

NEW SPECIES OF BARK BEETLES (SCOLYTIDAE: COLEOPTERA) FROM WESTERN NORTH AMERICA

Stephen L. Wood¹

On the following pages, seven species of bark beetles (Scolytidae) from the western United States are described as new to science, and notes relating to the identity of *Pseudohylesinus sericeus* (Mannerheim, 1843) are presented. One of the new species, *Hylurgops reticulatus*, is a very common, widely distributed species that has been overlooked; it evidently has significant economic importance. The others, from Arizona and New Mexico, belong to the genera *Pseudothysanoes* (2), *Thysanoes* (1), *Conophthorus* (1), and *Pityophthorus* (2). The holotypes and allotypes are in my collection; paratypes were distributed as indicated below.

Pseudohylesinus sericeus (Mannerheim)

This species was named as *Hylurgus sericeus* Mannerheim (1843, Bull. Soc. Imp. Nat. Moscou 16, No. 2:124) from one or more specimens taken at Sitka, Alaska, by Eschscholtz and Blaschke. When I (Wood, 1969, Gt. Basin Nat. 29:116) treated it, the only specimen fitting these data presently in the Mannerheim collection at the Universitetets Zoologiska Museum, Helsinki, was cited and I stated that it "is considered to be the type." As indicated by Mannerheim's own identification label and by a subsequent additional type label, this specimen has been regarded as the type since 1843. Until it was pointed out by Bright (1970, Canadian Ent. 102:499), I had not considered it significant that Mannerheim's species might have been based on two or more specimens as indicated by measurements given for the species as "Longit. $1\frac{1}{3}$, $1\frac{1}{2}$ lin. Latit. $\frac{1}{2}$, $\frac{3}{5}$ lin." and by the inclusion of two collectors when only one name was associated with each specimen label in the Mannerheim material. My reasons for this lack of concern were that the specimen probably was intermediate in size between the published figures and that Eschscholtz had been responsible for assembling and getting the collections to Mannerheim, and therefore might have been included as a collector.

On the basis of the above-quoted measurements, Bright assumed Mannerheim's specimen was a syntype and further assumed that the LeConte specimen under this name in the Museum of Comparative Zoology was also a syntype. The Mannerheim specimen in 1968 had a label associated with it, "*Hylurgus sericeus* sp. n. Mannerheim," that evidently was not sent to Bright. That specimen is 3.3 mm (= $1\frac{1}{2}$ lin.) long. The LeConte specimen is slightly damaged, but evidently is about 2.9 mm (= $1\frac{1}{3}$ lin.) in length; it bears a

¹Department of Zoology, Brigham Young University, Provo, Utah 84601. Scolytoidea contribution No. 41.

gray paper disk (LeConte's locality label signifying Russian America), a square paper label with the number "12," a label "Type 5450" (obviously added subsequent to the time of LeConte), a label "*Hylesinus sericeus* Mann., Sitka" (on paper and in hand printing similar to other labels in the LeConte collection and very different from that seen in the Mannerheim collection), and Bright's lectotype label. There is nothing on the LeConte specimen to indicate it was part of Mannerheim's series or that it was taken by Eschscholtz or Blaschke; all labels were added after it came into LeConte's hands. The use of the generic name *Hylesinus* suggests the identification label was written after 1868 when LeConte transferred this species from *Hylurgus*.

Bright did not call attention to the description of *Hylurgus sericeus* var. b. *minor* Mannerheim (1852, Bull. Soc. Imp. Nat. Moscou 1852, No. 2:74, special printing), taken at Sitka, from "truncis pini sub cortice" by Frankenhaeuser. Measurements or other characters were not given that distinguish it from the 1843 description except that it was darker, less scaly and, as deduced from the name, presumably smaller than the type. There is no specimen representing this variety in the Mannerheim collection. The LeConte specimen is slightly darker, less scaly, smaller than the Mannerheim specimen, and is of a species occurring in pine (*Pinus contorta*) bark. The latter point, however, has no significance since several species listed in the 1852 article as from pine bark are now known to occur only in spruce (*Picea* spp.).

In summary, two types have been designated for *Hylurgus sericeus* Mannerheim (1843). One (= *Pseudohylesinus grandis* Swaine, 1917) bears (or bore on the original pin) Mannerheim's own identification label (pinned in the drawer beside the specimen-bearing pin in 1968); it is and always has been part of the Mannerheim collection, and it was taken by Blaschke; for a locality label it bears "in nauve inter California et Brasiliam," not Sitka, but other Sitka specimens taken by Blaschke bear the same label. I (1969) regarded this specimen as the type since it is the only known authentic, original specimen. The other type or lectotype (= *Pseudohylesinus pini* Wood, 1969), designated by Bright, is a specimen in the LeConte collection bearing no original labels; it was presumed to have been received from Mannerheim who subsequently described a variety that was collected at a later date more accurately fitting this specimen. There are many specimens of other species in the Mannerheim material, at Helsinki, from Russian America, that were not mentioned in Mannerheim's publications. Some of these were sent to LeConte. It is entirely possible the LeConte specimen of *Hylesinus* (not *Hylurgus*) *sericeus* was one of these. Bright did not present any evidence, nor have I been able to find any, proving that the LeConte specimen actually was a syntype. Since a lectotype must be selected from syntypes, Bright's lectotype has no status as such. The evidence that more than one original specimen of Mannerheim's species exists is entirely circumstantial. For this reason I recognize the Helsinki specimen as the holotype of *Hylurgus sericeus* Mannerheim

and consider the LeConte specimen to be an incorrectly identified specimen now referred to *Pseudohylesinus pini*.

Neither of the species in question is of sufficient economic importance to warrant an appeal to the International Commission on Zoological Nomenclature to conserve an established name.

Hylurgops reticulatus, n. sp.

This species is closely related to *porosus* LeConte, but it may be distinguished by the larger average size, by the minutely reticulate elytra, and by numerous other minute characters several of which are mentioned below.

MALE.—Length 5.0 mm (paratypes 3.7-5.0 mm), 2.8 times as long as wide; color black, with whitish vestiture.

Frons as in *porosus* except lower half less deeply, less closely, less finely punctured; median carina almost obsolete, visible only in impression immediately above epistoma.

Pronotum as in *porosus* except usually widest near middle, converging anteriorly more abruptly; surface often partly or entirely reticulate, punctures about as on some *porosus* but finer than on most specimens; largest punctures about twice as large as smallest, spaced by distances equal to or smaller than diameter of smallest punctures.

Elytra as in *porosus* except basal crenulations more poorly developed, submarginal crenulations absent; entire surface minutely reticulate (visible at 80 diameters magnification, not visible at 40 diameters); interstrial punctures smaller, more numerous; interstriae very slightly wider, surface less irregular; interstrial crenulations near declivity narrower, very slightly higher; declivital scales more abundant, extending to or slightly anterior to base of declivity; setae in interstrial rows very slightly longer, distinctly coarser.

Last visible abdominal sternum never grooved or pubescent as in males of most other *Hylurgops* species.

FEMALE.—Similar to male except anterior tibiae with five (male with six) socketed teeth; terminal, concealed terga of abdomen only reliable indicator of sex, as in many other species of this subfamily.

TYPE LOCALITY.—Summit Lake, Shasta Co., Calif.

TYPE MATERIAL.—The male holotype, female allotype, and 13 paratypes were collected at the type locality (Section 8, Township 32 N, Range 5 E), on 28 August 1946, from *Pinus ponderosa*, by S. L. Wood. Other paratypes were taken as follows: one from 8 miles S Ashland, Ore., 15-VI-68, in flight, W. C. Harwood; 55 from Idaho City, Idaho, 21, 22, 23, 24, 26-V, 2-V-70, in traps, M. M. Furniss; one from Cypress Camp, Shasta Co., Calif., 28-VIII-46, *Pinus jeffreyi*, S. L. Wood; one from Burney, Shasta Co., Calif., 11-VI-61, *P. ponderosa*, S. L. Wood; one from Miami R.S., Mariposa Co., Calif., 20-V-42, A. J. Walz; 62 from Carmel, Monterey Co., Calif., various dates from 1908 to 1936, E. C. Van Dyke and L. S. Slevin; 2 from 5 miles SW Jerome, Ariz., 8-VI-69, 7200 ft elevation, *P. ponderosa*, W. G. Harwood; one from Cloudcroft, N. Mex., 12-VI-02, W.

Knaus; and 20 from Merritt, British Columbia, various dates from 18-VII to 6-VIII-25, *Pinus ponderosa*, 17160, W. G. Mathers.

This species shares the same hosts and, presumably, has habits similar to those of *porosus* and *Hylastes macer* LeConte. It is widely distributed in the west and is common. It has been misidentified in collections as either *porosus* or *Hylastes macer*.

The holotype, allotype, and some paratypes are in my collection; other paratypes are in the collections of the U.S. National Museum, Canadian National Collection, California Academy of Sciences, and W. G. Harwood.

Pseudothysanoes brunneus, n. sp.

DIAGNOSIS.—This species is allied to *sedulus* Blackman, but it is distinguished by the smaller size, by the more widely spaced stria punctures, by the more slender elytral scales, and by the lighter body color.

MALE.—Length 1.2 mm (paratypes 0.9-1.3 mm), 2.4 (female 2.7) times as long as wide; color brown.

Frons convex, a traverse impression just above epistoma; surface rather coarsely, closely, subrugulose punctured; vestiture of moderately abundant, coarse, short setae. Scape very slightly longer than wide, as long as pedicel; club small oval, suture 1 indicated by setae only at sides, 2 weakly procurved.

Pronotum 0.86 times as long as wide; subcircular, anterior margin armed by about four to six small teeth; summit high, anterior slope asperate; posterior area shining, with fine, close punctures and granules. Vestiture of stout, rather short, moderately abundant setae.

Elytra 1.6 times as long as wide, 1.8 times as long as pronotum; sides almost straight and parallel on basal two-thirds, rather narrowly rounded behind; striae not impressed, punctures coarse, deep; interstriae narrower than striae, almost smooth, fine, uniseriate punctures on anterior half of disc, replaced by fine granules on posterior half. Declivity convex, steep; interstriae 1 slightly, 3 and 9 distinctly elevated, all interstriae with a row of fine granules. Vestiture of rows of fine, short, stria hair, and rows of erect interstitial scales; each scale two to three times as long as wide, shorter than distance between rows of scales or between scales within a row.

FEMALE.—Similar to male except body more slender, 2.7 times as long as wide, scape very slightly wider, ornamented by a small tuft of hair; stria punctures much smaller, interstriae wider than striae and devoid of granules on disc; elytral scales about four to five times as long as wide.

TYPE LOCALITY.—Miller Canyon, Huachuca Mts., Ariz.

TYPE MATERIAL.—The male holotype, female allotype, and seven paratypes were taken at the type locality on 10 July 1952, on *Quercus*. Two paratypes are from Madera Canyon, Santa Rita Mts., Ariz., 10 July 1952, on *Quercus*; and eight paratypes were taken 40 km (23 miles) south of Creel, Chihuahua, Mexico, on 18 July 1960, from *Quercus*, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Pseudothysanoes frondicolens, n. sp.

This species is allied to *crassinus* Wood, although it is not closely related. It is distinguished by the absence of interstitial granules in the male, by the impressed female frons, by the finer pronotal sculpture, and by the less abundant elytral vestiture.

MALE.—Length 0.9 mm (paratypes 0.8-1.2 mm), 2.1 (female 2.3) times as long as wide; color rather dark brown.

Frons flattened on lower third, convex above, with a conspicuously impressed median fovea; surface rather obscurely reticulate-granulate below, coarser above; vestiture of sparse, coarse hair. Antennal scape long, slender; club small, oval, sutures not indicated.

Pronotum 0.90 times as long as wide; subtriangular, widest near base, sides arcuately converging to narrowly rounded anterior margin; anterior margin armed by two, coarse, median teeth (four teeth present in some specimens); summit slightly behind middle, rather high and narrow; anterior slope rather coarsely asperate; posterior area very finely sculptured, almost smooth, sparse minute punctures. Vestiture sparse, short, rather fine.

Elytra 1.3 times as long as wide, 1.6 times as long as pronotum; sides almost straight and parallel on basal two-thirds, broadly rounded behind; surface usually covered by an incrustation; striae not impressed, punctures moderately coarse; rather shallow, not close; interstriae as wide as striae, evidently smooth, punctures fine, not at all granulate. Declivity occupying slightly more than posterior third, very broadly convex, rather steep; striae punctures larger than on disc; interstriae not at all granulate; somewhat flattened between interstriae 3, with suture feebly elevated on upper half. Vestiture of rows of fine, short striae hair, and rows of longer, erect interstitial scales; scales sparse, widely, irregularly spaced, each about four times as long as wide, apical part curved toward elytral apex; declivital interstriae 2 usually devoid of scales, 1 often with only one, 3 and 4 each with about three to five scales.

FEMALE.—Similar to male except body form more slender; frons irregularly concave on rather narrow triangular area from epistoma to vertex; anterior margin of pronotum armed as in male; striae punctures finer; elytral scales more slender, each about six times as long as wide, sparse but more regularly placed.

TYPE LOCALITY.—Herb Martyr Forest Campsite, Chiricahua Mts., Ariz.

TYPE MATERIAL.—The male holotype, female allotype, and 154 paratypes were taken at the type locality on 7 July 1969, 5800 ft elevation, from *Yucca* leaves, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Thysanoes berbericolens, n. sp.

This species is distinguished from the closely related *inornatus* Wood by the more extensively impressed female frons that is smooth

and polished to above the upper level of the eyes, by the unarmed anterior margin of the female pronotum, by the absence of interstitial granules on the disc, and by the more closely spaced interstitial scales.

FEMALE.—Length 1.6 mm (paratypes 1.6-2.0 mm), 2.6 times as long as wide; color dark brown.

Frons shallowly concave from epistoma to slightly above eyes, upper fourth minutely punctured, smooth and shining, obscurely foveate at center. Scape as in *inornatus*.

Pronotum 0.96 times as long as wide; as in *inornatus*, except very broadly rounded in front; and posterior area obscurely, finely reticulate.

Elytra 1.7 times as long as wide, 1.9 times as long as pronotum; outline as in *inornatus*; striae not impressed, punctures rather small, impressed; interstriae twice as wide as striae, punctures fine, uniseriate, not at all granulate except at base of declivity. Declivity steep, convex; striae punctures minute to obsolete; interstitial punctures finely granulate. Vestiture of rows of fine striae hair, and interstitial rows of erect scales; each scale four to five times as long as wide; scales spaced within and between rows by distances equal to length of a scale.

MALE.—Similar to female except frontal impression not as deep or as extensive; anterior margin of pronotum armed by six teeth; declivital striae punctures entirely obsolete; interstitial scales slightly shorter, each about four times as long as wide.

TYPE LOCALITY.—Nogal Lake, Lincoln Co., N. Mex.

TYPE MATERIAL.—The female holotype and 20 paratypes were taken at the type locality on 1 June 1969, 7000 ft elevation, No. 30, from *Berberus fremontii* branches, by S. L. Wood. The male allotype and four paratypes were taken at the summit of Highway 380 about 10 miles southeast of Bingham, N. Mex., with the same date, host, and collector.

The holotype, allotype, and paratypes are in my collection.

Conophthorus cembroides, n. sp.

This species is closely related to *edulis* Hopkins, but it is distinguished by the slightly smaller, shallower punctures on the pronotum and elytra and by the flattened, very feebly impressed interstriae 2 on the declivity.

MALE.—Length 2.3 mm (paratypes 2.2-2.5 mm), 2.2 times as long as wide; almost black, elytra dark reddish brown.

Frons as in *edulis*, with median epistomal tubercle very slightly larger, frontal punctures slightly smaller. Pronotum also as in *edulis* except punctures in posterior areas averaging much smaller and not as deep.

Elytra essentially as in *edulis* except striae and interstitial punctures on disc and declivity distinctly smaller; declivital interstriae 2 flat, very feebly impressed (somewhat variable in both species).

FEMALE.—Indistinguishable from the male by external characters.

TYPE LOCALITY.—Miller Canyon, Huachuca Mts., Ariz.

TYPE MATERIAL.—The male holotype, female allotype, and 15 paratypes were taken at the type locality on 8 August 1962, from cones of *Pinus cembroides*, by S. L. Wood. One specimen, not included in the type series, is labeled Zimapan, Hidalgo, Mexico, 12 June 1960, *Pinus cembroides* seed.

The holotype, allotype, and paratypes are in my collection.

Pityophthorus franseriae, n. sp.

This species has the pronotal asperities formed into three conspicuous concentric rows as in Blackman's Group II of this genus, but declivital striae 1 and 2 are entirely obsolete. Among described species it is unique.

FEMALE.—Length 1.3 mm (paratypes 1.2-1.3 mm), 2.7 times as long as wide; color very dark reddish brown, almost black, pronotal summit usually lighter.

Frons flattened on a rather narrow subcircular area; surface shining, rather finely, deeply, uniformly punctured; vestiture of very fine, comparatively short hair uniformly distributed, not longer or more abundant at margins. Antennal club small, oval, with two straight sutures dividing club into three subequal parts.

Pronotum 1.03 times as long as wide; widest behind middle, sides moderately arcuate on slightly more than basal half, rather broadly rounded in front; anterior margin armed by eight, subcontiguous, coarse teeth; anterior slope armed by three concentric rows of asperities; posterior area shining, punctures rather fine, deep, moderately sparse, median line impunctate. A few small setae at margins.

Elytra 1.6 times as long as wide; sides almost straight and parallel on basal three-fourths, abruptly rounded, then feebly acuminate at apex; striae not impressed, punctures rather coarse, deep; interstriae almost smooth, almost as wide as striae, impunctate. Declivity steep, very shallowly, broadly bisulcate; surface shining, impunctate; sutural interstriae distinctly elevated, 2 shallowly impressed, 3 weakly elevated, 2 and 3 each armed by widely spaced, very fine granules. Interstitial setae on declivital area fine, moderately long.

MALE.—Similar to female except frons with a well-developed transverse carina at vertex, fronal area slightly impressed, with moderately coarse punctures in lateral areas, vestiture less conspicuous, sparse.

TYPE LOCALITY.—Six miles west of High Rolls, Lincoln National Forest, N. Mex.

TYPE MATERIAL.—The female holotype, male allotype, and 56 paratypes were taken at the type locality on 2 June 1969, 6000 ft elevation, from *Franseria* stems, by S. L. Wood.

The holotype, allotype, and paratypes are in my collection.

Pityophthorus torridus, n. sp.

Superficially this species resembles *juglandis* Blackman, but it is larger, it has only three concentric rows of asperities on the pronotum, and it has declivital striae 1 and 2 almost obsolete.

FEMALE.—Length 2.0 mm (paratypes 1.8-2.0 mm), 2.9 times as long as wide; color very dark reddish brown, almost black.

Frons broadly flattened from eye to eye, central half weakly concave; surface subshining, rather finely, uniformly, densely, deeply punctured; evenly, rather densely clothed by fine, long hair, setae near outer and upper margins slightly longer. Antennal club moderately large, oval, sutures straight; segment 1 longest.

Pronotum 1.1 times as long as wide; essentially as in *franseriae* Wood except anterior margin armed by 16 teeth and punctures in posterior areas finer.

Elytra 1.8 times as long as wide; sides straight and parallel on basal three-fourths, subacuminate behind; striae not impressed, punctures moderately coarse, deep; interstriae almost smooth, subshining, impunctate. Declivity steep, rather shallowly, broadly bisulcate; punctures of striae 1 and 2 very small, rather shallow; sutural interstriae moderately elevated, as high as lateral areas, interstriae 2 rather broadly, rather strongly impressed and impunctate, 1 and 3 each with a sparse row of pointed tubercles. Vestiture confined to posterior half, of rather coarse, moderately long hair of moderate abundance.

MALE.—Similar to female except frons weakly convex, coarsely, sparsely punctured, vestiture sparse, inconspicuous, a very weak median carina on lower half; pronotal punctures distinctly larger.

TYPE LOCALITY.—Six miles west of High Rolls, Lincoln National Forest, N. Mex.

TYPE MATERIAL.—The female holotype, male allotype, and three male paratypes were taken at the type locality on 2 June 1969, 6000 ft elevation, from *Franseria* stems, by S. L. Wood. These specimens were in the same stems with *franseriae* Wood.

The holotype, allotype, and paratypes are in my collection.