



12-31-1972

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Recommended Citation

Wood, Stephen L. (1972) "New synonymy in American bark beetles (Scolytidae: Coleoptera), Part II," *Great Basin Naturalist*: Vol. 32 : No. 4 , Article 2.

Available at: <https://scholarsarchive.byu.edu/gbn/vol32/iss4/2>

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NEW SYNONYMY IN AMERICAN BARK BEETLES (SCOLYTIDAE: COLEOPTERA), PART II¹

Stephen L. Wood²

ABSTRACT.— New synonymy involving American Scolytidae includes: *Acanthotomicus* Blandford (= *Mimips* Eggers), *Dendroterus* Blandford (= *Xylochilus* Schedl), *Chramesus dentatus* Schaeffer (= *Ch. barbatus* Eggers), *Cnemonyx atratus* (Blandford) (= *C. nitens* Wood), *C. errans* (Blandford) (= *Ceratolepis brasiliensis* Schedl), *C. exiguus* (Blandford) (= *Loganius pumilus* Eggers), *C. minusculus* (Blandford) (= *Loganius vismiae* Eggers), *Cnesinus porcatus* Blandford (= *Cn. bicostatus* Schedl), *Cryptocarenus seriatus* Eggers (= *Cr. adustus* Eggers), *Dendroterus luteolus* (Schedl) (= *D. mundus* Wood), *D. mexicanus* Blandford (= *D. confinis* Wood), *D. sallaei* Blandford (= *Xylochilus insularis* Schedl), *D. striatus* (LeConte) (= *Plesiophthorus californicus* Schedl), *Hylastes gracilis* LeConte (= *H. longus* LeConte), *Hylocurus elegans* Eichhoff (= *Hy. minor* Wood), *Hy. retusipennis* Blandford (= *Hy. bidentatus* Schedl), *Hy. rudis* (LeConte) (= *Micracis biorbis* Blackman), *Xyleborus asper* Eggers (= *X. amoenus* Schedl), *X. capucinus* Eichhoff (= *X. capucinoideus* Eggers), *X. caraibicus* Eggers (= *X. trinidadensis* Schedl), *X. declivis* Eichhoff (= *X. pseudoprocer* Schedl), *X. deplanatus* Eggers (= *X. longideclivis* Wood), *X. discretus* Eggers (= *X. isticus* Wood), *X. gilvipes* Blandford (= *X. mexicanus* Eggers), *X. godmani* Blandford (= *X. caelebs* Blandford), *X. guatemalensis* (Hopkins) (= *X. anisandrus* Schedl), *X. intrusus* Blandford (= *X. howardi* Hopkins, *X. scopulorum* Hopkins), *X. lecontei* (Hopkins) (= *X. gundlachi* Eggers), *X. sparsipilosus* Eggers (= *X. inconveniens* Schedl), *X. spathipennis* Eichhoff (= *X. coronatus* Eichhoff, *Boroxylon burgdorfi* Hopkins, *X. curtus* Eggers, *X. femoratus* Eggers), *X. tumucensis* Hagedorn (= *X. guayanensis* Eggers), *X. vespatorius* Schedl (= *X. corniculatus* Schedl, *X. corniculatulus* Schedl), and *X. volvulus* (Fabricius) (= *X. grenadensis* Hopkins, *X. vagabundus* Schedl). *Microborus bicolor* Eggers is removed from synonymy, and the new name *Acanthotomicus bidentis* is proposed for the preoccupied name *Mimips bidens* Wood.

While reviewing the Scolytidae of North and Central America in the preparation of a taxonomic monograph of the family for this area, the types of numerous species have been examined to confirm the identity of the various taxa. This has resulted in the discovery of several new synonyms. Since the monograph will not be published for several years, the new synonymy is presented below in order that names might be used in identifications and other work. The genera and then the species treated are presented in alphabetical order.

An item of special significance is noted here for the first time. Two species described by Blandford (1895-1905, Biol. Centr. Amer., Coleopt. 4, part 6) from Mexican tobacco refuse intercepted at Paris, *Cnemonyx atratus* (Blandford) and *Hylocurus retusipennis* Blandford, have never been found in North or Central America, but both are reported here as species native to southern Brazil. It is suggested that all Blandford species described from Mexican tobacco refuse actually came from Brazil, since none of them have ever been taken from North or Central America.

¹This work was supported by a research grant from the National Science Foundation.

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Acanthotomicus Blandford

Acanthotomicus Blandford, 1894, Trans. Ent. Soc. London 1894:89 (Type-species: *Acanthotomicus spinosus* Blandford, monobasic).

Mimips Eggers, 1932, Rev. Zool. Bot. Afr. 22:33 (Type-species: *Ips pilosus* Eggers, original designation). *New synonymy*.

In species assigned to the genera *Acanthotomicus* Blandford, 1894, and *Mimips* Eggers, 1932, the strongly flattened antennal club varies from minutely pubescent and entirely devoid of sutures to clearly marked, strongly procurved sutures in both groups. The elytral declivity is broadly excavated, with the margins armed by one to six pairs of denticles in species assigned to both groups. In view of the diversity of the groups and the intergradation between species assigned to each name, and in the absence of characters that might support continued separation, I place *Mimips* in synonymy under the much older name *Acanthotomicus*.

Schedl (1964, Reichenbachia 2:218) placed *Acanthotomicus* and several other genera (*Orthotomicus* Wood, *Pityokteines* Fuchs, and *Orthotomicus* Ferrari) in synonymy under *Ips*. Although there is some justification for his action, I do not feel it is in the interest of taxonomy or of forestry to support his action. The characters employed and the justification for my restoration of these genera will appear in another work.

Dendroterus Blandford

Dendroterus Blandford, 1904, Biol. Centr. Amer., Coleopt. 4(6):233 (Two species); Hopkins, 1914, Proc. U.S. Nat. Mus. 48:120 (Type-species: *Dendroterus mexicanus* Blandford, subsequent designation).

Xylochilus Schedl, 1956, Pan-Pacif. Ent. 32:31 (Type-species: *Xylochilus insularis* Schedl = *Dendroterus sallaei* Blandford, original designation). *New synonymy*.

The type-species of *Xylochilus* Schedl, *X. insularis* Schedl, is identical to *Dendroterus sallaei* Blandford (see below), a species clearly conspecific with *D. mexicanus* Blandford, the type-species of *Dendroterus* Blandford. For this reason *Xylochilus* must be placed in synonymy.

Acanthotomicus bidentis, n. n.

Mimips bidens Wood, 1971 (nec Schedl, 1967), Brigham Young Univ. Sci. Bull., Biol. Ser. 15(3):41. *Preoccupied*.

When *Mimips bidens* Wood was published, the use of the same name for an African species by Schedl (1967, Opusc. Zool. Budapest 7:229) was overlooked. In view of the above synonymy involving the name *Mimips* and the homonymy, the new name *Acanthotomicus bidentis* is proposed as a replacement name for *Mimips bidens* Wood.

Chramesus dentatus Schaeffer

Chramesus dentatus Schaeffer, 1908, Jour. New York Ent. Soc. 16:221 (Lectotype, female; Huachuca Mts., Arizona; U.S. Nat. Mus.).

Chramesus barbatus Eggers, 1931, Ent. Blätt. 26:169 (Holotype, male; Valle de Mexico; Berlin Zool. Mus.). *New synonymy*.

A pair of specimens bearing identical data to the lectotype of *dentatus* Schaeffer and also compared to it, and the holotype of *barbatus* Eggers were compared directly to one another. The males are identical in every respect. The name *barbatus*, therefore, is here placed in synonymy.

Cnemonyx atratus (Blandford)

Loganius atratus Blandford, 1896, Biol. Centr. Amer., Coleopt. 4(6):129 (Lectotype, female; Bugaba, Chiriqui, Panama; British Mus. Nat. Hist., present designation).

Cnemonyx nitens Wood, 1969, Brigham Young Univ. Sci. Bull., Biol. Ser. 10(2):9 (Holotype, male; Puerto Viejo, Heredia, Costa Rica; Wood Coll.). *New synonymy*.

Blandford named *Loganius atratus* from three syntypes taken at Bugaba, Panama. Of these three, two are females and the third specimen is missing from its pin. Because the specimens of *Cnemonyx nitens* Wood taken to the British Museum in 1964 were all males and Blandford's *atratus* was represented only by females, the synonymy was not detected until later when a lectotype was selected. I here designate the first syntype from Bugaba, Panama, in Blandford's series as the lectotype of *Loganius atratus*. This specimen was labeled "Type" many years ago and since then has been regarded as the type, although it has never officially been so designated.

Cnemonyx errans (Blandford)

Ceratolepsis errans Blandford, 1896, Biol. Centr. Amer., Coleopt. 4(6):127 (Lectotype, male; intercepted at Paris in "Mexican" tobacco refuse; British Mus. Nat. Hist., present designation).

Ceratolepsis brasiliensis Schedl, 1936, Archiv. Inst. Biol. Veg. Rio de Janeiro 3:104 (Syntypes; Rio Grande do Sul, Brazil; Schedl Coll. and Vienna Mus.). *New synonymy*.

Blandford named *Ceratolepsis errans* from a syntypic series of several specimens intercepted at Paris in tobacco refuse that supposedly came from Mexico. Four of those syntypes are in the British Museum (Natural History) where the first specimen, a male, was labeled "Type" and has generally been regarded as the type, although it has never officially been so designated. I here designate that male syntype as the lectotype of *Ceratolepsis errans* Blandford. This lectotype and two male paralectotypes were compared to three males and two females of *Ceratolepsis brasiliensis* Schedl in my collection identified by Schedl, labeled "Brazilian, Nova Teutonia, XII-1940, F. Plaumann," and were found to be identical. It is noted that in the original description of *brasiliensis* the sexes were reversed.

This species has been reported from southern Brazil and northern Argentina. There are no records or other reasons for believing it occurs in Mexico as was indicated by Blandford.

Cnemonyx exiguus (Blandford)

Loganius exiguus Blandford, 1896, Biol. Centr. Amer., Coleopt. 4(6):130 (Lectotype, male; Bugaba, Chiriqui, Panama; British Mus. Nat. Hist., present designation).

Loganius pumilus Eggers, 1929, Wiener Ent. Zeit. 46:65 (Holotype, male; Turrialba, Costa Rica; U.S. Nat. Mus.). *New synonymy*.

Loganius exiguus Blandford was named from two male and one female syntypes from Bugaba, Panama. The first male syntype is here designated as the lectotype of *Loganius exiguus* Blandford. This specimen was labeled "Type" many years ago, but has never officially been so designated. This lectotype and the male holotype of *Loganius pumilus* Eggers were both compared to the same male homotypes in my collection. Since all belong to the same species, Eggers's name is here placed in synonymy under the senior name *exiguus* Blandford.

Cnemonyx minusculus (Blandford)

Loganius minusculus Blandford, 1896, Biol. Centr. Amer., Coleopt. 4(6):130 (Holotype, male; Volcan de Chiriqui, Chiriqui, Panama; British Mus. Nat. Hist.).

Loganius vismiae Eggers, 1929, Wiener Ent. Zeit. 46:63 (Holotype, male; La Caja, 8 km W San José, San José, Costa Rica; Deutschen Ent. Mus.). *New synonymy*.

The male holotype of *minusculus* (Blandford) was compared directly to a male cotype and a male topotype of *vismiae* (Eggers). They are identical in all respects. An additional specimen from San Juan, Alta Verapaz, Guatemala, was also examined.

Cnesinus porcatus Blandford

Cnesinus porcatus Blandford, 1896, Biol. Centr. Amer., Coleopt. 4(6):137 (Six syntypes; Cerro Zunil, Guatemala, and Volcan de Chiriqui, Panama; British Mus. Nat. Hist.).

Cnesinus bicostatus Schedl, 1936, Arch. Inst. Biol. Veget. 3:106 (Holotype, male; Turrialba, Cartago, Costa Rica; Schedl Coll.). *New synonymy*.

Following a year of collecting in Costa Rica, including several days at various seasons at Turrialba, only two *Cnesinus* species could be found that even remotely resemble *bicostatus* Schedl. These were *porcatus* Blandford (2.8-3.1 mm) and *costulatus* Blandford (2.0-2.3 mm) of which 43 and 32 specimens respectively were examined. Based entirely upon the original description and field experience in the area of its type locality, it was concluded that *bicostatus* Schedl (2.7 mm), known only from the unique male holotype which is not available for loan, must be a male of *porcatus*. This proposed synonymy must be considered tentative until the type of *bicostatus* is available for study.

Cryptocarenum seriatus Eggers

Cryptocarenum seriatus Eggers, 1933, Mem. Trav. Lab. d'Ent. Mus. Nat. d'Hist. Nat. 1(1):10 (Holotype, female; Nouveau Chantier, Guyane Francaise; Paris Mus.).

Cryptocarenum adustus Eggers, 1933, Mem. Trav. Lab. d'Ent. Mus. Nat. 1(1):11 (Holotype, female; St. Jean du Maroni, Guyane Francaise; Paris Mus.). *New synonymy*.

The female holotypes of *seriatus* Eggers and *adustus* Eggers were examined and compared to more than 80 specimens from Florida to Brazil. This material is easily associated with the type of *seriatus*, which is 2.0 mm in length. The abraded condition of the type of *adustus*, its shorter declivital setae on the elytra, and the concealed frons led Eggers to regard it as a different species. The size was reported as being 2.5 mm; however, if one compensates for the slightly crushed condition of the type it actually is 2.3 mm in length, well within the size range of *seriatus*. The removal of a small piece of the mounting card exposed the previously concealed frons which is of the typical *seriatus* sculpture. The short declivital setae of the type of *adustus* occurs commonly in specimens from Venezuela. For these reasons the name *adustus* Eggers must be placed in synonymy under *seriatus* Eggers because of page priority and the option available to the first revisor.

Dendroterus luteolus (Schedl)

Plesiophthorus luteolus Schedl, 1951, Dusenja 2:111 (Holotype, male; Mexico; Schedl Coll.).

Dendroterus mundus Wood, 1959, Great Basin Nat. 19:3 (Holotype, male; Tehuiztingo, Puebla, Mexico; Snow Ent. Mus., Univ. Kansas). *New synonymy*.

The holotypes of both *luteolus* Schedl and *mundus* Wood were examined. Prior to the description of *mundus* all identified specimens (by Schedl) of *luteolus* known to me were from Baja California and actually were of *striatus* (LeConte). However, the holotype of *luteolus* has the evenly convex frons and coarser elytral vestiture of *mundus*. Although the exact type locality of *luteolus* in Mexico is unknown, the characters are sufficiently clear that the name *mundus* should be placed in synonymy.

Dendroterus mexicanus Blandford

Dendroterus mexicanus Blandford, 1904, Biol. Centr. Amer., Coleopt. 4(6):233 (Holotype, female; Tehuantepec, Oaxaca, Mexico; British Mus. Nat. Hist.).

Dendroterus confinis Wood, 1959, Great Basin Nat. 19:6 (Holotype, male; Magdalena, Jalisco, Mexico; Snow Ent. Mus., Univ. Kansas). *New synonymy*.

The larger average size of this species and the coarser sculpture of the elytra and frons found in the northwestern part of its range suggested the existence of a very different species from that described by Blandford. However, the examination of 119 specimens from six widely separated localities in Mexico indicates that these characters vary within a series and between series to such an extent that only one species can be recognized. The holotypes of both *mexicanus* Blandford and *confinis* Wood were examined.

Dendroterus sallaei Blandford

Dendroterus sallaei Blandford, 1904, Biol. Centr. Amer., Coleopt. 4(6):233 (Holotype, female; Veracruz, Veracruz, Mexico; British Mus. Nat. Hist.).

Xylochilus insularis Schedl, 1956, Pan-Pacif. Ent. 31:31 (Holotype, male; Arroyo Hondo, Maria Madre, Tres Marias Islands, Gulf of California; California Acad. Sci.). *New synonymy*.

The holotype of *Dendroterus sallaei* Blandford, the holotype and several paratypes of *Xylochilus insularis*, and 82 other specimens were examined. Only one species is represented by this material. The specimen labeled "female holotype" in the Schedl collection has status only as a paratype of his species.

Dendroterus striatus (LeConte)

Hypothenemus striatus LeConte, 1868, Trans. Amer. Ent. Soc. 2:156 (Syntypes; Cape San Lucas, Baja California; Mus. Comp. Zool.).

Plesiphthorus californicus Schedl, 1952, Pan-Pacif. Ent. 23:123 (Holotype, female; Angeles Bay, Gulf of California, Baja California; California Acad. Sci.). *New synonymy*.

The syntypic series of *striatus* LeConte, the holotype and several paratypes of *californicus* Schedl, and 13 other specimens of this species were examined. Only one species is represented. It is very closely related to *luteolus* Schedl and eventually may be found to represent only a geographical race of that species.

Hylastes gracilis LeConte

Hylastes gracilis LeConte, 1868, Trans. Amer. Ent. Soc. 2:174 (Two syntypes; Tahoe Valley, California; Mus. Comp. Zool.).

Hylastes longus LeConte, 1876, Proc. Amer. Philos. Soc. 15:388 (Holotype, female; Colorado; Mus. Comp. Zool.). *New synonymy*.

Both LeConte syntypes of *gracilis* and the holotype of *longus* LeConte, and 126 other specimens of this species were examined. Except for the brighter luster of the holotype of *longus* and of other specimens from the southeastern part of the range, there is little variation in this material. The name *longus* is here placed in synonymy under the senior name *gracilis* LeConte.

Hylocurus elegans (Eichhoff)

Hylocurus elegans Eichhoff, 1871, Berliner Ent. Zeitschr. 15:134 (Holotype, male; Teapa, Tabasco, Mexico; Inst. Roy. Sci. Nat., Brussels).

Hylocurus minor Wood, 1961, Great Basin Nat. 21:4 (Holotype, female; Finca Alto Bonito, Caicedonia, Valle de Cauca, Colombia; Wood Coll.). *New synonymy*.

The holotypes of *elegans* Eichhoff and *minor* Wood and 230 other specimens were examined. Because of the large size and the lack of clarity in the original descriptions of *elegans*, this name could not be associated with *minor*. An examination of the types, however, leaves no doubt as to the synonymy.

Hylocurus retusipennis Blandford

Hylocurus retusipennis Blandford, 1898, Biol. Centr. Amer., Coleopt. 4(6):223 (Holotype, male; "Mexican" tobacco refuse; British Mus. Nat. Hist.).

Hylocurus bidentatus Schedl, 1950, Dusenja 1:149 (Syntypes; Nova Teutonia, Santa Catarina, Brazil; Schedl and Plaumann Collections). *Probable synonymy*.

The holotype of *retusipennis* Blandford that was presumed to have come from Mexico, was compared to a series of *bidentatus* Schedl, identified by Schedl, received from Plaumann from Santa Catarina. The males are identical in every respect. Since the types of *bidentatus* are not available for loan, the confirmation of the suspected synonymy must be delayed.

Hylocurus rudis (LeConte)

Micracis rudis LeConte, 1876, Proc. Amer. Philos. Soc. 15:369 (Holotype, female?; Detroit, Michigan; Mus. Comp. Zool.).

Micracis biorbis Blackman, 1920, Mississippi Agric. Expt. Sta. Tech. Bull. 9:22 (Holotype, male; Syracuse, New York; U.S. Nat. Mus.). *New synonymy*.

Due to an error in identification, Blackman named *biorbis* from specimens that are identical to the holotype of *rudis* LeConte. Blackman associated the name *rudis* with a southern species that is now known as *Hylocurus torosus* Wood. The holotypes of both *rudis* and *biorbis* were examined.

Microborus bicolor Eggers

Microborus bicolor Eggers, 1933, Mem. Trav. Lab. d'Ent. Mus. Nat. d'Hist. Nat. 1(1):19 Holotype, sex?; Bas Carsevenne, Guyane Francaise; Paris Mus.).

This species was placed in synonymy under *aberrans* Wichmann by Schedl (1962, Mitt. Münchn. Ent. Ges. 52:86). However, the types of *aberrans* and *setulosus* Eggers were examined and were found to represent different sexes of the same species; the type of *bicolor* is larger and should be placed near *ambitus* Wood in a different species group from *aberrans*.

Xyleborus asper Eggers

Xyleborus asper Eggers, 1933, Mem. Trav. Lab. d'Ent. Mus. Nat. d'Hist. Nat. 1(1):30 (Holotype, female; Nouveau Chantier, Guyane Francaise; Paris Mus.).

Xyleborus amoenus Schedl, 1949, Rev. Brasil. Biol. 9:282 (Holotype, female; Hamburgfarm on Rio Reventazon, Limon, Costa Rica; Schedl Coll.). *New synonymy*.

The holotypes of both *asper* Eggers and *amoenus* Schedl were examined and compared directly to my specimens from Costa Rica, Panama, Colombia, Venezuela, and French Guiana. Only one easily recognized species is represented by this material. The junior name, *amoenus*, is here placed in synonymy.

Xyleborus capucinus Eichhoff

Xyleborus capucinus Eichhoff, 1868 (1869), Berliner Ent. Zeitschr. 12:281 (Holotype, female; Guadeloupe Island; Inst. Roy. Sci. Nat., Brussels).

Xyleborus capucinoides Eggers, 1941, Arb. Morph. Taxon. Ent. Berlin-Dahlem 8:104 (Holotype, female; Gourbeyre, Guadeloupe Island; U.S. Nat. Mus.).
New synonymy.

The holotypes of both *capucinus* Eichhoff and *capucinoides* Eggers and 102 other specimens were examined. Although the holotype of *capucinus* is callow and slightly crushed, it clearly is of the same species as *capucinoides*. Eggers's name must be placed in synonymy.

Xyleborus caraibicus Eggers

Xyleborus caraibicus Eggers, 1941, Arb. Morph. Taxon. Ent. Berlin-Dahlem 8:103 (Holotype, female; Guadeloupe; U.S. Nat. Mus.).

Xyleborus trinidadensis Schedl, 1961, Ann. Mag. Nat. Hist. (13)3:530 (Holotype, female; River Estate, Trinidad; British Mus. Nat. Hist.). *New synonymy.*

The holotypes of *caraibicus* Eggers and *trinidadensis* Schedl and 24 other specimens were examined and compared to my material. Only one species is represented by this material. The junior name *trinidadensis* is here placed in synonymy.

Xyleborus declivis Eichhoff

Xyleborus declivis Eichhoff, 1868 (1869), Berliner Ent. Zeitschr. 12:280 (Holotype, female; Teapa, Tabasco, Mexico; presumably lost with Hamburg Mus.).

Xyleborus pseudoprocer Schedl, 1949, Rev. Brasil. Biol. 9:279 (Holotype, female; Guatemala; Schedl Coll.). *New synonymy.*

My three specimens of this species from Costa Rica and Mexico were compared to Blandford's series from Guatemala and to the holotype of *pseudoprocer* Schedl; all clearly represent the same species. This material completely fits the description of *declivis* Eichhoff, the type of which evidently is lost. Since it is the only species of this size (4.0-4.4 mm) from Mexico and Central America in this species group, since it fits the original description, and because it agrees with material identified by specialists who studied the Eichhoff collection, it is reasonable to assume that this species is *declivis* Eichhoff. If this is correct, the name *pseudoprocer* Schedl must be treated as a junior synonym.

Xyleborus deplanatus Eggers

Xyleborus discretus Eggers, 1933, Mem. Trav. Lab. d'Ent. Mus. Nat. d'Hist. Nat., Paris 1(1):32 (Holotype, female; Charvein, Guyane Francaise; Paris Mus.).

Xyleborus longideclivis Wood, 1968, Great Basin Nat. 28:1 (Holotype, female; Bartica Triangle, British Guiana; British Mus. Nat. Hist.). *New synonymy.*

The female holotype of *deplanatus* Eggers was compared directly to four paratypes of *longideclivis* Wood. This species is 2.0-2.3 mm in length, not 3.0 mm as stated in Eggers's description. In addition to British and French Guiana it also occurs in Colombia.

Xyleborus discretus Eggers

Xyleborus discretus Eggers, 1933, Mem. Trav. Lab. d'Ent. Mus. Nat. d'Hist. Nat., Paris 1(1):29 (Holotype, female; Marcapata, Peru; U.S. Nat. Mus.).

Xyleborus usticus Wood, 1968, Great Basin Nat. 28:3 (Holotype, female; Bartica District, British Guiana; British Mus. Nat. Hist.). *New synonymy*.

When *usticus* Wood was named, the distribution of *discretus* Eggers in French Guiana was overlooked. When the holotype of *discretus* was compared to a topotypic paratype of *usticus*, the synonymy was immediately apparent. This species is now known from Costa Rica, Venezuela, British and French Guiana, and Peru. As indicated above, the name *discretus* has priority.

Xyleborus gilvipes Blandford

Xyleborus gilvipes Blandford, 1898, Biol. Centr. Amer., Coleopt. 4(6):205 (Holotype, female; Zapote, Guatemala; British Mus. Nat. Hist.).

Xyleborus mexicanus Eggers, 1931, Ent. Blätt. 27:19 (Holotype, female; Maravatio, Michoacan, Mexico; Zool. Mus. Berlin). *New synonymy*.

The holotypes of *gilvipes* Blandford and *mexicanus* Eggers were both examined and compared directly to my specimens. They clearly represent the same species. The junior name *mexicanus* is here placed in synonymy.

Xyleborus godmani Blandford

Xyleborus godmani Blandford, 1898, Biol. Centr. Amer., Coleopt. 4(6):197 (Holotype, female; Bugaba, Chiriqui, Panama; British Mus. Nat. Hist.).

Xyleborus caelebs Blandford, 1898, Biol. Centr. Amer., Coleopt. 4(6):198 (Holotype, male; Volcan de Chiriqui, Chiriqui, Panama; British Mus. Nat. Hist.). *New synonymy*.

The holotypes of both *godmani* Blandford and *caelebs* Blandford were compared to definitely associated males and females from Panama and Costa Rica. Although the two sexes are very different anatomically, it is entirely clear that only one species is represented by the two names. The name *caelebs* is here placed in synonymy because of page priority and by choice of the first revisor.

Xyleborus guatemalensis (Hopkins)

Ambrosiodmus guatemalensis Hopkins, 1915, U.S. Dept. Agric. Rept. 99:56 (Holotype, female; Trece Aguas, Alta Verapaz, Guatemala; U.S. Nat. Mus.).

Xyleborus anisandrus Schedl, 1954, Dusenja 5:44 (Syntypes, females; Rio Claro, Brazil; Schedl Coll.). *New synonymy*.

The holotype of *guatemalensis* Hopkins and the syntype of *anisandrus* Schedl in the Schedl collection were both compared to my material from Costa Rica, Panama, Colombia, Venezuela, and Brazil. I am unable to see even minor differences in the 32 specimens examined. The junior name *anisandrus* is here placed in synonymy.

Xyleborus intrusus Blandford

Xyleborus intrusus Blandford, 1898, Biol. Centr. Amer., Coleopt. 4(6):213 (Syntypes, females; San Geronimo, Guatemala; British Mus. Nat. Hist.).

Xyleborus howardi Hopkins, 1915, U.S. Dept. Agric. Rept. 99:65 (Holotype, female; Washington, D.C.; U.S. Nat. Mus.). *New synonymy*.

Xyleborus scopulorum Hopkins, 1915, U.S. Dept. Agric. Rept. 99:66 (Holotype, female; Black Hills, South Dakota; U.S. Nat. Mus.). *New synonymy*.

The three syntypes of *intrusus* Blandford, the holotypes of *howardi* Hopkins and *scopulorum* Hopkins, and 42 other specimens were compared to my material. The material from the western United States, Mexico, and Guatemala range from 2.3 to 2.7 mm in length and clearly represent one species. Specimens from the eastern United States average slightly smaller in size, ranging from 2.2 to 2.5 mm in length. It is also noted that pronotal and elytral characters mentioned by Bright (1968, Canadian Ent. 100:1320) are not consistent and occur in both populations. In the absence of distinguishing characters or other means of separating these populations, I here place *howardi* and *scopulorum* in synonymy as indicated above.

Xyleborus lecontei (Hopkins)

Ambrosiodmus lecontei Hopkins, 1915, U.S. Dept. Agric. Rept. 99:56 (Holotype, female; Keene, Florida; U.S. Nat. Mus.).

Xyleborus gundlachi Eggers, 1931, Ent. Blätt. 27:20 (Holotype, female; Cuba; Zool. Mus. Berlin). *New synonymy*.

The holotypes of both *lecontei* Hopkins and *gundlachi* Eggers were examined and compared directly to my specimens. They are identical in all respects. The junior name *gundlachi* is here placed in synonymy.

Xyleborus sparsipilosus Eggers

Xyleborus sparsipilosus Eggers, 1933, Mem. Trav. Lab. d'Ent. Mus. Nat. d'Hist. Nat., Paris 1(1):34 (Holotype, female; Nouveau Chantier, Guyane Française; Paris Mus.).

Xyleborus inconveniens Schedl, 1948, Rev. de Ent., Rio de Janeiro 19:577 (Holotype, female; Hamburgfarm on Rio Reventazon, Limon, Costa Rica; Schedl Coll.). *New synonymy*.

The female holotypes of *sparsipilosus* Eggers and *inconveniens* Schedl were both compared to several of my females from Costa Rica. All represent the same species in all details. The name *inconveniens* must be placed in synonymy under the senior name *sparsipilosus*.

Xyleborus spathipennis Eichhoff

Xyleborus spathipennis Eichhoff, 1868, Berliner Ent. Zeitschr. 12:145 (Syntypes, female; Peru; Inst. Roy. Sci. Nat., Brussels).

Xyleborus coronatus Eichhoff, 1878, Mem. Soc. Roy. Sci. Liege (2)8:348 (Holotype, male; Brasilia interior; Inst. Roy. Sci. Nat., Brussels). *New synonymy*.

Xyleborus burgdorfi Hopkins, 1915, U.S. Dept. Agric. Rept. 99:59 (Holotype, female; Costa Rica; U.S. Nat. Mus.). *New synonymy*.

Xyleborus curtus Eggers, 1928, Arch. Inst. Biol. Sao Paulo 1:94 (Lectotype, female; Cachabe, Equador; U.S. Nat. Mus.). *New synonymy*.

Xyleborus femoratus Eggers, 1928, Arch. Inst. Biol. Sao Paulo 1:95 (Syntypes, females; Bahia, Brazil; Zool. Mus. Berlin).

The holotypes of *coronatus* Eichhoff and *burgdorfi* Hopkins, the

lectotype of *curtus* Eggers, the Chapuis syntypes of *spathipennis* Eichhoff, three syntypes of *femoratus* Eggers, and 74 other specimens were examined and either compared directly to one another or to specimens in my collection including several series of definitely associated males and females. Only one species is represented; *coronatus*, *burgdorfi*, *curtus*, and *femoratus* are placed in synonymy as indicated above.

Xyleborus tumucensis Hagedorn

Xyleborus tumucensis Hagedorn, 1905, Bull. Mus. d'Hist. Nat., Paris 6:414 (Three female syntypes; Riviere Lunier, Tumuc-Humac, Guyane Francaise; Paris Mus.).

Xyleborus guayanensis Eggers, 1933, Mem. Trav. Lab. d'Ent. Mus. Nat. d'Hist. Nat., Paris 1(1):28 (Male and female syntypes: Nouveau Chantier, Guyane Francaise; Paris Mus.). *New synonymy*.

The female syntype of *tumucensis* Hagedorn that has been labeled "type," the male syntype and two female cotypes (the female syntype is missing from the Paris Museum) of *guayanensis* Eggers, and 43 other specimens of this species were examined and compared directly to one another. Only one species is represented. The error evidently occurred when Eggers (1933) misidentified specimens of *geayi* Hagedorn which he reported as *tumucensis*. The name *guayanensis* Eggers is placed in synonymy under the older name *tumucensis*.

Xyleborus vespatorius Schedl

Xyleborus vespatorius Schedl, 1931, Ann. Mag. Nat. Hist. (10)8:339 (Holotype, female; San Ignacio, Argentina; Schedl Coll.).

Xyleborus corniculatus Schedl, 1949, Rev. Brasil Biol. 9:275 (Holotype, female; Santa Catarina, Brazil; Schedl Coll.). *New synonymy*.

Xyleborus corniculatulus Schedl, 1949, Rev. Brasil Biol. 9:275 (Holotype, female; Trinidad; Schedl Coll.). *New synonymy*.

The holotypes of *vespatorius* Schedl, *corniculatus* Schedl, and *corniculatulus* Schedl were examined and compared directly to one another and to my homotypes. The three names are based on what I consider to be minor variations of the same species. The declivital denticles of the holotype of *vespatorius* have been damaged, presumably by the chewing of siblings, thereby making recognition more difficult. The name *vespatorius* has priority over both *corniculatus* and *corniculatulus*.

Xyleborus volvulus (Fabricius)

Bostrichus volvulus Fabricius, 1775, Systema Entomologiae, p. 454 (Syntypes, females; America ligno Dom v. Rohr, presumably Cuba; Copenhagen Mus.).

Xyleborus torquatus Eichhoff, 1868, Berliner Ent. Zeitschr. 12:146 (Syntypes, female; Cuba, Brazil, Puerto Rico; presumably lost with Hamburg Mus.).

Xyleborus grenadensis Hopkins, 1915, U.S. Dept. Agric. Rept. 99:65 (Holotype, female; Grenada, West Indies; U.S. Nat. Mus.). *New synonymy*.

Xyleborus vagabundus Schedl, 1949, Rev. Brasil. Biol. 9:277 (Holotype, female; Mexico; Schedl Coll.). *New synonymy*.

Three syntypes of *volvulus* Fabricius, the holotypes of *grenadensis* Hopkins and *vagabundus* Schedl, and several hundred specimens from Florida and Baja California to Argentina, Africa, Hawaii, Micronesia, and Australia were examined. Apparently two distinct geographical races of this species existed prior to the advent of modern commerce: a northern one (*volvulus*), from central Mexico northward including Cuba and Florida; and a southern race (*torquatus*), from Central and South America. Over the past century, one or both races of this species were introduced to other areas where one race or the other predominated or else hybridized to form local populations either intermediate in anatomical details or highly variable in structure with both extremes and all degrees of intergradation represented. The southern race apparently has been introduced repeatedly into the range of the northern race and has maintained itself locally to some degree. Because of the extreme hybridization which occurred in areas outside of the American continents and the mixing taking place in Mexico, I see no possibility of the continued recognition of definite geographical races.

The types of *grenadensis* Hopkins and *vagabundus* Schedl both represent normal minor variations of the northern race and must be placed in synonymy.