

## A New Species of *Philonthus umbratilis*-Group (Coleoptera, Staphylinidae, Philonthina) from Japan

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**Abstract** *Philonthus ryukyuensis* sp. nov. is described from the Ryukyu Archipelago, Japan, and a key to the species for *Philonthus umbratilis* group of Japan is given.

*Philonthus umbratilis* (GRAVENHORST, 1802) is widely distributed in the Holaeartic Region (SMETANA, 1995). The *P. umbratilis*-group (sensu COIFFAIT, 1974) is a small species group, now composed of three species, viz., *P. umbratilis*, *P. heterodoxus* and *P. indubius*, but no species of the group were reported from Japan. Recently I found three species of this group from Japan, which share the common characteristics with the group. Two of those are known species, viz. *Philonthus indubius* LUZE and *P. albilabris* NORDMANN, and the third one is a new species.

In this paper I am going to describe a new species under the name *Philonthus ryukyuensis* sp. nov., to give diagnostic notes on the *P. umbratilis* group and a key to the Japanese species of this group.

Before going into further detail I wish to express cordial thanks to Messrs. T. ITO, H. KONISHI, Y. MAEDA, Dr. M. YASUI, who were members of the Coleopterological Society of Osaka, Mr. K. AKITA and to Mr. K. ITO for their kind offer of materials; to Dr. K. ANDO for his kindly reading description of this manuscript.

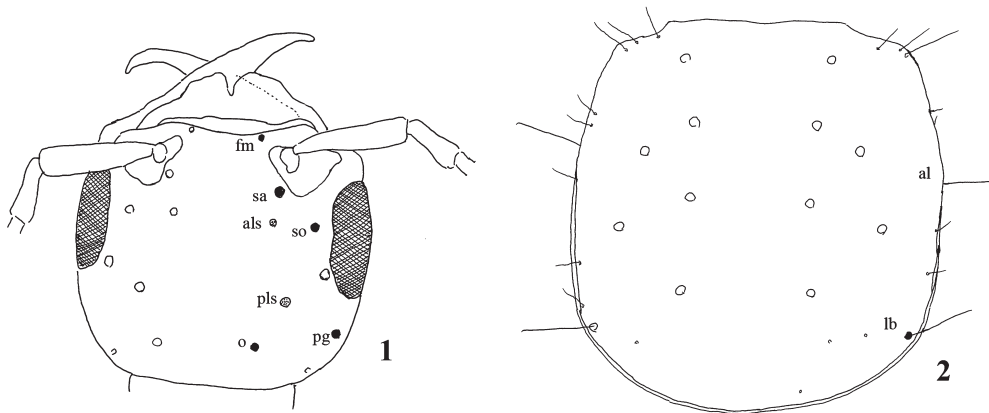
The main terminology and abbreviations used herein follow my previous paper (HAYASHI, 1994). Additional abbreviations are as follows: HW — head width; HL — head length; EL — eye length in dorsal view; PG — post genal length in dorsal view; ML — mandibular length; PW — pronotal width; PL — pronotal length; EW — elytral width; ELL — elytral length.

### The *Philonthus umbratilis* group

(Figs. 1–2)

**Diagnosis.** Head rounded subquadrate, more or less transverse, anterior large seta (als. sensu HAYASHI, 1994) placed slightly before the line between both supra-orbital macrosetae (so), and additionally disc with a few large punctures near inner posterior angle of eye; hind margin of antennal fossa elevated; antennae slender and long, with all antennomeres longer than wide, or 10th one at least as long as wide; pronotum slightly longer than wide, nearly parallel-sided, with dorsal rows each consisting of four punctures and each lateral row of two punctures; elytra with ambiguous reflection in many cases; 1st metatarsomeres a little shorter than 5th; 8th ventrite sharply and triangularly incised at hind margin, but not impressed just before the incision; male 9th ventrite without a pair of long erect setae; male genitalia symmetrical, slender, straight, and penis markedly reflexed dorsally in apical portion; parameres semitransparent in apical half, folded dorsad at sides, and peg-setae fine, arranged transversely at about the middle of the inner face.

This species group is including the following species: *P. umbratilis*, *P. indubius*, *P. albilabris*, *P. heterodoxus* and *P. ryukyuensis* sp. nov.



Figs. 1–2. *Philonthus indubius* LUZE (chaetotaxy of macrosetae). — 1, Head (als, anterior large seta; fm, front marginal; pg, postgenal; pls, posterior large seta; o, occipital; sa, supra-antennal; so, supra-orbital); 2, pronotum (al, antero-lateral; lb, latero-basal).

***Philonthus ryukyuensis* sp. nov.**

(Figs. 3, 6–12)

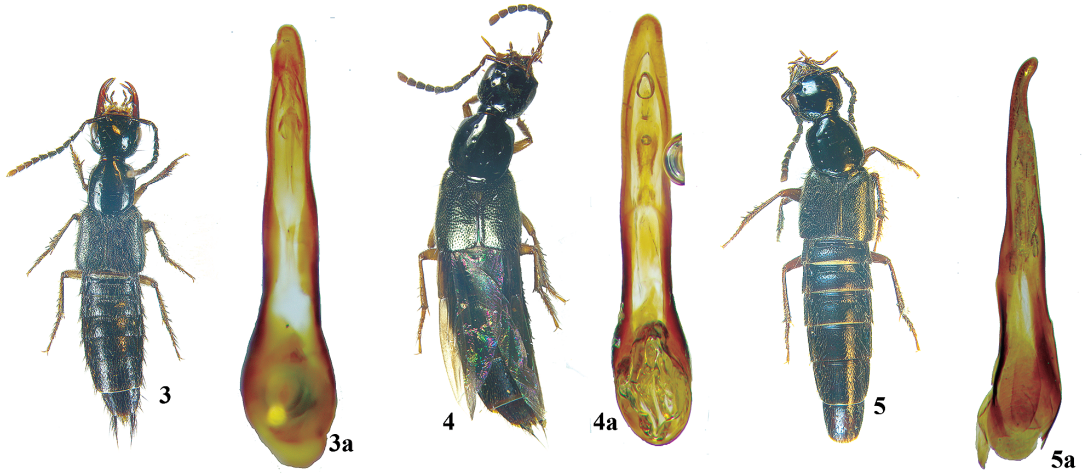
Black, shiny, elytra without metallic luster; antennae with 1st antennomere sometimes pitchy and two or three apical antennomeres pale brownish yellow; mouth parts reddish pitchy; legs brownish yellow, often infusate in knees, and pitchy black in coxae. Length: 6.2–7.3 mm.

**M a l e.** Head rounded subquadrate, a little convergent posteriad, obtusely rounded at posterior angles, slightly emarginate at anterior and posterior margins, wider than long ( $HW/HL = 1.31$ ), somewhat wider ( $HW/PW = 1.04$ ) and much shorter than pronotum ( $HL/PL = 0.71$ ); hind margin of antennal fossa strongly elevated; disc rather strongly convex, covered with fine weak striate microsculpture, without ordinal small punctures in wide median area, and postgenae scattered with numerous small punctures. Mandibles longer than head ( $ML/HL = 1.23$ ), markedly angulate and protuberant laterally at latero-basal angles. Eyes large, moderately convex, a little longer than postgenae ( $EL/PG = 1.23$ ). Antennae slender, long, not thickened apically, reaching near middle of elytra, and every antennomere longer than wide; relative length of each antennomere from base to apex as follows: 40 : 20 : 30 : 20 : 19 : 19 : 18 : 18 : 16 : 16 : 27.

Pronotum oblong, a little longer than wide ( $PL/PW = 1.11$ ), much narrower and slightly shorter than elytra ( $PW/EW = 0.72$  &  $PL/ELL = 0.89$ ); sides nearly parallel-sided and faintly emarginate in posterior half; anterior margin straight, slightly produced medially in width of neck, obliquely emarginate at sides, and obtusely rounded at anterior angles; posterior angles largely rounded and shifting to gently arcuate posterior margin; disc gently and evenly convex, more weakly microsculptured than on head, with very sparse small punctures along margins.

Scutellum somewhat depressed, with dense and small punctures.

Elytra subquadrate, a little wider than long ( $EW/ELL = 1.11$ ), weakly divergent posteriad, nearly straight at sides, widely rounded at postero-lateral angles, and rather strongly emarginate at apices; disc weakly convex, not microsculptured, with small and sparse punctures, and interstices between punctures twice as long as diameter of the puncture, and pubescence blackish. Wings well developed.



Figs. 3–5. *Philonthus* spp., Habitus and penis in euparal (a). — 3, *Philonthus ryukyuensis* sp. nov.; 4, *P. albilabris* NORDMAN; 5, *P. indubius* LUZE.

Abdomen weakly subfusiform, basal line duplicate in 3rd to 5th tergites, the space between them elevated and with a transverse row of fine punctures, the hind line of 3rd tergite feebly emarginate, those of the 4th and 5th weakly protuberant at each middle; 3rd to 5th each coarsely, and densely punctured just along the hind line, and the rest surface very sparsely and finely punctured; punctures on 6th and 7th fine and dense near base, becoming sparser and finer posteriorly; 8th evenly very sparsely and finely punctured, gently arcuate at apical margin with weak angulation at the middle; 10th (Fig. 6) nearly truncate at apex; 6th ventrite weakly emarginate at hind margin; 7th (Fig. 7) weakly emarginate at apex, faintly depressed in middle as a transverse cordiform, where the surface covered with rhomboidal tuft of dense pubescence, which is short and fine; 8th (Fig. 8) sparsely punctured, triangularly deeply incised at apical margin.

Legs elongate, with three basal protarsomeres rather strongly dilated.

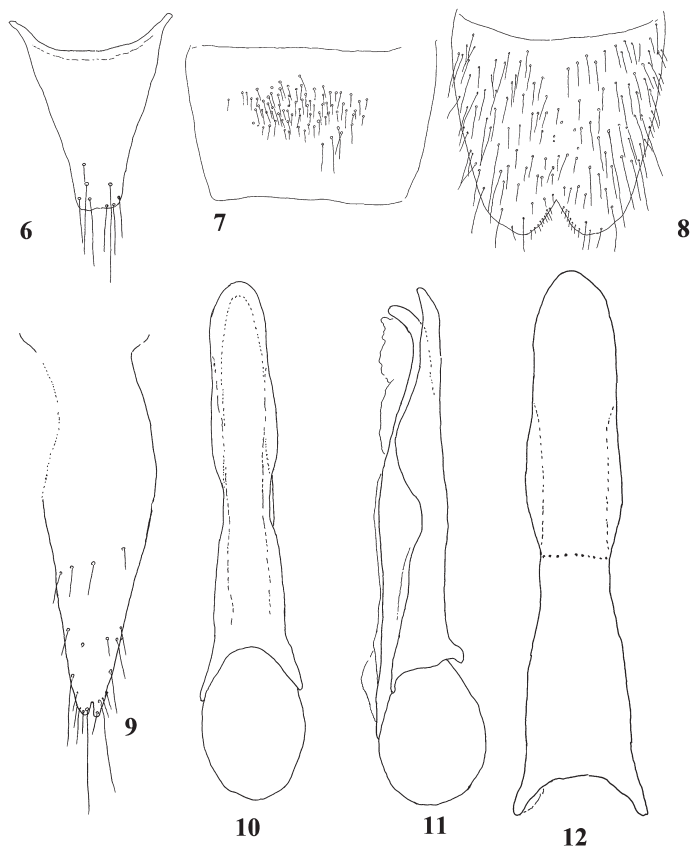
Male genitalia (Figs. 10–12) elongate, nearly straight and symmetrical; penis elongate, in dorsal view, weakly sclerotized in dorsum, elongate, somewhat undulate at sides, weakly tapered to rounded apex, and strongly reflexed dorsally in apical portion; parameres unilobed, semitransparent, strongly folded dorsad and gently emarginate at sides, flattened in ventral face, elliptically expanded in apical half, rounded at apex, the folded lateral face expanded in semilunula in apical third, and inner face with a transverse row of about ten fine peg-setae at about the middle.

*F e m a l e.* Head relatively small, as long as wide, as wide as and less shorter ( $HL/PL = 0.83$ ) than pronotum, and less convergent posteriorly; eyes relatively large, much longer than postgena ( $EL/PG = 1.60$ ); 7th ventrite without tuft; 8th ventrite widely rounded at posterior margin.

*Holotype:* ♂, Mt. Omotodake, Ishigakijima Is., Okinawa Pref., 22.V.2010, H. KONISHI leg. (The holotype and a part of the paratypes are deposited in the collection of Osaka Museum of Natural History). *Paratypes:* 2 ♂♂, 4 ♀♀, same data as the holotype; 1 ♂, 1 ♀, Nishinakama, Amami-Ōshima Is., Kagoshima Pref., 5.IV.1969, Y. MAEDA leg.; 1 ♂, Nago, Okinawajima Is., Okinawa Pref., 15.VII.1965, M. YASUI leg.

*Etymology.* The species is named after the type localities, the Ryukyu archipelago.

*Notes.* Diagnosis and differences are showed in the key. The new species is very similar to *P. al-*



Figs. 6–12. *Philonthus ryukyuensis* sp. nov. — 6, Tenth tergite; 7, 7th ventrite; 8, 8th ventrite; 9, 9th ventrite; 10, male genitalia, ventral view; 11, ditto, lateral view; 12, paramere, inner face.

*bilabris* NORDMANN in the general appearance and male secondary sexual features, but in the latter species the eyes are as long as postgenae and the elytra have distinct greenish-bronze sheen.

***Philonthus albilabris* NORDMANN, 1837**

(Figs. 4, 13–18)

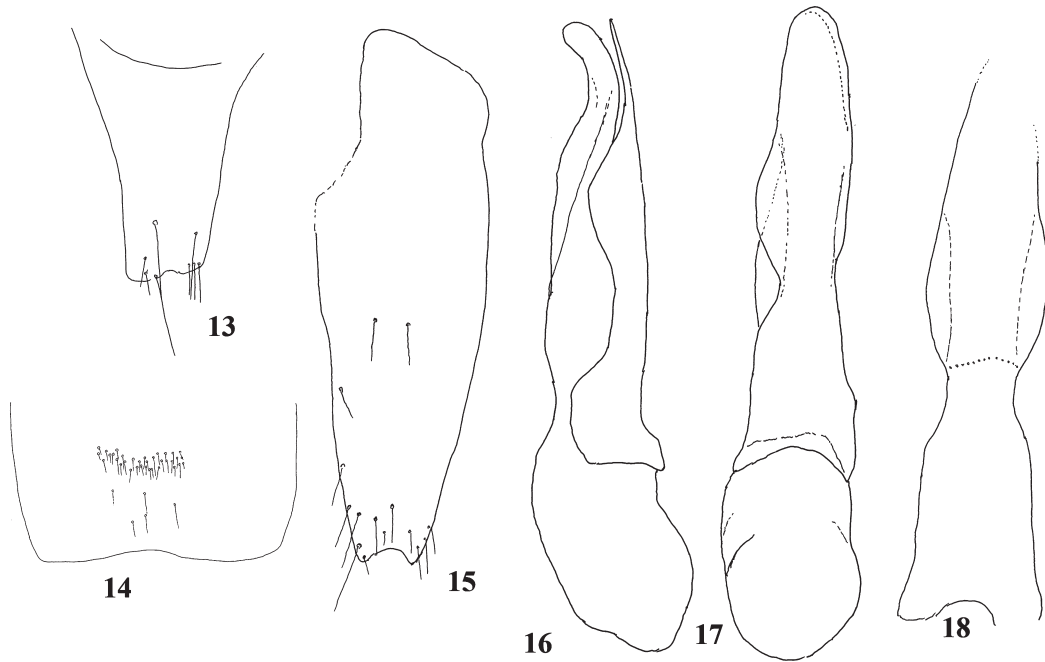
*Philonthus albilabris* NORDMANN, 1837: 86.

*Philonthus frater* BERNHAUER, 1907: 387; SCHILLHAMMER, 1999: 61.

Other references, see HERMAN, 2001: 2742.

*Specimens examined.* 1 ♀, Mt. Amaishiyama, Sasayama-shi, Hyogo Pref., 14.VII.1992, Y. HAYASHI leg.; 1 ♂, Mikuni-tôge, Kutsuki-mura, Shiga Pref., 14.VI.2009, Y. HAYASHI leg.; 1 ♀, Mt. Daimanji, Oki Is., Shimane Pref., 3.V.2004, Y. HAYASHI leg.; 1 ♂, Yagisawa, Yuzawa, Niigata Pref., 8.VI.2013, K. AKITA leg.; 1 ♂, 2 ♀♀, Yagyû-kaidô, Nara-shi, Nara Pref., 10.IV.2014, K. ITO leg.; 1 ♀, Yagyû-kaidô, Nara-shi, Nara Pref., 27.IV.2014, K. ITO leg.

*Diagnosis.* Head subquadrate, parallel-sided, a little wider than long (HW/HL = 1.19), slightly



Figs. 13–18. *Philonthus albilabris* NORDMANN — 13, Tenth tergite; 14, 7th ventrite; 15, 9th ventrite; 16, male genitalia, lateral view; 17, ditto, ventral view; 18, pramere (apical part broken).

narrower and much shorter than pronotum ( $HW/PW = 0.93$  &  $HL/PL = 0.69$ ); eyes large, as long as postgenae; mandibles almost as long as head; pronotum a little longer than wide ( $PL/PW = 1.13$ , much shorter and narrower than elytra ( $PW/EW = 0.72$  &  $PL/ELL = 0.85$ ); elytra with weak aeneous luster; male 7th ventrite (Fig. 14) faintly depressed in middle, with a semilunular tuft of pubescence there; penis rather thick, less reflexed dorsad; parameres (Fig. 18) subovally dilated in flattened apical portion, with transverse row of fine about 10 peg-setae at middle of inner face.

*Distribution.* Japan; Russian Far East, Hongkong.

#### *Philonthus indubius* LUZE, 1904

(Figs. 5, 19–23)

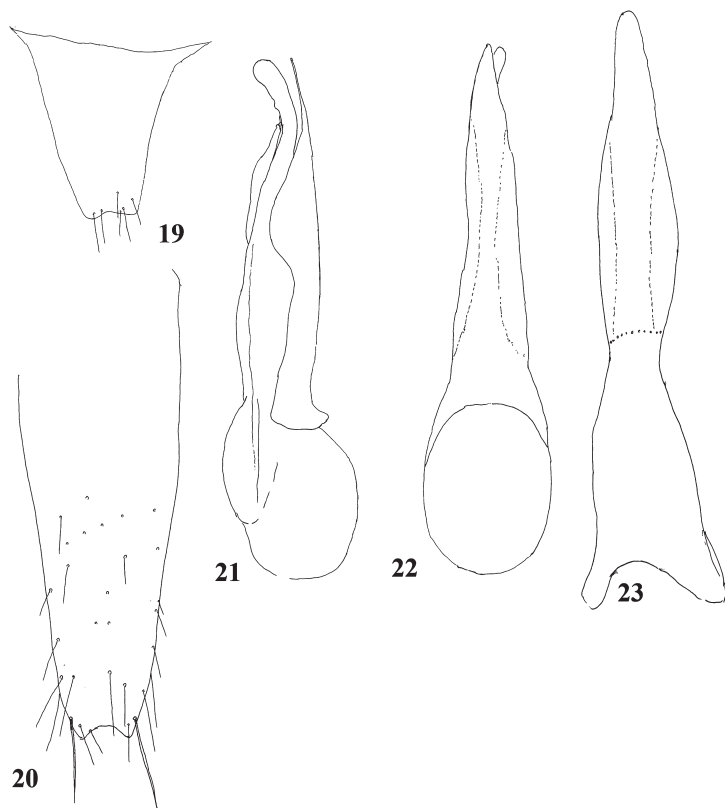
*Philonthus indubius* LUZE, 1904: 95.

*Philonthus eppelscheimi* COIFFAIT, 1967: 445; SCHILLHAMMER, 1992: 66.

Other references, see HERMAN, 2001: 2843.

*Specimens examined.* 3 ♂♂, 4 ♀♀, Mt. Koujin, Yamato, Nara Pref., 30.VI.1968, T. ITO leg.; 1 ♂, 1 ♀, same locality, 7.VIII.1966, T. ITO leg.; 1 ♂, 2 ♀♀, same locality, 17. VIII. 1965, T. ITO leg.; 1 ♂, same locality, 2. V. 1968, T. ITO leg.; 2 ♂♂, 5 ♀♀, same locality, 2.V.1966, T. ITO leg.; 1 ♀, Mt. Koya, Wakayama, 5.V.1968, T. ITO leg.

*Diagnosis.* Head subquadrate, a little wider than long ( $HW/HL = 1.19$ ), slightly narrower than and much shorter than pronotum ( $HW/PW = 0.98$  and  $HL/PL = 0.76$ ); eyes comparatively small, a lit-



Figs. 19–23. *Philonthus indubius* LUZE. — 19, Tenth tergite; 20, 9th ventrite; 21, male genitalia, lateral view; 22, ditto, ventral view; 23, paramere, inner face.

tle shorter than postgenae ( $EL/PG = 0.89$ ); mandibles slightly longer than head ( $ML/HL = 1.08$ ); pronotum slightly longer than wide ( $PL/PW = 1.08$ ), much narrower and shorter than elytra ( $PW/EW = 0.62$  &  $PL/ELL = 0.78$ ); elytra with weak subaeneous luster; male 7th ventrite not depressed medially, without tuft, but somewhat more densely pubescent in middle than lateral area; male genitalia (Figs. 21–23) symmetrical, slender and straight, penis weakly reflexed in apical portion, parameres slender, gently convergent toward rounded apex, with a transvers row of ten and a few minute peg-setae at the middle of inner face.

*Distribution.* Japan (new record); Afghanistan, Tajikistan, Uzbekistan.

#### Key to the Japanese Species of *P. umbratilis* Group

1. Length of eye much longer than postgena ( $EL/PG = 1.23$ ); head more than 1.3 times as wide as long and slightly wider than pronotum; mandible more than 1.2 times as long as head; elytra without aeneous luster ..... *ryukyuensis* sp. nov.
- Length of eye at most as long as postgena; head less than 1.2 times as wide as long and slightly narrower than pronotum; mandible less than 1.1 times as long as head; elytra with aeneous luster ..... 2

2. Length of eye as long as postgena; pronotum 1.44 times as long as head; male 7th ventrite with a faint depression and a rhomboidal tuft of pubescence ..... *albilabris* NORDMANN  
 — Length of eye a little shorter than postgena; pronotum 1.32 times as long as head; male 7th ventrite without depression and tuft ..... *indubius* LUZE

## 要 約

林靖彦：日本産 *Philonthus umbratilis* 種群の新種記載 (鞘翅目ハネカクシ科)。——— *P. umbratilis* LUZE は全北区に分布する種であるが、日本からの記録はない。COIFFAIT, 1974 はこの種を模式種として *umbratilis* 種群を提唱した。この種群は従来日本から記録がなかったが、日本産コガシラハネカクシ群を検討した結果、日本のファウナに3種を認めた。うち2種は既知種で、*P. albilabris* NORDMANN と *P. indubius* LUZE がこの種群に属していることが判明し、残る一種は新種と認め、*P. ryukyuensis* sp. nov. と命名、記載し、日本産3種の検索表を付した。これら3種はきわめてよく似ているが、頭部、前胸背板、雄2次性徴などで判別できる。

新種 *P. ryukyuensis* は上翅の金属光沢を欠き、頭部は前胸背板よりやや幅広く、複眼は大きく後頬部より長い。雄第7腹板中央にやや密な毛斑がある。奄美大島から南西諸島にかけて分布する。

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