 slightly longer than pedicel; antennomeres 3-6 gradually, scarcely shorter; antennomere 8 almost as long as 3 and slightly longer than 7; club 3-segmented, moderately wide and flattened. Pronotum (fig. 10) 0.92-1.00 mm long, 2.90-2.95 mm wide (0.32-0.34 times as long as wide); finely and moderately densely punctate; disc evenly, weakly convex; basal sulcus absent, lateral sulci distinct, linear, moderately long; anterior angles produced and blunt; hind angles weakly acute; all edges narrowly



19-23. *Beccariolaorca* (HELLER): 19 – antenna, left, dorsal, 20 – left elytron, dorsal, 21 – aedeagus, ventral, 22 – aedeagus – apical part, inner view, 23 – aedeagus – apical part, outer view

bordered; hind margin bisinuate. Scutellum moderately large, strongly transverse, narrowly rounded apically, angulate near base. Elytra (fig. 12) 3.90-4.20 mm long, 4.05-4.10 mm wide; 0.96-1.03 times as long as wide; 4.15-4.28 times longer than pronotum and 1.39-1.40 times wider than pronotum; rather coarsely, moderately deeply and densely, irregularly punctate and with seriate punctures on disc, near suture; each elytron decorated with two, transverse, yellow or orange bands – anterior band forms moderately narrow band of irregular posterior edge, surrounding shoulder from behind and almost reaching base of elytra; posterior band with more or less irregular anterior and posterior edges (fig. 12). Lateral margins widely flattened. Epipleura wide basally, gradually narrowing posteriorly, incomplete short distance before apex. Prosternal process (fig. 11) comparatively wide; deeply excised at apex, flat. Intercostal process of mesoventrite pentagonal, widely separates mid coxae, flat, weakly concave anteriorly (fig. 11). Metaventrite about 1.3 times longer than abdominal ventrite 1, very coarsely punctate; provided with two pairs of postcoxal pits; discrimen extending at least along 2/3 length of metaventrite. Abdomen with ventrite 1 as long as three following ventrites combined, with anterior margin of intercoxal process almost straight in male (fig. 17) and excised in female (fig. 18), femoral lines distinct, complete; ventrites 2-4 gradually, slightly shorter; ventrite 5 simple, although in male somewhat more arcuate. Segment 8 retracted; in male sternite 8 very narrow with straight apical margin and tergite 8 weakly pointed apically (fig. 16). Aedeagus (figs 13-15) moderately short and stout, well sclerotized; penis very strongly curved near base with elongate, submembranous gonopore on its outer surface; tegmen placed basally with vestigial tegminal strut; ejaculatory duct very long and stout.

NOTE

This new species is delusively similar to *B. orca* (HELLER) and at the first sight seems to be conspecific with it. Just after recognizing two series of specimens with slightly differently shaped anterior band on the elytron, I decided to study both series more carefully. There are very subtle external features, like the shape of elytral bands and antennal club, that separate *B. orca* from described above *B. celebensis*. Only dissection of the genitalia of both sexes leaves no doubt, that these are two, separate species of *Beccariola*.

TYPE MATERIAL

Holotype: “Indonesia: Sulawesi Utara, Dumoga-Bone N.P., November 1985/ at light/ Hog’s Back camp, Lowland forest 492 m/ R. Ent. Soc. Lond. Project Wallace, B.M. 1985-10/ 96.22/ cf 96.22 P.M. Hammond det.” (BMNH). **Paratypes:** same data as holotype but October 1985, lowland forest 200-300 m, at sap (1: BMNH); same but January 1985, low. Forest ca 200 m, logs (1: MIIZ); “Indonesia, Sulawesi S.O. Kendari airport, 11-14 II. 1994, 30 km W of Kendari, M. Strba & I. Jenis leg. (4: NHMV; 1: MIIZ).

Two paratypes are kept in the collection of the Museum and Institute of Zoology, Warszawa (MIIZ).

DISTRIBUTION

Indonesia (Celebes Is.).

KEY TO THE SPECIES OF *BECCARIOLA* FROM CELEBES IS.

1. Body colour reddish-brown; each elytron covered with large, elongate, black stripe (figs 1, 5) *B. elongata* n. sp.
- . Body colour black; each elytron covered with two pale (orange or yellow) transverse maculae of moderate size (figs 12, 20) 2.
2. Anterior elytral macula larger, almost touching base of elytron (between scutellum and shoulder) with posterior edge bearing short, blunt projections; posterior macula more regular in shape (somewhat transversely oval) (fig. 12); antennal club narrower (fig. 9); aedeagus as in figs 13-15 *B. celebensis* n. sp.
- . Anterior elytral macula smaller, distant from base of elytra with edges at most sinuate; posterior macula transverse with large narrowing in middle (fig. 20); antennal club wider (fig. 19); aedeagus as in figs 21-23 *B. orca* (HELLER)

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