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New weevil species from the Philippines (Coleoptera: Curculionidae)

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Abstract

Five new species of Curculionidae are described from the Philippines: *Augustinus disiunctus* (Cryptorhynchinae), *Hyotanzo scaber* (Ceutorhynchinae), *Tivicis parvidens*, *T. proximus* and *T. stellifer* (Cyclominae). A key to the species of the genus *Tivicis* MORIMOTO is included. The three above genera were thus far unknown from the Philippines.

Key words: Coleoptera, Curculionidae, new species, *Augustinus*, *Hyotanzo*, *Tivicis*, Philippines.

Introduction

The Philippines, comprised of more than 7,000 islands, arisen either by volcanic events or by separation from the mainland and bridging the Oriental and Australian Regions, are inhabited by a most diverse insect fauna. This is particularly true for weevils, and a great many of the described Philippine ones have a restricted distribution in often just a few close localities of a single island.

The author spent three weeks in the northeast of Luzon and in the seldom visited island of Catanduanes, where he collected several new species, some of them belonging to remarkable genera previously unknown from the Philippines.

Methods

As customary for weevils, total length was measured from base of rostrum to tip of elytra. When counting elytral intervals, the sutural one is always comprised. Label data are given under quotation marks, a slash indicates the change of line on the same label. Pictures were taken with a JVC-GC-X1 camera associated with a Wild M5 microscope and successively elaborated with the free program Combine Z5 by Alan Hadley and with the program Adobe Photoshop 7.0. All type specimens are preserved in the author's collection. Photographs of *Hyotanzo uenoi*, *Tivicis maculatus* and *T. aeratus* were downloaded from <http://kogane.wem.sfc.keio.ac.jp>.

The aedeagus of the paratype of *Tivicis proximus* was not examined to avoid risk of damaging.

Augustinus disiunctus sp.n.

TYPE MATERIAL: **Holotype** ♂: "Philippines - Catanduanes / Gigmoto - Nahlugan falls / 13.43.30N 124.27.13E / 7.III.2007 - G. Meloni", "beaten from an / unknown Lamiaceae". **Paratypes**: 2 ♂♂, 3 ♀♀, same label data as holotype, except that the collector is E. Colonnelli.

DESCRIPTION: Habitus of the holotype (Fig. 1). Length: 4.37 mm.

Derm piceous, antennae and claws ferrous-red, tarsi pitchy-brown. Head and rostrum moderately densely clothed by recumbent whitish, narrowly elongate scales, which are much sparser on

sides of pronotum, forming an ill-defined lateral longitudinal stripe on elytral suture and on legs. Some lanceolate dense white scales found on sides of rostrum, below eyes, on mesepimera and on the posterior third of metepisterna. Elytral tubercles with slanted brownish hair-like scales. Moderately dense recumbent whitish lanceolate scales on underside. In addition, there are traces of the yellow pruinosity that cover the living specimen. Rostrum 0.89 times as long as pronotum, four times as long as wide, curved and quite strongly and regularly dilated from base to apex, dorsum finely punctured, with thin carina from base to near apex, which is finely sulcate between antennae, that are inserted just apicad of middle of rostrum. Scape thin, slightly curved and moderately clubbed, with an apical spine-like seta directed upwards and slightly longer than joint 2 of funiculus, which is the longest of all the 7 quite elongate ones. Club large, fusiform, as long as the three preceding joints. Head globose, coarsely punctured, frons rather deeply impressed, eyes large, slightly protruding above head convexity. Pronotum $0.77 \times$ as long as wide, sides converging almost in straight line to the somewhat constricted and slightly indented anterior margin, base slightly bisinuose, disc not very strongly gibbose, with punctures of moderate size and with entire but exceedingly shallow dorsal channel, only on top of dorsal gibbosity with few minute sharp granules. Elytra about as long as wide, depressed around scutellum, maximum width immediately behind protruding humeri, base with upraised bare margin, sides almost straight and rather quickly narrowing to apex, preapical tubercles weak. Striae sulciform, punctures catenulate. Intervals wider than striae, all with rasp-like tubercles which are minute and quite regular on the even-numbered ones, which are also narrower than the more convex odd intervals. Tubercles on odd interstriae not forming distinct ridges, the largest are on interval 3 from about basal $1/5$ to just apicad of midpoint, on interval 5 at base and on middle, on 7 just basad of middle, for the rest they are relatively small and quite regularly disposed. Femora moderately clubbed, elongate, toothed, tooth of broadened metafemora stronger than others. Tibiae not reaching trochanters in repose, meso- and metatibiae with strong acute apical mucro, that of mesotibiae about 1.5 times as long as mesotibial one. Second tarsal joint much shorter than the elongate basal one, claws appendiculate. First two visible urosternites with a common, rather deep impression in the middle, urosternite 5 with longitudinal thin sulcus flanked by two tufts of erect clustered white-yellowish hair-like scales. Pygidium moderately convex and not carinate.

Aedeagus: Fig. 2.

Paratypes. Length: 4.67–4.80 mm. The male is almost identical to the holotype, whereas in the female the antennae are inserted at midpoint of rostrum, mesoventral receptacle for rostrum slightly protruding over mesoventral surface, first two urosternites not depressed, and tibial mucros lacking.

DIFFERENTIAL DIAGNOSIS: Features of *Augustinus disiunctus* approach it to *A. aspericollis* (KOROTYAEV, 1981), *A. medvedevi* (KOROTYAEV, 1981), *A. latus* (KOROTYAEV, 1981), *A. simplex* (KOROTYAEV, 1981) and *A. intermedius* (KOROTYAEV, 1981), all from Vietnam. According to KOROTYAEV (1981), the smaller (up to 4.20 mm) *A. aspericollis* possesses pronotal granules in front of basal angles, ridged elytral intervals 3 and 5, longer tibiae not reaching trochanters in repose, less strongly toothed middle and hind femora, carinate pygidium, and a much shorter aedeagus with remarkably concave sides towards apex. *Augustinus medvedevi*, which is much smaller (3.60 mm) than *A. disiunctus*, has a short aedeagus with much narrower apical part and strongly concave sides, lacks pronotal granules, has a row of white scales at basal third of intervals 3 and 5 of elytra, and the pygidium strongly convex. Also *A. latus*, known from a single female, apart the small size (3.60 mm), has no pronotal granules, rostrum very weakly dilated to apex, a ridge-like tubercle on interval 3, elytra 1.14 times as wide as long. The new species cannot be confused with *A. intermedius* which is much smaller (3.70 mm) and has a slightly convex pronotal disc, and the anterior margin of the same quite strongly projected

forward and deeply notched in the middle. *Augustinus simplex* has the frons weakly impressed, rather feebly convex and a minutely punctured pronotal disc, sides of elytra weakly rounded, wider elytral intervals, and is smaller (4.00 mm). The remaining three groups of *Augustinus* KOROTYAEV, 1981 (see YOSHITAKE 2005), consist of species very different from *A. disiunctus*: sharply tuberculate pronotum with narrowly elongate aedeagal apex (*sasakii* group, three species from Japan, Korea and Vietnam), or rostrum not keeled with blunt aedeagus either with edentate (*longipes* group, two species from Japan) or toothed femora (*bouvieri* group, two species from Japan).

ETYMOLOGY: The Latin name of the new species, meaning remote, was chosen to stress that the type locality is quite far from the known distribution of the remaining ones.

Hyotanzo scaber sp.n.

TYPE MATERIAL: **Holotype** ♂: "Philippines - Catanduanes / Balite / 13.32.87N 124.09.81E / 8.III.2007 - E. Colonnelli", "sifted from litter / near seashore". **Paratypes**: 3 ♂♂, 2 ♀♀, same label data as holotype.

DESCRIPTION: Habitus of the holotype (Fig. 4). Length: 4.00 mm.

Integument pitchy brown, antennae, underside of head and rostrum, tibiae and tarsi dark ferrous-red. Dorsal vestiture formed by semierect sparse yellowish and golden seta-like scales, which are sparser and recumbent on underside. Rostrum $0.75 \times$ as long as pronotum, strongly curved, slightly flattened dorsoventrally, dilated at base, dorsum tricarinate on basal 2/3 and here coarsely punctured, then slightly less densely punctured towards apex. Antennae thin, inserted slightly apicad of middle of rostrum, scape curved, gradually clubbed to apex, all funicular joints not transverse, club fusiform and a trifle shorter than the three preceding joints. Head globose, eyes not protruding from head convexity. Pronotum $0.80 \times$ as long as wide, sides slightly curved basally, then quite abruptly converging to the constricted anterior margin, maximum width at apical fourth, base bisinuose, disc only slightly convex, very coarsely punctured and with two longitudinal sulci from base up to apical third at middle of sides of disc. Elytra oval elongate, $1.43 \times$ as long as wide, dorsally flattened, maximum width at about basal fifth, sides gently curved. Striae formed by strong punctures about twice as large as those of pronotum, disposed in quite regular rows. Intervals much narrower than striae, convex and with a series of weak rasp-like granules. Legs roughly and strongly punctured, femora slightly flattened dorsoventrally, outer margin of tibiae with few irregular spines, the larger of which are near the base and at apical fifth, tarsi rather narrow, joint 3 slightly bilobed and slightly wider than 2, claws edentate. Metaventricle and first urosternite flattened together, the latter more than twice as long as urosternites 2+3, 2–4 about the same length, all with dense coarse large punctures.

Aedeagus: Fig. 3.

Paratypes. Length: 3.50–4.17 mm. Very similar to the holotype. Females differ in their rostrum with punctures slightly less dense than in males, and in the slightly convex abdomen.

DIFFERENTIAL DIAGNOSIS: The only other member of the cryptorhynchine genus *Hyotanzo* MORIMOTO, 1962, *H. uenoi* MORIMOTO, 1962 from Japan and Korea (HONG, EGOROV & KOROTYAEV 2000, KOJIMA & MORIMOTO 2004), has less coarse punctures, no pronotal longitudinal sulci, pronotum and elytra convex and not flattened dorsally, maximum pronotal width at middle, tarsi honey-red, sides of both elytra and prothorax more strongly rounded, and less convex, granulate intervals (Figs. 4, 5).

ETYMOLOGY: The new species is named for the rough appearance of its integument.

Tivicis parvidens sp.n.

TYPE MATERIAL: **Holotype** ♀: "Philippines - Luzon - m 790 / Nueva Ecija prov. - Bongabon / Laby - 15.40.43N 121.17.88E / 20.II.2007 - E. Colonnelli", "beaten off / small shrubs along / forest path".

DESCRIPTION: Habitus (Fig. 6). Length: 2.00 mm.

Piceous, legs brown, scape and first antennal joint honey-red, funiculus and club ferrous-red. Vestiture of sparse recumbent green shining scales, hair-like on pronotum, legs and underside, those on elytra almost round. Rostrum $0.83 \times$ as long as wide and $0.42 \times$ as long as pronotum, shaped like other species of the genus, slightly widening to apex. Structure of antennae, inserted about in the middle of rostrum, not differing from that of other *Tivicis* MORIMOTO, with the scape clubbed and the first joint enlarged and oval. Head elongate, frons slightly impressed, temples clearly longer than the diameter of an eye. Pronotum $0.80 \times$ as long as wide, sides slightly curved, anterior margin about as wide as base, disc quite flat and with dense large deep punctures. Elytra fairly elongate, $1.60 \times$ as long as wide, dorsally flattened, maximum width behind middle. Striae formed by deep large punctures arranged in almost regular rows. Intervals thinner than striae, in the form of convex not very regular ridges. Legs thin, elongate, profemora with single minute spine-like tooth at basal third of inner margin, that of mesofemora extremely small, metafemora edentate.

DIFFERENTIAL DIAGNOSIS: *Tivicis* was originally based on two close species from the Ryukyus in Japan and placed in a new subfamily, Tivicinae, by MORIMOTO (1983). Later, *Tivicis* was transferred to Cyclominae SCHOENHERR, 1826 by ALONSO-ZARAZAGA & LYAL (1999), followed by KOJIMA & MORIMOTO (2004). All thus far known members (not only of *Tivicis* but also of *Viticis* LEA, 1930, the only other and clawless genus of Tivicini), are to be found exclusively on islands (ALONSO-ZARAZAGA & LYAL 1999). *Tivicis parvidens* has sparse scales on the elytral surface, which, in combination with the single minute tooth of fore and middle femora, makes it easily recognizable (Figs. 6–11).

ETYMOLOGY: The shape of the minutely dentate profemora is emphasized by the Latin name meaning "with small tooth".

Tivicis proximus sp.n.

TYPE MATERIAL: **Holotype** ♀: "Philippines - Luzon - m 790 / Nueva Ecija prov. - Bongabon / Laby - 15.40.43N 121.17.88E / 20.II.2007 - E. Colonnelli", "beaten off / small shrubs along / forest path". **Paratype** ♂, same label data as holotype.

DESCRIPTION: Habitus of the holotype (Fig. 7). Length: 2.46 mm.

Piceous, scape, first and second antennal joint honey-red, rest of funiculus and club progressively darker to become pitchy-brown. Vestiture on head and pronotal sides of sparse recumbent, partly hair-like and partly elongate oval whitish nacreous scales, forming a faint lateral band on prothorax. Elytra with nacreous-white patches of large oval, partly overlapping scales arranged in two oval spots at basal third, the first on intervals 4–5, the second on 8–9. Two patches of smaller and more serrate scales on intervals 3–4 and 8 at level of apical third of elytra. Scales of all the above marks do not invade striae, which thus form black narrow lines dividing the spot. Two subapical whitish longitudinal short stripes on intervals 3 and 10. Dorsum of femora with whitish and coppery seta-like and lanceolate recumbent scales, rest of legs with hair-like golden or brownish slanted ones. Rostrum $0.87 \times$ as long as wide and $0.47 \times$ as long as pronotum, just slightly widening towards apex. Antennae inserted about in the middle of rostrum. Head rather elongate, frons slightly impressed, temples slightly longer than the diameter of an eye. Pronotum $0.80 \times$ as long as wide, sides moderately curved, anterior margin slightly narrower than base, disc weakly convex and with moderately dense large deep punctures. Elytra relatively short, 1.47

× as long as wide, dorsally faintly convex, maximum width behind middle. Striae formed by deep, very large, quite regular punctures. Intervals much thinner than striae, in the form of irregular ridges also towards apex. Legs moderately thin, profemora with a hooked acute tooth at basal third plus a spine-like tooth about in the middle, mesofemora with two rather minute sharp teeth, metafemoral tooth small and less acute. Ventrites 1 and 2 weakly convex, shining and with rather sparse large punctures, urosternites 3 and 4 much shorter than 2 and alutaceous as the fifth.

Paratype: Habitus (Fig. 9). Length: 2.27 mm. The male paratype, essentially similar to the holotype, has the integument of femora and tarsi dark brown, scales on upper surface green instead of nacreous, and the usual sexual difference of the first two urosternites (slightly flattened) and ventrite 5 (truncate at apex).

DIFFERENTIAL DIAGNOSIS: Very close to *T. maculatus* MORIMOTO, 1983 from Iriomote and Ishigaki islands, differing by the anterior dorsal spots on elytra extended only on intervals 4 and 5 instead of 4–6, the lack of definite dots at base of intervals 3 and 6, the fine convex elytral interspaces which also towards apex are still narrower than striae (Figs. 7–9). *Tivicis proximus* clearly differs from the other similar Philippine species *T. stellifer* by the anterior dorsal spot on elytra not limited to interval 5 and adjoining striae, the less serrate and much larger scales on light markings, and the colour of the funicle much darker than that of the scape (Figs. 7, 9–10).

ETYMOLOGY: The Latin name, meaning close, was chosen to stress the resemblance of the new species with both *T. maculatus* and *T. stellifer*.

Tivicis stellifer sp.n.

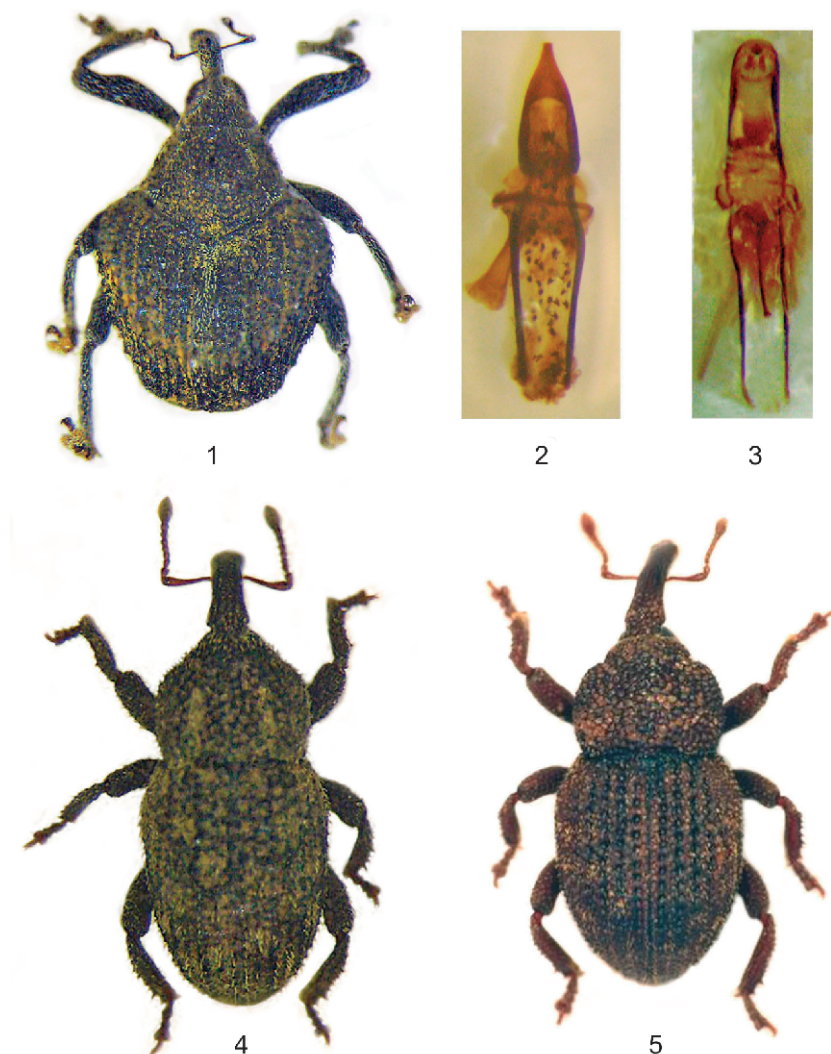
TYPE MATERIAL: **Holotype** ♀: “Philippines - Catanduanes / Puraran / 13.41.38N 124.33.67E / 2.III.2007 - E. Colonnelli”, “tapped from / low vegetation / near seashore”.

DESCRIPTION: Habitus (Fig. 10). Length: 2.33 mm.

Black, tibiae and tarsi brown, scape and funiculus honey-red, club darker. Vestiture on rostrum of moderately dense lanceolate whitish scales with a greenish shimmer, on head vertex a row of recumbent linear longitudinal, similarly coloured scales. Pronotum with two obvious lateral bands of dense nacreous, quite large scales, lanceolate towards apex and becoming oval towards middle and base. Elytra with nacreous-white patches of small oval overlapping and strongly serrate scales arranged in two oval spots at basal third, the first on interval 5 and the two adjacent striae, the small second one on interval 9. Patches at the level of apical third of elytra similar to those described above for *T. proximus*. Subapical whitish stripes on intervals 3 and 10 thicker than those of *T. proximus*. Dorsum of femora with a stripe of whitish and nacreous lanceolate recumbent scales, rest of legs with hair-like golden or brownish slanted ones intermingled with a few scattered white and greenish lanceolate scales. Rostrum $0.80 \times$ as long as wide and $0.48 \times$ as long as pronotum, slightly widening towards apex. Antennae and head similar to those of *T. proximus*. Pronotum $0.70 \times$ as long as wide, sides moderately curved, anterior margin slightly narrower than base, disc weakly convex and with moderately dense large deep punctures. Elytra moderately elongate, $1.58 \times$ as long as wide, otherwise as in *T. proximus*. Legs and abdomen as described for *T. proximus*.

DIFFERENTIAL DIAGNOSIS: Very similar to the preceding species, but easy to identify by its bright white spots formed by adpressed and partly overlapping scales, the dorsal anterior patch on elytra limited to interval 5 and adjacent striae instead of extending over intervals 4 and 5 and divided by a narrow black line on stria 5 as in *T. proximus* (Figs. 7, 9–10). In the latter species the funicle is much darker than the scape, whereas in *T. stellatus* they are not strikingly different.

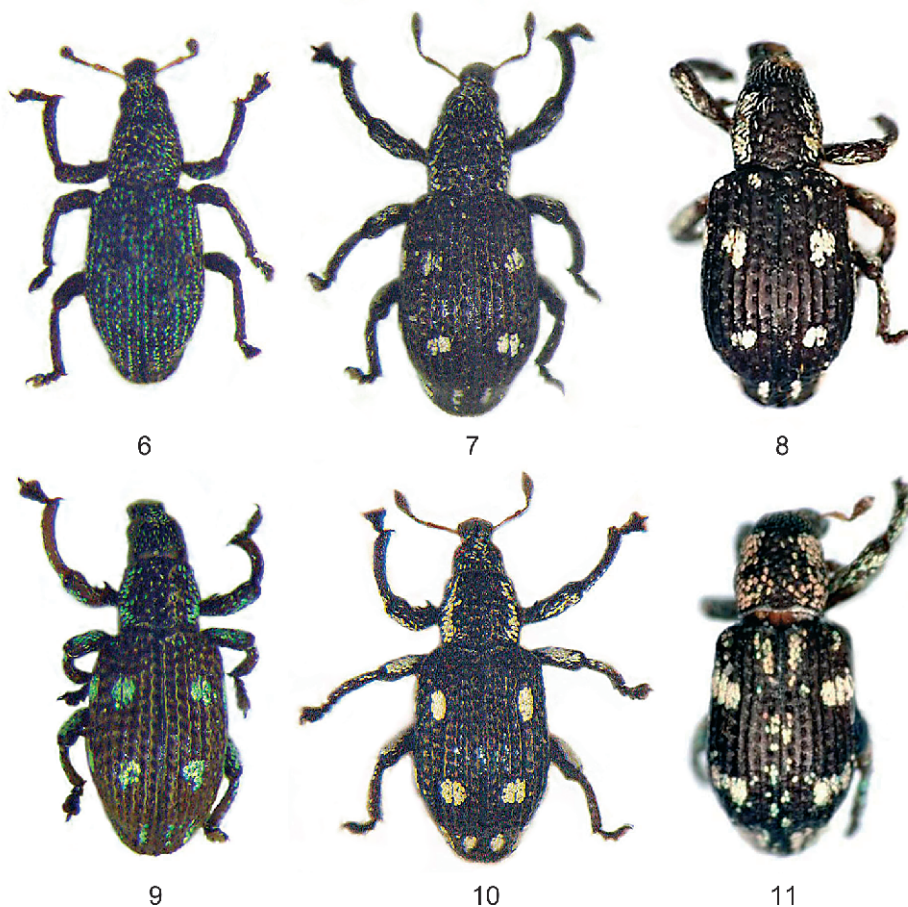
ETYMOLOGY: The black integument strongly contrasting with the light white nacreous elytral spots suggested the Latin name, meaning starred.



Figs. 1–5: 1) *Augustinus disiunctus*, habitus, holotype, 2) *A. disiunctus*, aedeagus, holotype, 3) *Hyotanzo scaber*, aedeagus, holotype, 4) *H. scaber*, habitus, holotype, 5) *H. uenoi*, habitus, male from Nagano, Honshu (Japan).

Key to the species of *Tivicis*

- 1 Elytral scales arranged in spots. Pro- and mesofemora bidentate..... 2
- Elytral scales not arranged in spots (Fig. 6). Pro- and mesofemora with a single minute tooth. Philippines (Luzon). *parvidens* sp.n.
- 2 Both elytral markings in the form of oblique bands from at least interspaces 5–7. In addition to basal spots on intervals 3 and 6, also base of interval 2 with an elongate light spot (Fig. 11). Lateral stripes of pronotum broad. Japan (Iriomote Island). *aeratus* MORIMOTO, 1983



Figs. 6–11: Habitus, dorsal view, 6) *Tivicis parvidens*, holotype, 7) *T. proximus*, holotype, 8) *T. maculatus*, female paratype, 9) *T. proximus*, paratype, 10) *T. stellifer*, holotype, 11) *T. aeratus*, female paratype.

- At least one series of the elytral markings in the form of patch. At most only base of intervals 3 and 6 spotted. 3
- 3 Base of intervals 3 and 6 with a small whitish spot. Elytral interspaces convex and narrower than striae at base, and becoming flat and as wide as striae towards apex. Dorsal elytral patch on basal third extended over intervals 4–6 (Fig. 8). Funiculus and club of antennae much darker than scape. Japan (Iriomote and Ishigaki Islands). *maculatus* MORIMOTO, 1983
- Base of intervals 3 and 6 without spots, sometimes only with isolate scales. Elytral interspaces convex and narrower than striae from base to apex. Philippines (Luzon, Catanduanes) 4
- 4 Dorsal elytral patch on basal third extended over intervals 4 and 5, stria separating them appearing as a thin black line. Elytral markings formed by quite large oval, not tightly serrate scales (Figs. 7, 9). Antennal funiculus and club much darker than scape. Philippines (Luzon)...
..... *proximus* sp.n.
- Dorsal elytral patch on basal third covering only interval 4 and extended over the adjacent striae. Elytral markings formed by small oval tightly serrate scales (Fig. 10). Funiculus and club of antennae only slightly darker than scape. Philippines (Catanduanes). *stellifer* sp.n.

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