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New synonymy and taxonomic changes in Pacific Scolytidae (Coleoptera)

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Abstract

New synonymy is proposed as follows: *Coccotrypes nitidus* (EGGERS) (= *Thamnurgides insularis* EGGERS), *Coccotrypes striatus* (EGGERS) (= *Thamnurgides tahitensis* BEESON), *Coccotrypes tutuilensis* (BEESON) (= *Poecilips fijianus* SCHEDL, = *Poecilips tapatapaoanus* SCHEDL), *Cryphalus sylvicola* (PERKINS) (= *Cryphalus dimorphus* SCHEDL), *Cyrtogenius fijianus* (SCHEDL) (= *Dryocoetes noumeanus* BROWNE), *Cyrtogenius samoanus* (EGGERS) (= *Pelicerus granulifer* BEESON), *Euwallacea fornicatus* (EICHHOFF) (= *Xyleborus schultzei* SCHEDL), *Ficicis pacificus* (BEESON) (= *Hylesinus pellitus* SCHEDL), *Ficicis porcatus* (CHAPUIS) (= *Hylesinus insularum* BEESON), *Hypothenemus areccae* (HORNUNG) (= *Hypothenemus subglabratus* SCHEDL), *Hypothenemus dorsosignatus* (SCHEDL) (= *Stephanopodius fijianus* SCHEDL), *Ozopemon augustae* EGGERS (= *Coccotrypes kuscheli* SCHEDL), *Ptilopodius marquesanus* BEESON (= *Ptilopodius zimmermani* SCHEDL), *Scolytogenes puncticollis* (SCHEDL) (= *Cryphalomorphus grossepunctatus* BROWNE), *Xyleborinus artelineatus* (BEESON) (= *Xyleborus validicornis* SCHEDL), *Xyleborus adamsoni* BEESON (= *Xyleborus nigroaffinis* BEESON, = *Xyleborus rapanus* BEESON), *Xyleborus affinis* EICHHOFF (= *Xyleborus societatis* BEESON), *Xyleborus ferrugineus* (F.) (= *Xyleborus nesianus* BEESON), *Xyleborus perforans* (WOLLASTON) (= *Xyleborus whitteni* BEESON), *Xyleborus sulcicauda* SCHEDL (= *Xyleborus tenuipennis* BROWNE).

The following new combinations are given: *Cyrtogenius samoanus* (EGGERS) from *Dryocoetes; Euwallacea fornicatus* (EICHHOFF), *E. galoanus* (BROWNE), *E. illustrius* (SCHEDL), *Xyleborinus artelineatus* (BEESON), all from *Xyleborus; Ficicis pacificus* (BEESON), *F. porcatus* (CHAPUIS), both from *Hylesinus; Ptilopodius ater* (SCHEDL), *P. uncatus* (SCHEDL), both from *Cryphalophilus; Xyleborinus spinipennis* (SCHEDL) from *Eidophelus*.

Coccotrypes tutuilensis (BEESON) is removed from synonymy with *Coccotrypes advena* BLANDFORD, *Euwallacea galoanus* (BROWNE) from synonymy with *E. illustrius* (SCHEDL), *Hypocryphalus laticollis* BROWNE from synonymy with *H. tutuilaensis* SCHEDL, *Scolytogenes grossepunctatus* (BROWNE) from synonymy with *S. gracilis* (SCHEDL), and *Xyleborus partitus* BROWNE from synonymy with *X. granulosus* SCHEDL

Some previous determinations published by SCHEDL are corrected.

Introduction

As part of revisionary studies on the Scolytidae of the South Pacific region, I have examined type material of numerous species described by BEESON, BROWNE, EGGERS, SCHEDL and others. Most of the types have been borrowed from the

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SCHEDL collection, now in the Naturhistorisches Museum, Wien (NHMW). Some have been loaned by the B. P. Bishop Museum in Hawaii (BPBM), the New Zealand Arthropod Collection in Auckland (NZAC), the Queensland Museum in Brisbane (QMBA), and the U. S. National Museum in Washington (USNM). Others have been examined at the British Museum (Natural History) in London (BMNH). Some results of the study, including new synonymy, corrections to previously published synonymy, and generic transfers are given here in order to assist with the compilation of a world catalogue of species of Scolytidae being prepared for publication by S. L. WOOD and D. E. BRIGHT. In accord wirth a request by S. L. WOOD (in litt. 1982), I have not designated lectotypes of any of the species considered here. Lectotype designation is being undertaken by Prof. WOOD.

Coccotrypes nitidus (EGGERS)

Dendrurgus nitidus EGGERS, 1923: 147.

Thamnurgides insularis EGGERS, 1939: 233. syn. nov.

Comparison of the holotypes of the two species (NHMW), and other specimens in my collection from Papua New Guinea and Fiji, indicate that only a single species is represented. The holotype of *insularis* is immature, and the pronotal granules a little weaker than in other Fijian specimens, so that the pronotum is more shining than usual. The difference is not of specific importance. It may be noted here that the specimen in NZAC determined and published by SCHEDL under the name *Ozodendron fijianus* SCHEDL (SCHEDL 1979 b: 103) should be referred to *C. nitidus*.

Coccotrypes striatus (EGGERS)

Thamnurgides striatus EGGERS, 1927: 82.

Thamnurgides tahitensis BEESON, 1935 b: 117. syn. nov.

The two holotypes (USNM and BPBM respectively) have been compared to a long series in my collection from Fiji. The specimens are variable in size (1.5–2.6 mm long), and in certain other characters, such as the density of the puncturation on the pronotum, but the extremes are connected by a series of intermediates, and only a single species appears to be represented. All Fijian specimens have been obtained from the petioles of fallen leaves, and the species seems to breed only in this microhabitat in Fiji. Biological information from other areas is not available.

Coccotrypes tutuilensis (BEESON) stat. rev.

Thamnurgides tutuilensis BEESON, 1929: 229.

Poecilips fijianus SCHEDL, 1942: 179. syn. nov.

Poecilips tapatapaoanus SCHEDL, 1951 a: 149. syn. nov.

Three syntypes (including that generally considered as the "type") of *C. tutuilensis* (BMNH) have been compared directly to the lectotype and two paratypes of *P. tapatapaoanus* (NHMW) and to a long series of specimens from Fiji in my collection, and the latter to the holotype of *P. fijianus* (NHMW). Only a single species is represented.

BROWNE (1973) synonymised *C. tutuilensis* with *Coccotrypes advena* BLANDFORD, without further comment. The two species are closely related but distinct. In *C. tutuilensis,* the pronotum is granulate-punctate over the entire surface; the sides of the pronotum are more evenly curved without any indication of a preapical constriction; the elytral hairs are much finer and longer, and taper to a point without any apical flattening. The size is also generally larger (1.8–2.3 mm long) relative to *C. advena* (1.5–1.8 mm long).

C. tutuilensis was synonymised with *Coccotrypes longicollis* (EGGERS) by SCHEDL (1975). The holotype of *C. longicollis* from the Philippines is damaged (apparently in transit from USNM to SCHEDL). Examination of this holotype indicates some differences from Pacific material of *C. tutuilensis.* The suggested synonymy, while possible, is almost impossible to determine with certainty. I prefer to consider the species found in Fiji, Samoa, Tonga, and probably also in New Caledonia, as based on the well-preserved type material of *C. tutuilensis* in BMNH.

Cryphalus sylvicola (PERKINS)

Hypothenemus sylvicola PERKINS, 1900: 181.

Cryphalus dimorphus SCHEDL, 1950: 49. syn. nov.

The holotype of *C. sylvicola* (BMNH) has been compared with specimens in my collection from Fiji and Western Samoa, and the latter with the lectotype and two paratypes of *C. dimorphus* (NHMW). Only a single species is represented.

Cyrtogenius fijianus (SCHEDL)

Ozopemon fijianus SCHEDL, 1951 a: 150.

Dryocoetes noumeanus BROWNE, 1970: 563. syn. nov.

The holotype and two paratypes of *D. noumeanus* (BMNH), from New Caledonia, have been compared to a long series of *C. fijianus* in my collection from Fiji, and two further specimens in NZAC from New Caledonia. Type material of *C. fijianus* has not been examined, but the species is easily distinguishable from other Fijian species of *Cyrtogenius,* and from the related *C. grandis* (BEESON) from Samoa, and there is no doubt of its identity.

Cyrtogenius samoanus (EGGERS) comb. nov.

Dryocoetes samoanus EGGERS, 1928: 174.

Pelicerus granulifer BEESON, 1929: 231. syn. nov.

The lectotype of *D. samoanus* (NHMW) has been examined and has to be transferred to the genus *Cyrtogenius* STROHMEYER. It has been compared directly to the holotype of *P. granulifer* (BMNH). The specimens are identical except for sexual differences in the shape and vestiture of the frons. It should be noted that BEESON's type is a male and not a female as stated in his description. In *Cyrtogenius,* it is the female frons that is ornamented with a thick brush of hairs. The sexes have been wrongly assigned in the descriptions of a number of species in the genus.

Euwallacea fornicatus (EICHHOFF) comb. nov.

Xyleborus fornicatus EICHHOFF, 1868 b: 151.

Xyleborus schultzei SCHEDL, 1951 b: 68. syn. nov.

The lectotype of *X. schultzei* (NHMW) has been compared with long series of *E. fornicatus* in BMNH from Sri Lanka, Southeast Asia and the Pacific. It clearly falls within the range of variation of the latter species, which must be transferred to *Euwallacea* HOPKINS following WOOD's (1980, 1986) revival of the genus. The location of the syntypes of *E. fornicatus* is not known (WOOD 1982). *X. schultzei* has been considered as a synonym of *E. fornicatus* in the BMNH collections for some years, but the synoymy has never been published.

Euwallacea galoanus BROWNE comb. nov., stat. rev.
Euwallacea illustrius SCHEDL comb. nov.

Xyleborus galoanus BROWNE, 1974: 69.

Xyleborus illustrius SCHEDL, 1939: 51.

I have examined the holotype and a paratype of *X. galoanus* (BMNH), and a series in my collection from Fiji. The species must be transferred to *Euwallacea.* The species was synonymised by SCHEDL (1980) with *Xyleborus illustrius.* I have examined the lectotype of the latter species (NHMW), and find the synonymy to be incorrect, although *X. illustrius* also has to be transferred to *Euwallacea.*

In *E. galoanus,* the summit of the pronotum is clearly behind the middle; in *E. illustrius* at the middle. The elytral declivity of *E. galoanus* is convex, and striae 1 and 2 are not depressed; in *E. illustrius,* the declivity is feebly concave in the middle, except along the suture, striae 1 are depressed, and striae 2 slightly so. The interstrial granules on the declivity of *E. galoanus* are small, evenly spaced and of almost equal size; in *E. illustrius,* the granules are more irregularly distributed, and larger on interstriae 2 and 3 than interstriae 1, and than in *E. galoanus.*

E. galoanus is known only from Fiji, *E. illustrius* only from Java.

Ficicis pacificus (BEESON) comb nov.

Hylesinus pacificus BEESON, 1929: 221.

Hylesinus pellitus SCHEDL, 1955: 288. syn. nov.

The female holotype of *H. pacificus* (BPBM) and the female holotype and a male paratype of *H. pellitus* (NHMW) have been examined. They are clearly conspecific. The species is apparently known only from the type specimens collected in Western Samoa. It has to be transferred to *Ficicis* LEA, following WOOD's (1986) reinstatement of that genus.

Ficicis porcatus (CHAPUIS) comb. nov.

Hylesinus porcatus CHAPUIS, 1869: 31.

Hylesinus insularum BEESON, 1940: 192. syn. nov.

Male and female syntypes of *H. insularum* (BPBM) have been compared directly to syntypes of *Hylesinus crassus* BEESON and *Hylesinus subopacus* EGGERS (both BMNH). Both the latter species have previously been synonymised with *H. porcatus* (SCHEDL 1962). *H. insularum* falls within the range of the species which is widely distributed in the Pacific region, and also has to be transferred to *Ficicis* LEA.

Hypocryphalus laticollis BROWNE stat. rev.

Hypocryphalus laticollis BROWNE, 1974: 64.

This Fijian species was synonymised by SCHEDL (1980) with *Hypocryphalus tutuilaensis* SCHEDL from Samoa. I have examined the holotype and paratype of *H. laticollis* (BMNH), and a long series collected by me in Fiji, and three paratypes of *H. tutuilaensis* (BPBM), and further specimens of that species in NZAC and my own collection. The species are clearly distinct, despite SCHEDL's statement (1980) that they agree in all characters.

The pronotum in *H. laticollis* is very broad (1.4 times as wide as long) and stongly declivous behind the high summit, the pronotal asperities are more sparsely placed; in *H. tutuilaensis* the pronotum is only 1.1 times as wide as long, and only weakly declivous behind the summit, the asperities are more closely placed. In *H. laticollis,* the elytral ground vestiture is composed of densely placed, very short hairs on the disc, the hairs becoming flattened and more scale-like on the declivity; in *H. tutuilaensis,* the ground vestiture is sparser and much longer on both disc and declivity, the hairs nearly as long as the median row of interstrial hairs on the disc.

The antennal club of *H. laticollis* has strongly procurved sutures, a characteristic of *Hypocryphalus* HOPKINS (WOOD 1986), but the antennal funicle has only four segments, a characteristic of *Cryphalus* ERICHSON (WOOD 1986). The antennal club

of *H. tutuilaensis* has almost straight sutures, while the funicle is 5-segmented – again a mixture of generic characters.

The Pacific species of *Cryphalus* and *Hypocryphalus* frequently show characteristics of both genera, and it is doubtful if their separation can be justified. In view of the confusion, the species is retained for the present in *Hypocryphalus*. Further studies of both genera are badly needed.

It should be noted that two paratypes of *Cryphalus pexus* SCHEDL (1979 b: 104) from Fiji now in NZAC are not conspecific with the holotype and allotype of that species from Western Samoa (NHMW), but are typical specimens of *H. laticollis*.

Hypothenemus areccae (HORNUNG)

Bostrichus areccae HORNUNG, 1842: 117.

Hypothenemus subglabratus SCHEDL, 1942: 174. syn. nov.

The holotype of *H. subglabratus* (NHMW) has been compared directly to specimens of *H. areccae* from Malaysia, Thailand and Western Samoa in my collection determined by S. L. WOOD. It is clearly an abraded specimen of the latter species, which has a circumtropical distribution.

Hypothenemus dorsosignatus (SCHEDL)

Stephanoderes dorsosignatus SCHEDL, 1950: 46.

Stephanopodius fijianus SCHEDL, 1955: 289. syn. nov.

The two holotypes (NHMW) have been compared directly, and clearly represent the same species, which is known only from Fiji. It should be noted that the immature specimens of *Hypothenemus adscitus* (SCHEDL) mentioned by SCHEDL (1950: 46) and collected from *Acalypha* twigs in Fiji, were misdetermined by SCHEDL. They should be referred to *H. dorsosignatus*. I have seen two such specimens in BMNH, and one from NHMW.

Ozopemon augustae EGGERS

Ozopemon augustae EGGERS, 1923: 159.

Coccotrypes kuscheli SCHEDL, 1979 b: 104. syn. nov.

I have compared a syntype and other specimens of *O. augustae* (BMNH) from New Guinea with a series collected by me in Fiji, which had earlier been compared with the holotype of *C. kuscheli* (NZAC). The Fijian specimens tend to be a little smaller than those from Papua New Guinea, but no other significant differences were detected.

Ptilopodius ater (SCHEDL) comb. nov.
Ptilopodius uncatus (SCHEDL) comb. nov.

Cryphalophilus ater SCHEDL, 1971 a: 146.

Cryphalophilus uncatus SCHEDL, 1971 b: 373.

The holotype and a paratype of *C. ater* (QMBA), and two paratypes of *C. uncatus* (NHMW) have been examined. On antennal and other characters, both species must be transferred to *Ptilopodius* HOPKINS. The African genus *Cryphalophilus* SCHEDL has been synonymised with *Scolytodes* FERRARI by WOOD (1984), but it seems probable that the other two non-African species placed in it (*C. concentralis* SCHEDL, *C. papuanus* SCHEDL, both from New Guinea) will also have to be transferred to *Ptilopodius*. However, types have not yet been examined. It may be noted that the records of *P. uncatus* given by SCHEDL (1972) from Tahiti and the Cook Islands are incorrect. I have seen three specimens in NZAC. All should be referred to *Ptilopodius marquesanus* BEESON. *P. uncatus* is known only from the type series from the Key Islands, off New Guinea.

Ptilopodius marquesanus BEESON

Ptilopodius marquesanus BEESON, 1935 a: 101.

Ptilopodius zimmermani SCHEDL, 1951 a: 143. syn. nov.

A syntype of *P. marquesanus* (BPBM) has been compared directly to a syntype of *P. zimmermani* (BPBM), and to specimens from the Cook Islands, Fiji and Tahiti in NZAC and in my own collection. Only a single, somewhat variable species is represented.

Scolytogenes puncticollis (SCHEDL)

Lepicerinus puncticollis SCHEDL, 1950: 43.

Cryphalomorphus grossepunctatus BROWNE, 1974: 66. syn. nov.

A syntype of *S. puncticollis* (BPBM) has been compared with a long series in my collection, some of which had earlier been compared with the holotype of *C. grossepunctatus* (BMNH). The two species are identical. *S. puncticollis* is known only from Fiji.

C. grossepunctatus was earlier synonymised with *Scolytogenes gracilis* (SCHEDL) by SCHEDL (1980: 118), but this is incorrect. I have examined the holotype of *S. gracilis* (NHMW) and find it to be a distinct species not closely resembling *S. puncticollis*.

Xyleborinus artelineatus (BEESON) comb. nov.

Xyleborus artelineatus BEESON, 1929: 239.

Xyleborus validicornis SCHEDL, 1950: 52. syn. nov.

I have compared a syntype of *X. artelineatus* (BMNH) with specimens collected by me in Fiji and Western Samoa, and the latter with the specimen of *X. validicornis* in BPBM originally considered by SCHEDL (1950) as the holotype of that species, although he subsequently (1979 a) designated a second specimen in his own collection as lectotype. There is some variation in the concavity and the size of the spines of the elytral declivity, but the specimens are clearly conspecific. It should be noted that the large tubercle described by SCHEDL (1950) near the apical margin of the second interstriae of *X. validicornis* lies in fact on the third interstriae as in *X. artelineatus*. The species clearly belongs in the genus *Xyleborinus* REITTER.

Xyleborinus spinipennis (SCHEDL) comb. nov.

Eidophelus spinipennis SCHEDL, 1979 b: 106.

The holotype of *E. spinipennis* (NZAC) has been examined, and compared with a short series collected by me in Fiji. The species clearly belongs in the tribe Xyleborini, and not in the Cryphalini, and is placed in the genus *Xyleborinus* REITTER.

Xyleborus adamsoni BEESON

Xyleborus adamsoni BEESON, 1935 b: 120.

Xyleborus nigroaffinis BEESON, 1940: 199. syn. nov.

Xyleborus rapanus BEESON, 1940: 200. syn. nov.

I have compared the holotypes of *X. adamsoni* and *X. nigroaffinis* and a syntype of *X. rapanus* (all BPBM), and specimens from the Cook Islands and Tahiti in NZAC and my own collection. The range of variation shown by these specimens is no greater than that found in the closely related species *Xyleborus affinis* EICHHOFF, and they must be considered synonyms. The species seems to be confined to the Cook Islands and French Polynesia.

Xyleborus affinis EICHHOFF

Xyleborus affinis EICHHOFF, 1868 a: 401.

Xyleborus societatis BEESON, 1935 b: 120. syn. nov.

I have compared the holotype of *X. societatis* (BPBM) from Tahiti with numerous specimens of *X. affinis* in my own collection, from Africa, Southeast Asia, the Pacific region and Brazil, determined in part by F. G. BROWNE and S. L.

WOOD. *X. societatis* falls within the morphological range of *X. affinis,* which has a nearly circumtropical distribution.

Xyleborus ferrugineus (F.)

Bostrichus ferrugineus FABRICIUS, 1801: 388.

Xyleborus nesianus BEESON 1940: 200. syn. nov.

I have compared the holotype of *X. nesianus* (BPBM) from Tahiti with numerous specimens of *X. ferrugineus* in my own collection from Australia, Brazil, Fiji, Seychelles, Western Samoa and Zambia. It is closest to specimens from Western Samoa which had earlier been compared with the holotype of *Xyleborus hopkinsi* BEESON (BMNH), a species now considered to be a synonym of *X. ferrugineus* (SCHEDL 1960, WOOD 1982), and clearly falls within the morphological range of that species.

Xyleborus partitus BROWNE stat. rev.

Xyleborus partitus BROWNE, 1974: 69.

This Fijian species was synonymised by SCHEDL (1980) with *Xyleborus granulosus* SCHEDL from New Guinea. I have compared the holotype of *X. granulosus* (NHMW) with a series of *X. partitus* in my own collection, which had earlier been compared with the holotype of that species in BMNH. The synonymy is incorrect, although the species are related. They may be distinguished as follows. In *X. partitus,* the interstrial granules on the posterior half of the elytral disc and on the elytral declivity are arranged uniseriately and strial granules are lacking. The sutural interstriae are more strongly raised on the lower part of the declivity, and the granules on the raised part larger than in *X. granulosus.* In the latter species, the granules on the declivity are not arranged in rows but scattered over the surface so that striae and interstriae are almost obscured. *X. partitus* is also clearly larger (3.6–3.8 mm long) than *X. granulosus* (3.2 mm).

Xyleborus perforans (WOLLASTON)

Tomicus perforans WOLLASTON, 1857: 96.

Xyleborus whitteni BEESON, 1935 a: 113. syn. nov.

A syntype of *X. whitteni* (BPBM) has been compared to long series of *X. perforans* in my collection from Australia, the Pacific region, Southeast Asia and the Seychelles, some of which had been compared earlier to the type of *X. perforans* in BMNH. The slope of the elytral declivity in *X. whitteni* is a little steeper than usual, but the other distinguishing characters from *X. perforans* given by BEESON (1935 a) are also found in Pacific Island specimens of *X. perforans,* and *X. whitteni* clearly falls into the range of that species.

Xyleborus sulcicauda SCHEDL

Xyleborus sulcicauda SCHEDL, 1972: 271.

Xyleborus tenuipennis BROWNE, 1974: 71. syn. nov.

The holotype of *X. sulcicauda* (NHMW) has been compared to a specimen in my collection, which had earlier been compared to the holotype of *X. tenuipennis* (BMNH). All specimens were collected in Fiji. The holotype of *X. sulcicauda* is immature and the spines on the elytral declivity are smaller than in the other two specimens, but the difference is not of specific value.

Addendum

After this paper was accepted for publication, WOOD (1989. Gt. Basin Nat.; **49**: 169–185) published the synonymy of *Xyleborus schultzei* SCHEDL with *Euwallacea fornicatus* (EICHHOFF), and of *Xyleborus tenuipennis* BROWNE with *Xyleborus sulcicauda* SCHEDL. He also noted that *Coccotrypes striatus* EGGERS (1927: 82) is preoccupied, and renamed the species *C. striatulus* WOOD.

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