

Studies on Scolytidae and Platypodidae (Coleoptera) Found on Imported Logs at Japanese Ports II

— Keys to the Species of Tribe Xyleborini
(except *Xyleborus*) —

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Abstract: Fifty-one species belonging to 8 genera of tribe Xyleborini (except genus *Xyleborus* EICHHOFF) have been found on imported logs. Keys to these species are provided.

Key words: Insecta, Scolytidae, imported logs, classification

Introduction

As the second report of this serial work, in this paper, keys to the 51 species belonging to 8 genera of Tribe Xyleborini found on imported logs at Japanese ports are provided. These species consist of 2 species of *Premnobius* EICHHOFF, 2 species of *Streptocranus* SCHEDL, 16 species of *Arixyleborus* HOPKINS, 5 species of *Xylosandrus* REITTER, 3 species of *Eccoptypterus* MOTSCHULSKY, 2 species of *Schedlia* BROWNE, 4 species of *Cryptoxyleborus* SCHEDL and 17 species of *Webbia* HOPKINS.

Most of these species were identified by the late Mr. F.G. BROWNE. I am much indebted to the late Mr. F.G. BROWNE.

Family Scolytidae

Tribe Xyleborini

Genus *Premnobius* EICHHOFF

Key to the Species (Females)

1. Smaller species, body length 2.3-2.8 mm. First interstria on elytral declivity with row of pointed tubercles; lateral margins rather finely denticulate, without stout, prominent teeth. From tropical West Africa *P. cavipennis* EICHHOFF
- Larger species, body length 3.0-3.4 mm. Declivital interstria 1 devoid of tubercles; teeth on lateral margins fine and larger, largest teeth situated on below middle, which not on summit of margins, placed slightly mesially. From tropical West Africa *P. ambitiosus* (SCHAUFUSS)

Genus *Streptocranus* SCHEDL

Key to the Species (Females)

1. Postero-lateral processes of elytral declivity rather slender, strongly extended, its

- apices sharply pointed and distinctly reflexed; declivital concavity subglabrous. Body length 2.0 mm. From Borneo *S. longispinis* BROWNE
- Postero-lateral processes of elytral declivity broad, less conspicuously extended, its apices rounded and not reflexed; declivital concavity densely covered with long, erect hairs. Body length 2.4 mm. From Borneo *S. bicolor* BROWNE

Genus *Arixyleborus* HOPKINS

Key to the Species (Females)

1. Postero-lateral margins of elytral declivity carinate 2
- Postero-lateral margins of elytral declivity rounded or acutely elevated 6
2. Body slender, more than 2.5 times as long as wide. Elytra truncate or subtruncate behind (convex in *A. minor*); carinate interstriae on elytra not wider at beginning (except *A. suturalis*). Anterior margin of pronotum rounded and unarmed 3
- Body stout, less than 2.3 times as long as wide. Elytra obliquely convex behind; carinate interstriae of elytra much wider at beginning. Antero-median margin of pronotum produced and armed by teeth 5
3. Elytra truncate behind, declivital face vertical; declivital interstria 1 strongly elevated and with a few teeth on upper area. Body length 1.4-1.5 mm. From Borneo *A. suturalis* (EGGERS)
- Elytra obliquely truncate or weakly convex behind; at least 1 and 3 declivital interstriae elevated and interstria 1 devoid of teeth 4
4. Declivital interstria 2 not elevated and distinctly narrower than 1 and 3. Body length 1.2-1.3 mm. From Borneo *A. minor* (EGGERS)
- Declivital interstriae 1 to 3 elevated and interstria 2 not narrower than 1 and 3. Body length 1.7-1.9 mm. From Philippines, Borneo, Malaya and Cambodia *A. mediosectus* (EGGERS)
5. Posterior half on pronotum punctate; anterior margin of pronotum armed by 6 teeth. Sulcate striae on elytral declivity mat. Body length 2.0-2.1 mm. From Moluccas, New Guinea, Bismarek and Solomon Is. *A. subsimilis* SCHEDL
- Punctured area on pronotum restricted to posterior fourth; anterior margin of pronotum armed by 4 teeth. Sulcate striae on elytral declivity smooth, shining. Body length 3.0 mm. From Philippines *A. grandis* (SCHEDL)
6. Elytra sulcate-carinate 7
- Elytra not sulcate-carinate (with impressed striae in *A. granifer* and *A. magnus*) 11
7. Larger species, body length 2.0-2.3 mm. Vestiture on 1 to 3 declivital interstriae long, hairlike; carinate interstriae on elytra much wider at beginning. From Moluccas and New Guinea *A. scabripennis* (BLANDFORD)
- Body smaller, less than 1.8 mm long. Vestiture on 1 to 3 declivital interstriae short, scalelike; carinate interstriae on elytra slightly wider at beginning 8
8. Declivital interstria 1 distinctly wider than 2 and 3, strongly elevated and with double rows of tubercles. Body length 1.4-1.5 mm. From Moluccas and New Guinea *A. iriani* BROWNE

- Declivital interstriae 1 to 3 equally wide and interstria 1 with single row of tubercles 9
- 9. Sutural apex of elytra distinctly produced; declivital interstria 1 not elevated on upper half. Body length 1.4 mm. From Philippines *A. dipterocarpi* BROWNE
- Sutural apex of elytra not produced; declivital interstria 1 to 3 elevated on upper half 10
- 10. Granules on declivital interstriae coarse, with larger toward apex; stria punctures on declivity with fine hairs. Posterior half on pronotum rather densely pubescent. Body length 1.7-1.8 mm. From Philippines *A. imitator* (EGGERS)
- Declivital interstriae with equally sized granules; stria punctures on declivity almost devoid of hairs. Posterior half on pronotum rather sparsely pubescent. Body length 1.6-1.8 mm. From Cambodia, Malaya, Philippines, Borneo, Sumatra, Celebes and Moluccas *A. rugosipes* HOPKINS
- 11. Striae on elytral disc distinctly impressed; elytral apex narrowly to angulately rounded 12
- Striae on elytral disc not impressed; elytral apex broadly rounded (angulately rounded in *A. puberulus*) 13
- 12. Body larger, length 3.7-4.0 mm. Scutellum very small, knoblike. Interstriae on elytral disc with only pointed granules. From Philippines *A. magnus* BROWNE
- Body smaller, length 2.2-2.8 mm. Scutellum large, flat. Interstriae on elytral disc with varying from granules to teeth. From Philippines, Sumatra and Borneo *A. granifer* (EICHHOFF)
- 13. Interstriae on elytral disc finely punctate, without conspicuous granules; costal margins of elytra distinctly ascending posteriorly. Body rather slender, more than 2.6 times as long as wide. Body length 1.7-1.8 mm. From Philippines and Borneo *A. hirsutulus* SCHEDL
- Interstriae on elytral disc without punctures, closely covered with granules; costal margins of elytra descending posteriorly. Body stout, less than 2.4 times as long as wide 14
- 14. Apex of elytra angulately rounded; elytral disc with smooth, shining parts; interstriae with not uniform sized granules. Body length 2.1-2.3 mm. From Borneo *A. puberulus* (BLANDFORD)
- Apex of elytra more broadly rounded; elytral disc entirely mat, without distinct shining parts; interstriae with uniform sized granules 15
- 15. Declivital interstriae 1 to 3 with short bristles, devoid of long hairs. Body length 1.8-1.9 mm. From Philippines, Borneo, Moluccas and Celebes .. *A. granulifer* EGGERS
- Declivital interstriae 1 to 3 densely with long hairs, devoid of short bristles. Body length 2.0 mm. From Moluccas *A. okadai* BROWNE

Genus *Xylosandrus* REITTER

Key to the Species (Females)

1. Declivital surface opaque, stria punctures obsolete and entire surface closely covered with confused granules. Body length 2.1-2.6 mm. From Southeast Asia, New

- Guinea areas, North America and Africa *X. crassiusculus* (MOTSCHULSKY)
- Declivital surface smooth, shining and with stria punctures distinct 2
2. Elytral declivity beginning at middle; interstria hairs on declivity long, more than twice as long as on disc. Body length 2.0-2.4 mm. From Taiwan, China and North America *X. germanus* (BLANDFORD)
- Elytral declivity beginning one-third elytral length from base; interstria hairs on declivity scarcely longer than on disc 3
3. Body larger, length 2.0-2.1 mm. Anterior margin of pronotum armed by 10 asperities. From Celebes and Moluccas *X. derupteterminatus* SCHEDL
- Body smaller, less than 1.8 mm long. Anterior margin of pronotum armed by 6 or 8 asperities 4
4. Interstria punctures on elytral disc distinctly smaller than stria punctures. Anterior margin of pronotum armed by 8 asperities. Body length 1.6 mm. From Philippines *X. morigerus* (BLANDFORD)
- Interstria punctures on elytral disc equal or slightly smaller than stria punctures. Anterior margin of pronotum armed by 6 asperities. Body length 1.6-1.8 mm. From Solomon Is *X. difficilis* (Eggers)

Genus *Eccoptyterus* MOTSCHULSKY

Key to the Species (Females)

1. Elytral declivity with 3 distinctly larger spines on each declivital margin and without teeth behind 2nd spine. Body length 2.4-3.2 mm. From Burma, Philippines, Borneo, New Guinea, Bismarck and Solomon Is. *E. spinosus* (OLIVIER)
- Elytral declivity with 2 or 3 distinctly larger spines on each declivital margin and with 2 to 4 teeth behind 2nd spine 2
2. Elytral declivity with 3 spines on each declivital margin and space between 2nd and 3rd spine with 2 teeth; declivital face with short, fine hairs. Body length 2.6-3.1 mm. From Borneo *E. gracilipes* (EICHHOFF)
- Elytral declivity with 2 spines on each upper declivital margin and with 4 teeth behind 2nd spine; declivital face rather densely covered with inclined, blunt bristles. Body length 3.2-3.6 mm. From Borneo *E. limbis* SAMPSON

Genus *Schedlia* BROWNE

Key to the Species (Females)

1. Major tubercle on each side of elytral declivity stout, conspicuously prominent. Body length 4.6-5.4 mm. From Borneo *S. sumatrana* (HAGEDORN)
- Major tubercle on each side of elytral declivity poorly developed, not conspicuously prominent. Body length 4.7-4.9 mm. From Philippines *S. paraconvexa* BRIGHT

Genus *Cryptoxyleborus* SCHEDL

Key to the Species (Females)

1. Elytra with single, circular fovea near scutellum on each side. Body smaller, length 2.2-2.6 mm. From Borneo *C. subnaevus* Schedl

- Entire elytra without special fovea. Body larger, more than 3.5 mm long 2
- 2. Elytral disc flat, 2nd to 4th interstriae devoid of teeth except near apex. Body length 4.0-4.1 mm. From Borneo *C. shoreae* BROWNE
- Elytra weakly to strongly depressed in middle area of disc, 2nd to 4th interstriae with rows of teeth on depressed area to apex 3
- 3. Body larger, length 4.8-5.0 mm. Middle area on elytral disc more strongly depressed and first two striae deeply impressed on depressed area. Vestiture on pronotum and elytra more abundant. From Borneo..... *C. major* BROWNE
- Body rather smaller, length 3.7-4.2 mm. Middle area on elytral disc less strongly depressed and striae 1 and 2 not or weakly impressed. Vestiture on pronotum and elytra less abundant. From Philippines and Borneo *C. dryobalanopsis* SCHEDL

Genus *Webbia* HOPKINS

Key to the Species (Females)

- 1. Antennal funicle 5-segmented; at least first suture of antennal club procurved on anterior face, posterior face either with or without sutures. Anterior margin of pronotum rounded or nearly transverse and surface smooth or weakly rugose, not shagreened on posterior half 2
- Antennal funicle 4-segmented; first suture of antennal club recurved on anterior face, posterior face without sutures. Anterior margin of pronotum not rounded, nearly transverse and surface distinctly shagreened on posterior half 6
- 2. Declivity circular in outline, surface covered with scales and with toothed margin. Anterior margin of pronotum rounded. Body stout..... 3
- Declivity oval in outline, vestiture on surface hairlike and margin devoid of teeth. Anterior margin of pronotum nearly transverse. Body slender 4
- 3. Declivital face without teeth and margins armed by 40 teeth. Body length 1.8 mm. From New Guinea..... *W. denticulatus* BROWNE
- Declivital face with 1-6 teeth on near suture of each side and margins armed by 28-36 teeth. Body length 2.3-2.6 mm. From Borneo..... *W. spinipennis* SCHEDL
- 4. Apex of elytra broadly rounded. posterior face of antennal club with one procurved suture on near apex. Body length 2.6-2.9 mm. From Borneo
..... *W. dasyurus* BROWNE
- Apex of elytra rounded and separated by a deep, narrowly triangular space at suture. Posterior face of antennal club without sutures..... 5
- 5. Declivital face with fine granules and with rather short, recumbent hairs. Body length 2.1-2.3 mm. From Borneo *W. divisus* BROWNE
- Declivital face more densely covered with erect, long hairs. Body length 3.0-3.6 mm. From Borneo and Sumatra *W. penicillatus* HAGEDORN
- 6. Declivity with special spinelike processes on surface or posterior margins. Body slender, more than 3 times as long as wide 7
- Declivity without special spinelike processes on surface or posterior margins. Body stout, less than 2.9 times as long as wide (except *W. orbicularis*).....11
- 7. Declivital face without spinelike processes; posterior margins of elytra with a

- reflexed spinelike processes on each side ; apical sutural angles either produced or not 8
- Declivital face with a conspicuous spinelike processes on each side ; posterior margins of elytra devoid of spinelike processes ; apical sutural angles strongly produced, forming a pair of spines 9
8. Apical sutural angles of elytra produced ; each marginal tooth on upper half of declivity broad, apices truncate ; punctures on declivity larger than on disc of elytra. Body larger, length 2.4-2.6 mm. From Philippines *W. hatanakai* Browne
- Apical sutural angles of elytra not produced ; each marginal tooth on upper half of declivity acute, apices pointed ; punctures on declivity not larger than on disc, same size or smaller. Body smaller, length 1.8 mm. From Borneo *W. cornutus* SCHEDL
9. Spinelike projections on apical sutural angles of elytra broad, apices truncate. Body length 2.2-2.3 mm. From Philippines *W. obtusipennis* SCHEDL
- Spinelike projections on apical sutural angles of elytra acute, apices pointed 10
10. Space of each projection on apical sutural angles of elytra broad, U-shaped ; apico-lateral angles of elytra weakly produced. Body length 2.4-2.6 mm. From Philippines *W. platypoides* EGGERS
- Space of each projection on apical sutural angles of elytra rather narrow, V-shaped ; apico-lateral angles of elytra well marked, more strongly produced. Body length 2.0-2.3 mm. From Borneo *W. pabo* SAMPSON
11. Behind elytra abruptly truncate, declivity circular in outline and margins with coarser teeth 12
- Behind elytra obliquely truncate, declivity circular or nearly oval in outline and margins minutely denticulate 16
12. Declivital margin with 7-10 teeth on each side 13
- Declivital margin with 14 or 15 teeth on each side 15
13. Declivital margin with 7 large teeth on each side. Body length 3.1 mm. From Borneo *W. 14-spinatus* SCHEDL
- Declivital margin with 9 or 10 teeth on each side 14
14. Declivital margin with 9 teeth on each side. Body length 2.7-3.1 mm. From Borneo *W. 18-spinatus* SAMPSON
- Declivital margin with 10 teeth on each side. Body length 2.8-3.1 mm. From Philippines *W. dentatus* EGGERS
15. Declivital margin with 13 or 14 teeth on each side ; 1st interstria on declivity not strongly elevated in middle area. Body length 2.5 mm. From Borneo *W. multidentatus* BROWNE
- Declivital margin with 13-15 teeth on each side ; 1st interstria on declivity strongly elevated and carinate in middle area. Body length 2.7-2.9 mm. From Vietnam, Philippines, Sumatra and Borneo *W. 30-spinatus* SAMPSON
16. Body slender, more than 3.4 times as long as wide. Elytral declivity nearly oval in outline, lower margins not carinate and declivital interstriae strongly elevated, carinate. Body length 1.6-2.0 mm. From Philippines and Borneo *W. orbicularis* SCHEDL

- Body stout, less than 2.7 times as long as wide. Elytral declivity circular in outline, lower margins carinate; declivital face flat, interstriae not elevated (except lower half on 1st interstria). Body length 1.9-2.1 mm. From Borneo
..... *W. sarawakensis* SCHEDL

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