THREE NEW SPECIES OF SCOLYTIDAE FROM AUSTRALIA, AND SOME INTRODUCED COLEOPTERA.

224. Contribution to the Morphology and Taxonomy of the Scolytoidea.

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Synopsis.

The Forestry Commission of New South Wales submitted for identification a number of Coleoptera introduced from various countries, and two from New South Wales. There were about an equal number of specimens of the Scolytidae and Platypodidae and two specimens of the Bostrychidae.

Scolytid adults represented in the collection, like the platypodids, are ambrosia beetles which drill entrance holes into wood, make galleries of various designs, deposit eggs freely in the tunnels, and the larvae live on the ambrosia fungus cultivated within the galleries by the parent beetles.

While some of the species concerned were introduced from countries with quite different climatic conditions, other species like *Platypus hintzi* Schauf. may find the climate of New South Wales quite suitable for reproduction so that their possible establishment should be considered. Therefore it seems advisable to record the species introduced, noting at the same time the range of their natural distribution.

Descriptions of two new species of the Scolytidae originating from other sources, and one new species submitted by the Forestry Commission of New South Wales, are also given.

Descriptions of New Species.

Xyleborus exactus, n. sp.

Female. Ferruginous, 2·4 mm. long, 2·9 times as long as wide. Closely allied to *Xyleborus tereticollis* Schedl but somewhat larger, the striae on the truncate elytral declivity more strongly impressed, the strial punctures much coarser and the circular margin more elevated. *Front* subopaque, broadly convex, minutely punctulate, with a few scattered small punctures and with some longer hairs along the epistomal margin. *Pronotum* longer than wide (32 : 25), cylindrical, postero-lateral angles rounded, sides parallel on the basal three-fifths, apex broadly rounded, a subapical constriction difficult to recognize, apical margin with some very low asperities; summit well before the centre, feebly depressed behind, apical area densely and finely asperate, posterior area subshining, somewhat finely shagreened, with rather remotely placed fine punctures and the median line elevated, pubescence very short, inconspicuous. *Scutellum* of moderate size, shining. *Elytra* as wide as, and 1·25 times as long as the pronotum, of the same general shape as in *X. tereticollis*, cylindrical, steeply truncate, declivital face shining, striate-punctate, the striae impressed, the strial punctures large and densely placed, the interstices flat, each one with a median row of very small punctures bearing minute inclined hairs, suture elevated toward the apex, the punctures replaced by minute granules.

Holotype: In the collection of Schedl.

Locality: Cairns, Queensland.

Carchesiopygus dentipennis, n. sp.

Male. Fusco-rufous, 3·6 mm. long, four times as long as wide. A rather peculiar species of doubtful position provisionally placed in the genus *Carchesiopygus* Schedl. *Front* flat, subopaque, shallowly areolate-punctate, the punctures bearing fine erect

hairs, not separated from the vertex by an acute angle. *Pronotum* longer than wide (31 : 26), widest at the posterior angles of the rather shallow femoral emarginations, surface subshining, extremely densely covered with punctures of varying size, median sulcus long and fine, pubescence absent except for a few hairs along the anterior margin. *Elytra* feebly wider (27 : 26) and twice as long as the pronotum, widest shortly before the declivity, the sides nearly straight, surface opaque, the interstices indicated by raised lines being more distinct toward the declivity and on the alternate interstices, the sulci situated between these ridge-like structures shallow and minutely reticulate-punctulate, the elytra but feebly thickened behind so that the subperpendicular declivity is rather low; at the apex of the horizontal elytra the interstices 1, 3, 5, 7 and 9 dentate, interstices 2, 4 and 6 feebly elevated and ceasing before the apical margin, the short triangular teeth of interstices 1 and 6 of equal length, the teeth of interstices 3 and 5 much longer and of the same slender shape, beneath tooth of interstice 5 another still longer slender tooth originating on the apical margin of the elytra, the tooth on the extreme side in prolongation of the 9th interstices about as long as the lower tooth on continuation of interstice 5 bifid. Last abdominal sternite large and concave.

Holotype: In the collection of Schedl.

Locality: New South Wales, Australia.

HYPOCRYPHALUS MOOREI, n. sp.

Male. Pitchy black, 1·3 mm. long, 2·3 times as long as wide. A very distinct species of a general appearance similar to many species of the genus *Trypophloeus* Fairm.; moreover, with a rather rare sexual dimorphism. *Front* plano-convex on a wide area, limited above by a fine raised and curved carina, frontal face minutely punctulate, fine and densely punctured, sometimes with slight indications of a median longitudinal carina, pubescence dark and very short. *Pronotum* much wider than long (16·5 : 10·0), widest shortly before the base, postero-lateral angles of more than 90°, feebly rounded, sides distinctly divergent on the basal fifth, thence strongly and obliquely narrowed, a subapical constriction indicated, apical margin rather narrowly rounded, armed with four pointed asperities, the two median ones distinctly larger; summit very high, situated somewhat behind the middle, apical area steeply declivous, with medium-sized asperities on a rather narrow space, basal area short, shining, densely and finely punctured, a dark very short pubescence all over. *Scutellum* large, triangular, finely punctured. *Elytra* very feebly wider and more than twice as long as the pronotum, sides parallel on the basal half, gradually incurved behind, apical margin moderately broadly rounded, declivity commencing in the middle, gradually and obliquely convex; disc finely, densely punctured and more or less transversely wrinkled near the base and on the sides, the puncturation of the main rows difficult to separate from that of the interstices, the punctures on the suture replaced by a row of minute pointed granules toward the declivity, but nearly disappearing on the lower part of it, declivital face with the suture not the second interstice distinctly raised, the latter armed with larger and setose granules, the same type of granules on interstices 3 and 4; pubescence extremely short on the disc, distinctly larger on the declivity.

Female. Similar to the male but without granules on the declivity, finely and very densely punctured, the interstices indicated by rows of somewhat larger feebly spatulated hairs.

Types: Holotype and paratypes are in the collection of The Australian Museum, Sydney, New South Wales; paratypes also in the collection of Schedl and the Forestry Commission of New South Wales.

Locality: Somersby, N.S.W., 6 vi 1963, K. M. Moore.

Host-plant: *Hakea sericea* Schrad.

Notes: Larvae were collected in stems of the host-plant which had been fire-damaged several months previously. Adults emerged during October, 1963.

SPECIMENS FROM THE FORESTRY COMMISSION OF N.S.W.

Family Bostrychidae.

Dinoderus minutus Fab.

Widespread in all tropical regions. Sydney, 15 May 1962, from India.

Family Scolytidae.

Hypothenemus eruditus Westw.

Somersby, N.S.W., 6 vi 1963, K. M. Moore.

This species was reared from the same stems of *Hakea sericea* as was *Hypocryphalus moorei.*

Ozopemon fijianus Schedl.

Described from Fiji Islands. Sydney, 8 ii 1963, from Fiji; Sydney, 4 iii 1963, taken 26 iii 1963.

Xyleborus bidentatus Motsch.

Sydney, N.S.W., 9 i 1964, from New Guinea; live beetles cut from timber, H. Jaffe.

Xyleborus cognatus Blandf.

Distribution: Ceylon to the Philippines, east to New Guinea and Bougainville Is.; also reported from the Fiji Is.

Sydney, 4 ii 1963, from Malaya, ex *Shorea* sp., 19 ii 1963, R. Erskine; Sydney, 10 xi 1962, from North Borneo, live beetle from *Parashorea* sp., 4 ii 1963, H. Jaffe. (For earlier importations into Australia see Schedl, PROC. LINN. SOC. N.S.W., 83: 215, 1958. The species also was found in Adelaide in 1957 (Schedl, *Ent. Arb. Mus. Frey.*, 13: 74, 1962.)

Xyleborus mascarensis Eichh.

Widely distributed over tropical countries, less common in the Indomalayan and Polynesian Regions.

Sydney, 15 xi 1962, from Africa, dead insect from *Bombax* sp. with $<$ 40% moisture content, H. Jaffe.

This species has previously been reported from Australia (Schedl, *Rev. Ent. Moc.*, 5: 345, 1962), the localities being Queensland: Dalby, 1963, Emu Creek, 1941, and Yarraman, 1934, all specimens collected by A. R. Brimblecombe. The question whether *X. mascarensis* was endemic to Australia before white settlers arrived or if it has been introduced by human agencies, probably never will be solved with any degree of certainty.

Xyleborus perforans Woll.

Widely distributed over tropical countries, more common in the Indomalayan and Pacific Regions.

Sydney, 2 xi 1962, from North Borneo, taken from timber 30 i 1963, Mr. Penfold; Sydney, 21 i 1963, from N. Borneo, ex "meranti", 6 iii 1963, Mr. Penfold; Sydney, 12 iii 1963, from Borneo, ex *Shorea* sp., 3 iv 1963, Mr. Penfold.

Apparently an endemic and rather common species in Australia. A detailed account can be found by Schedl, *Rev. Ent. Moc.*, 5: 374–402, 1962.

Xyleborus saxeseni Ratz.

An endemic and widely distributed species in the holarctic region; also reported from northern India.

Yarras, N.S.W., 6 vii 1962, ex *Sloanea woollsii* at D.W.T., 10 viii 1962, M. Thompson.

X. saxeseni certainly was introduced into Australia a long time ago and has established itself in Queensland, New South Wales and Western Australia. For references, see Schedl, *Proc. Roy. Soc. Queensland*, 60: 28, 1949 (under the synonym *X. pseudoangustatus* Schedl); Brimblecombe, Divn. Plant Ind. Bull., 71: 33–35, 1953 (*X. pseudoangustatus*); Schedl, *Ent. Arb. Mus. Frey.*, 13: 74, 1962, and Schedl, *Rev. Ent. Moc.*, 5: 498–508, 1962.

Xyleborus torquatus Eichh.

Distribution circumtropical, a very common species on a great many species of forest trees.

Sydney, 15 ii 1962, from Africa, ex timber with 34% M.C., H. Jaffe.

The first record of *X. torquatus* in Australia might be regarded as the specimens taken during 1963 at Yarraman, Queensland, by A. R. Brimblecombe. The species was also found by him in imported logs of Borneo cedar in Brisbane during 1948. It is still doubtful whether *X. torquatus* has become established in Australia.

Family Platypodidae.

Platypus curtus Chap.

Distribution: India, Malaya, Sumatra, Fukien, Philippine Is. and Sarawak.

Sydney, 6 xii 1962, from Borneo, ex "meranti" with M.C. > 40%, 16 i 1963, R. Erskine; Sydney, 4 iii 1963, from N. Borneo, live beetle taken 28 v 1963, dead beetle taken 11 vi 1963, H. Jaffe; Sydney, 12 iii 1963, from Philippine Is., live beetle taken 19 iii 1963, Mr. Penfold; also live beetle taken from timber 20 iii 1963, H. Jaffe; Sydney, 14 iii 1963, from N. Borneo, live beetle ex *Shorea* sp., 20 iii 1963, Mr. Penfold; Sydney, 27 iii 1963, from Borneo, live beetle ex *Shorea* sp., 1 iv 1963, H. Jaffe.

An earlier introduction into Australia: Brisbane, August 1947, in logs from Borneo, A. R. Brimblecombe (Schedl, *Mem. Queensland Mus.*, 13: 83, 1953).

Platypus hintzi Schauf.

Distribution: Africa, south of the Sahara; very common. Sydney, 15 xi 1962, from Africa, ex timber with > 40% M.C., H. Jaffe.

Platypus shoreanus subsp. *bifurcus* Schedl.

Described from the Philippines and also known from N. Borneo, Burma and Malaya.

Sydney, 12 iii 1963, from Philippines, live beetle ex *Pentacme* sp., 19 iii 1963, H. Jaffe.

Platypus shoreanus subsp. *mutilatus* Schedl.

Described from Malaya; also known from N. Borneo (Sandakan).

Sydney, 10 vi 1962, from Malaya, live beetle ex *Shorea* sp. (red meranti), 26 vii 1962, H. Jaffe; Sydney, 6 xii 1962, from Borneo, beetle emerged ex timber with > 40% M.C., 16 i 1963, R. Erskine; Sydney, 14 iii 1963, from N. Borneo, live beetle ex *Parashorea* sp., 27 iii 1963, R. Penfold; Sydney, 6 iii 1963, from N. Borneo, dead beetle ex timber, 18 iii 1963, H. Jaffe; adult ex *Shorea* sp., 15 v 1963, Mr. Penfold; Sydney, 6 iv 1963, from Borneo, live beetle ex *Parashorea* sp., 18 iv 1963, Mr. Penfold; Sydney, 22 iv 1963, from N. Borneo, live beetle ex *Parashorea* sp., 30 v 1963, Mr. Penfold; live beetle ex *Parashorea* sp., 31 v 1963, H. Jaffe.