

NEW SPECIES AND NEW RECORDS OF NORTH AMERICAN *PITYOPHTHORUS*
(COLEOPTERA: SCOLYTIDAE), PART VI. THE LAUTUS GROUP

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ABSTRACT.—Four new species of Mexican *Pityophthorus* in the Lautus group are described: *P. indefessus* (Jalisco), *P. inhabilis* (Guerrero), *P. tutulus* (Veracruz), and *P. vegrandis* (Quintana Roo) and a new locality record is given for *P. corruptus* Wood.

This is the third paper describing the previously unnamed species of *Pityophthorus* collected by Dr. T. H. Atkinson and his colleagues (Centro de Entomología y Acarología, Colegio de Postgraduados, Chapingo, Mexico). The present contribution describes four species in the Lautus group and gives new locality records for one species in the group. As in the previous papers (Great Basin Nat. 45: 467–482), the key in my 1981 monograph (Mem. Ent. Soc. Canada 118, pp. 54, 55) is modified to accommodate the newly named species.

I thank Dr. Atkinson for sending the specimens to me and also thank him and his students for their diligent searching for Scolytidae in previously unrecognized host plants. I also thank my colleagues Dr. Y. Bousquet and Dr. L. LeSage for reviewing the manuscript.

Pityophthorus indefessus, n. sp.

Length 1.3–1.4 mm, 2.7 times longer than wide.

Frons transversely impressed from epistomal margin to upper eye level, impression moderately deep, with obscure, weakly elevated, impunctate median carina extending from epistoma halfway or less across impression; surface shining, finely, densely punctured, setae short, inconspicuous. Antennal club 1.1 times longer than wide, widest through third segment; first two sutures weakly arcuate, almost invisible except where heavily sclerotized at lateral margins; first two segments occupy about one-third of total club length. Pronotum slightly more than 1.1 times longer than wide, widest at level of summit; sides very weakly arcuate, weakly

converging on posterior half, broadly rounded anteriorly, anterior margin with about nine distinct serrations; anterior slope with three irregular rows of asperities, these rows somewhat broken, several obscure additional rows around summit; summit weakly elevated; posterior area of disc with numerous fine, shallow punctures, these separated by distance equal to or less than their diameters, surface between punctures shining, smooth with numerous, very fine impressed points; median line obscure, narrow, impunctate. Elytra 1.6 times longer than wide, apex very broadly rounded, almost truncate; discal striae punctured in regular rows, punctures fine, shallow, slightly larger than those on posterior portion of pronotum; interstriae about twice as wide as striae, moderately shining, with numerous, very fine, minute points, 3, 5, 7 with three or four erect, flattened scales on posterior half, 1 with row of four or five scales extending to base. Declivity convex, flattened; interstriae 1 elevated, with median row of fine granules and short, fine setae; interstriae 2 weakly impressed, with median row of very fine setae and granules, these sometimes evident only on upper half of interstria; interstriae 3 very weakly elevated, with median row of distinct, fine granules and erect, spatulate setae, these longer than setae on 1 and 2; remaining interstriae (3, 5, 7) with a median row of erect spatulate setae; punctures in striae 1 and 2 distinct.

TYPE MATERIAL.—The holotype is labeled: "Estación Biológica, Chamela, Edo. Jalisco, 7.III.82, S-390, 80 msnm, Col. Armando Equihua"/"HOLOTYPE *Pityophthorus indefessus* D. E. Bright, 1986, CNC 18747." Two

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paratypes bear the same locality data plus paratype labels. The holotype is in the Canadian National Collection; the two paratypes were returned to T. H. Atkinson.

COMMENTS.—The sexes of the three specimens in the type series could not be determined since, in this group, sex can only be established by examining the abdominal tergites. This was not done on the three specimens at hand.

The specimens in the type series were found in a sample of *P. molestus* Wood and are very similar to that species except that declivital interstria 2 of *P. indefessus* bears a row of fine granules and very fine setae, these present or most obvious on upper half of the interstria. This species will key to near *P. nemoralis* Wood and *P. centralis* but may be distinguished by the characters mentioned in the key.

Pityophthorus inhabilis, n.sp.

Length 1.8–2.0 mm, 3.0 times longer than wide.

FEMALE.—Frons flattened on semicircular area extending laterally from eye to eye and longitudinally from epistoma to well above upper eye level; surface densely, closely punctured in flattened area with brush of dense, erect setae all of equal or nearly equal length, surface above and lateral to flattened area shining, glabrous, with much larger, deeper, sparser punctures. Antennal club oval, about 1.4 times longer than wide, widest through second segment; suture 1 transverse, heavily sclerotized except for short space in middle, 2 transverse, lightly sclerotized only at lateral margin; segments 1 and 2 occupy more than two-thirds of total club length, suture 1 located just below middle of club, 2 located just below apex of club. Pronotum 1.1 times longer than wide, widest at posterior angles; sides slightly converging to broadly rounded anterior margin; asperities on anterior slope arranged into 4–6 or more irregular concentric rows, first row more regular, remaining rows slightly broken; summit distinct; posterior area of disc moderately shining, punctures large, deep, close, inter-puncture space with numerous, fine, impressed points; median line narrow, not elevated, impunctate. Elytra 1.8 times longer than wide; apex narrowly rounded, elevated interstriae 1 extending slightly beyond elytral

outline; discal striae punctured in regular rows, punctures large, larger than those on posterior portion of pronotum, deeply impressed; discal interstriae about as wide as or narrower than striae, moderately shining, glabrous, with numerous, fine, impressed points. Declivity almost evenly convex, weakly bisulcate; interstriae 1 wide, distinctly elevated, with median row of fine, shallow punctures and short, fine setae; interstriae 2 weakly impressed, flat, glabrous, slightly wider than striae width; interstriae 3 very weakly elevated, with several, large punctures and short, fine setae; striae 1 narrowly impressed, punctures obscure, 2 distinctly punctured, slightly curved in middle; vestiture in remaining interstriae consisting of fine setae near declivity.

MALE.—Frons weakly transversely impressed to upper level of eyes; surface of impressed area densely, coarsely punctured, setae absent except along epistomal margin, surface above and lateral to impression more deeply, less closely punctured. Antennal club with first suture slightly closer to base than on female, second suture very weakly indicated near apex. Pronotum and elytra essentially as described for female. Declivity slightly more deeply bisulcate, otherwise as described for female.

TYPE MATERIAL.—The holotype (♀) is labeled: "Chilapa, Guerrero, 23-II-82, 1800 m, S-337, Col. Atkinson y Equihua"/"HOLOTYPE *Pityophthorus inhabilis* D. E. Bright, 1986, CNC No. 18447." The allotype and six paratypes bear the same locality label plus the appropriate type label.

The holotype, allotype, and two paratypes are in the Canadian National Collection; four paratypes were returned to Dr. Atkinson.

COMMENTS.—Compared to adults of other species in the *Lautus* group, those of this species are unique by having a more broadly sloping elytral declivity on which the first and second striae are distinct, by having distinct sexual dimorphism on the frons, and by the unique antennal club on which the first two segments occupy almost the entire face of the club. The first antennal suture is located near the middle of the club and is distinctly sclerotized; the second suture is located just before the apex of the club and is weakly sclerotized and obscure. Other characters of species in the *Lautus* group, such as the concentric rows

of pronotal asperities and the distinctly punctured first and second declivital striae, are all present on adults of this species.

Pityophthorus tutulus, n.sp.

Length 1.5–1.8 mm, 2.8 times longer than wide.

FEMALE.—Frons broadly flattened to weakly concave from eye to eye and from epistoma to well above eyes; surface on lower half smooth, moderately shining, sometimes with few, minute, impressed points and few, scattered setae, upper half with dense covering of very short, stout, recumbent scales, periphery of flattened area with row extending from eye to eye of long, incurved setae. Antennal club large, elongate-oval, 1.5 times longer than wide, widest through segment 3; suture 1 weakly arcuate, 2 transverse, both sclerotized, 2 more so than 1; segments 1 and 2 together occupy about one-third of total club length. Pronotum 1.1 times longer than wide, widest at middle; sides weakly arcuate, feebly constricted before broadly rounded anterior margin; asperities on anterior slope arranged into three distinct and one or two indistinct concentric rows; these rows may be broken, especially in median area; summit distinct; posterior area of disc moderately shining, punctures of moderate size, deep, distinct, close, interpuncture space with numerous, distinct, minute, impressed points; median line broad, not elevated, with numerous impressed points. Elytra 1.6 times longer than wide; apex broadly rounded; discal striae punctured in regular rows, punctures large, larger than those on posterior portion of pronotum, deeply impressed, close; discal interstriae about as wide or slightly narrower than striae, surface moderately shining, glabrous, with numerous fine points and lines. Declivity steep, convex; interstriae 1 very slightly impressed below level of 3 on upper half, with median row of fine granules; interstriae 2 flat, as wide as on disc, weakly but distinctly impressed below 1, surface smooth, glabrous; interstriae 3 weakly elevated, with median row of fine granules; striae 1 narrow, distinctly impressed, 2 slightly less deeply impressed, both straight and distinct; vestiture consisting of fine setae on lateral interstriae and in all interstriae, except 2, near declivity.

MALE.—Frons weakly concave, upper mar-

gin of concavity arcuate, extending above upper level of eyes; surface minutely punctate, with few, scattered, fine setae. Otherwise essentially as in female.

TYPE MATERIAL.—The holotype (♀) is labeled: "Jalapa, Veracruz, 28-XI-83, FANM 100, col. Felipe A. Noguera"/"Hosp. *Rhus radicans* (Anacardiaceae)"/"HOLOTYPE *Pityophthorus tutulus* D. E. Bright, 1986, CNC No. 18448." The allotype and six paratypes bear the same locality and host data plus the appropriate type labels.

The holotype, allotype, and two paratypes are in the Canadian National Collection; four paratypes were returned to Dr. Atkinson.

COMMENTS.—This species and *P. crinalis* are unique among North American species of the genus in that the upper half of the female frons has a dense brush of numerous short, recumbent, plumose scales. This brush extends from eye to eye and has a fringe of much longer, incurved plumose setae on the upper margin (see figure 37 in my 1981 monograph). The lower half of the female frons is smooth, shining, and glabrous. The males of these two species differ from those of other species in the group only in minor details. Both species occur in *Rhus* spp.

Adults of *P. tutulus* differ from those of *P. crinalis* by the slightly larger body size, by the larger antennal club, by the slightly larger granules on declivital interstriae 1 and 3, by the slightly more deeply impressed elytral declivity, and by the distribution.

Pityophthorus vegrandis, n.sp.

Length 1.0–1.1 mm, 2.7 times longer than wide.

FEMALE.—Frons evenly convex, very weakly transversely, narrowly flattened just above epistoma; surface dull, densely microreticulate, with very faint, shallow, scattered punctures, setae absent except along epistomal margin. Antennal club oval, 1.4 times longer than wide, widest through segment 3; suture 1 moderately arcuate, sclerotized through entire length, suture 2 transverse to weakly arcuate, sclerotized at lateral margins; segments 1 and 2 together occupy about one-half of total club length. Pronotum as long as wide, widest at level of summit; asperities on anterior slope arranged into three even concentric rows, one very faint additional row may be detected around summit; summit dis-

tinctly elevated; posterior area of disc smooth, dull, densely microreticulate, with large, shallow, widely separated punctures; median line broad, impunctate, reticulate. Elytra about 1.6 times longer than wide; apex broadly rounded; discal striae punctured in even rows, punctures fine, shallow, smaller than those on posterior portion of pronotum; interstriae about 1.5 times wider than striae, surface smooth or weakly reticulate, shining, without setae. Declivity convex, steep; interstriae 1 and 3 equal in height, both with median row of very fine granules; interstriae 2 flat, equal to discal width, weakly impressed below level of 1 and 3; striae 1 and 2 weakly impressed, 1 more strongly so; scattered setae present in all interstriae except 2.

MALE.—Virtually identical to female except frons very weakly flattened, with distinct, large, deeply impressed punctures.

TYPE MATERIAL.—The holotype (♀) is labeled: "Chetumal, Quintana Roo, 10-Julio-1982, 20 m, SM-020, E. Martinez." "HOLOTYPE Pityophthorus vegrandis D. E. Bright, 1986, CNC No. 18449." The allotype and one paratype bear the same locality label plus the appropriate type label. One damaged specimen, not designated as a paratype, is labeled: "Laguna de Bacalar, Quintana Roo, 10-Julio-1982, 20 m, SM-020, E. Martinez."

The holotype and allotype are in the Canadian National Collection; the two paratypes were returned to Dr. Atkinson.

COMMENTS.—The relationships of this species are unclear. Although it keys to near *P. sambuci*, the two are not closely related. Adults are most easily distinguished by the small size, by the dull, densely, minutely reticulate frons of both sexes, by the very weakly impressed elytral declivity, and by the weak development of sexual dimorphism.

Revised key to species in the Lautus group

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|-------|--|------------------------------|
| 1. | Male and female frons similar, pubescence sparse | 2 |
| — | Male and female frons sexually dimorphic, female frons distinctly pubescent, male frons only sparsely pubescent | 11 |
| 2(1). | Declivital interstriae 2 bearing median row of fine punctures or fine setiferous granules and fine setae; antennal club narrowly oval, about 1.5 times longer than wide | 3 |
| — | Declivital interstriae 2 never bearing granules or setae; antennal club broadly oval, less than 1.5 times longer than wide | 5 |
| 3(2). | Declivital interstriae 2 bearing a median row of fine setae, these as long as those on interstriae 1 and 3; surface between punctures on pronotum strongly reticulate; Honduras to Costa Rica | <i>nemoralis</i> Wood |
| — | Declivital interstriae 2 bearing a median row of fine granules or punctures and fine setae, setae much shorter than those on interstriae 3 (and sometimes 1); surface between punctures on pronotum smooth or with fine points, brightly shining | 4 |
| 4(3). | Declivital interstriae 2 bearing a median row of fine punctures and extremely fine hairlike setae; setae on declivital interstriae 3–9 all hairlike; surface between punctures on pronotum smooth; frons without longitudinal carina above epistoma; Florida and Cuba | <i>concentralis</i> Eichhoff |
| — | Declivital interstriae 2 bearing a median row, at least on upper half, of fine granules and fine, flattened setae; setae on declivital interstriae 3–9 spatulate; surface between punctures on pronotum with numerous fine points; frons with a weak longitudinal carina extending from epistoma halfway to upper eye level; Jalisco | <i>indefessus</i> Bright |
| 5(2). | Frons bearing weak but distinct, longitudinal carina or elevation; punctures on posterior portion of pronotum numerous, small, and shallow (except <i>borrichiae</i>) | 6 |
| — | Frons without indication of carina, sometimes bearing very small tooth on epistomal margin; punctures on posterior portion of pronotum large, deep, and widely spaced | 10 |
| 6(5). | Frons flattened or transversely concave to upper level of eyes, divided by weak, longitudinal, narrow elevation; declivity sloping; asperities on anterior pronotal slope arranged into broken concentric rows | 7 |
| — | Frons convex, usually with distinct, narrow elevation extending from epistoma to vertex, elevation interrupted in center by weak, transverse impression; if elevation absent, then frons rugose, elevation frequently indicated by small, elongate callus at upper level of eyes; declivity steep; asperities on anterior pronotal slope arranged in even, concentric rows | 8 |
| 7(6). | Occurs in eastern United States; setae on declivital interstriae about 1.5 times longer than interstitial width; median elevation on frons only weakly indicated | <i>lautus</i> Eichhoff |
| — | Occurs in eastern Mexico; setae on declivital interstriae longer, more than 2.0 times longer than interstitial width; median elevation on frons sharply elevated | <i>molestus</i> Wood |
| 8(6). | Body length 1.0–1.3 mm; declivital setae stout, about equal in length to interstitial width; Florida | <i>borrichiae</i> Wood |
| — | Body length 1.4–1.7 mm; declivital setae fine, hairlike, nearly 2.0 times longer than interstitial width; Mexico and Central America | 9 |

- 9(8). Frons shining, deeply punctured, frontal elevation not evident but frequently indicated by elongate callus at upper level of eyes; discal interstriae smooth, with sparse, minute points; Chiapas to Honduras . . . *morosus* Wood
- Frons dull, reticulate, sparsely punctured, elevation usually distinct but frequently interrupted in middle by weak, transverse, densely punctured impression; discal interstriae with numerous fine lines, surface irregular; Mexico . . . *patulus* Wood
- 10(5). Frons evenly convex or weakly flattened, surface dull, microreticulate; surface between punctures on posterior portion of pronotum densely reticulate; length 1.0 mm; Quintana Roo . . . *vegrandis* Bright
- Frons flattened, usually with small tooth or weak elevation on epistomal margin, surface shining, smooth; surface between punctures on posterior portion of pronotum shining, smooth or faintly reticulate; length 1.4–1.7 mm; Jalisco . . . *sambuchi* Blackman
- 11(1). Female frons densely pubescent only on upper margin above upper level of eyes, shining and glabrous below; male frons flattened, densely punctured . . . 12
- Female frons pubescent over entire area between eyes, setae may be longer, more abundant on periphery of flattened area; male frons weakly transversely impressed . . . 15
- 12(11). First two segments of antennal club occupy more than two-thirds of total club length; declivity very weakly bisulcate, interstriae 2 widened, flat; male frons weakly transversely impressed, setae sparse; female frons flattened with erect setae, all of equal length; Guerrero . . . *inhabilis* Bright
- First two segments of antennal club occupy less than two-thirds of total club length; declivity variable, not as above; male frons variable; female frons variable, with setae in various patterns but not as above . . . 13
- 13(12). First two segments of antennal club occupy more than half of total club length, club 1.4 times or less longer than wide; lower half of female frons weakly but distinctly punctured, punctures rather large, upper margin with fringe of plumose setae; southeastern USA . . . *liquidambaris* Blackman
- First two segments of antennal club occupy about one-third of total club length, club 1.5 times longer than wide; lower half of female frons smooth, brightly shining, sometimes with minute punctures, upper area with dense recumbent scales in addition to setae . . . 14
- 14(13). Occurs in eastern USA; length 1.3–1.6 mm . . . *crinalis* Blackman
- Occurs in southern Mexico; length 1.5–1.8 mm . . . *tutulus* Bright
- 15(11). Occurs in Central America; setae on declivital interstriae scalelike in male, hairlike in female; pubescence on female frons abundant on periphery, sparse in central area . . . *perexiguus* Wood
- Occurs in Mexico; setae on declivital interstriae as above or hairlike in both sexes; pubescence on female frons variable . . . 16
- 16(15). Body size 0.8–1.6 mm; female frons pubescent on narrowly oval, median area, all setae of equal length; granules on declivital interstriae 3 large, setae on declivity scalelike in male, hairlike in female; Mexico . . . *attenuatus* Blackman
- Body size 1.5–1.8 mm; female frons pubescent on broad area extending from eye to eye and to above upper eye level; central portion of female frons less densely pubescent, setae on periphery longer; granules on declivital interstriae 3 small; setae on declivity hairlike in both sexes . . . *corruptus* Wood

NEW RECORD

Pityophthorus corruptus Wood

Pityophthorus corruptus Wood, 1976, Great Basin Nat. 36, p. 363; Bright, 1981, Mem. Ent. Soc. Canada 118, p. 68; Wood, 1982, Mem. Great Basin Nat. 6, p. 1133.

This species was previously known only from the type series from Puebla. A series of 29 specimens were seen bearing the labels: "San Rafael, Mex., 4.IX.81, S-242, 2400 m, Atkinson - Equihua"/"Hosp.: *Rhus* sp."

The specimens are identical to the two paratypes in the Canadian National Collection.