

TEN NEW NORTH AMERICAN SPECIES OF *Xyletinus*
(ANOBIIDAE: COLEOPTERA)

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Abstract.—Six new species of United States and Canadian *Xyletinus* are described: *californicus*, *carinatus*, *parvus*, *bicolor*, *confusus*, *rotundicollis*. The last three species are closely allied to *X. fucatus* which is redescribed. A key is presented which includes the above six new species and three previously described species that are closely related to them. Four new species of *Xyletinus* from Mexico are described as follows: *aurantiacus*, *mexicanus*, *cylindricus*, *rotundifrons*. A key is given for the five species of this genus now known from Mexico.

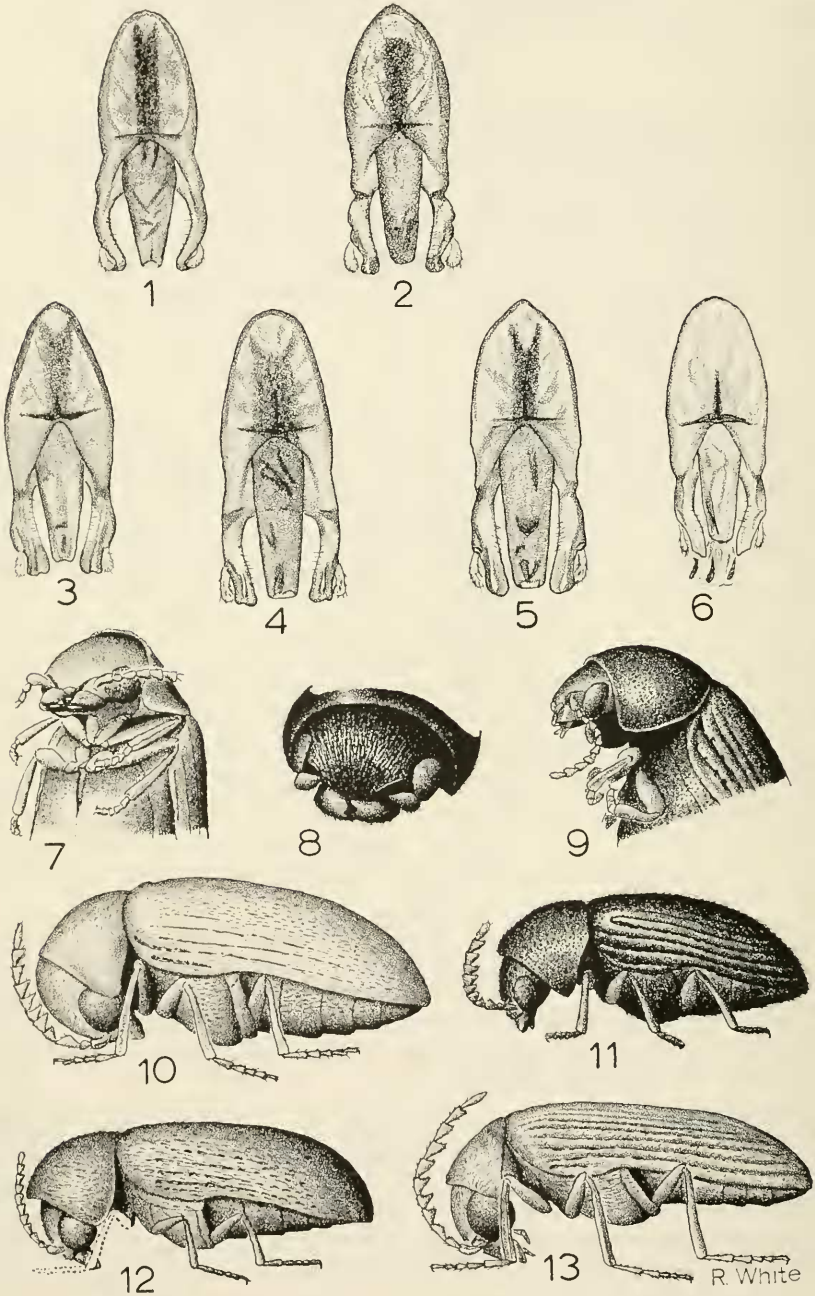
I have encountered some undescribed members of *Xyletinus* in working over unidentified collections of Anobiidae. Six new United States and Canadian and four new Mexican species are described. Three of the United States and Canadian species are members of what I call the *X. fucatus* species complex; work on the latter is just a start toward unraveling this complex. A partial revision of the key appearing in my 1973 paper is given to allow these new U.S. and Canadian species to be identified. A key to the five Mexican species of *Xyletinus* is given. Members of *Xyletinus* are wood borers and thus potentially pests; one species is injurious to woodwork and structural wood in damp buildings.

The first three descriptions are of the more distinctive undescribed United States *Xyletinus* available to me. A treatment of the *fucatus* complex follows these descriptions.

Xyletinus californicus White, new species
(Figs. 4, 9)

General.—Body robust, 1.8× as long as wide, elytral sides broadly arcuate, elytra widest at middle; body and appendages red brown, pronotum and head clouded with dark brown; body and appendages with very short, sparse, appressed pubescence, that on dorsal surface with a weakly reddish luster. Length 3.3-4.4 mm.

Head.—Front moderately, nearly evenly convex throughout to somewhat produced medially between eyes; surface quite densely, more or less finely punctate, punctures varying in size. Eyes small, weakly bulging, in both sexes separated by about 6× frontal width of an eye. Antenna $\frac{1}{3}$ to nearly $\frac{1}{2}$ as long as body, segments 3-10 serrate, segments 4-8 similar, each about as wide as long, segments 9 and 10 each longer than wide. Last segment of maxillary palpus fusiform, about 2× as long as wide; last segment



of labial palpus subtriangular, a little longer than wide, inner angle rounded.

Dorsal surface.—Pronotum a little wider than elytra at base, distinctly, nearly evenly convex throughout; lateral margin complete to nearly complete (1 of 5 specimens), explanate, feebly reflexed; surface finely, densely punctate, punctures larger at side, running together, surface subrugose. Scutellum subtriangular, wider than long, apex rounded. Elytra striate, each elytron with 10 complete, finely impressed, non-punctate striae, weaker apically, plus a short scutellar and 1 (sometimes 2) short subhumeral striae, intervals flat to weakly convex; surface at base finely, densely punctate, punctures on disk running together, surface becoming finely, transversely rugose.

Ventral surface.—Metasternal intercoxal process angulate to arcuate; surface densely, rather coarsely punctate, punctures varying in size. Abdomen with 5th segment of female bearing a small depression before apex, with a tubercle on each side of depression, 5th segment of male with a broader depression, tubercles lacking. Front and middle tibiae with outer face concave, concavity weak to obscure basally; hind tibia with outer face flat nearly throughout.

The male holotype (in CAS) is labeled "Mendocino Co. Cal. IV-30-14, E. R. Leach Coll." The allotype and a female paratype (in USNM) are labeled "Ben Lomond Cal V 1932; L. W. Saylor Collection"; 1 female paratype is labeled "Ben Lomond Cal IV 1931; LSaylor Collector"; the final paratype (female; in USNM) is labeled "CAL. San Joaq. Co., Lone Pine Canyon, 5-V-1972, W. H. Tyson; Woodrat nest, *Neotoma* sp." Ben Lomond is a town about 50 miles south of San Francisco.

This species is distinctive for having the body and appendages red brown with the head and pronotum clouded with dark brown, and for its markedly convex pronotum that is a little wider at its base than the elytra.

Xyletinus carinatus White, new species

(Fig. 7)

General.—Body elongate robust, about $2.2\times$ as long as wide, sides of elytra subparallel at basal $\frac{1}{2}$; body reddish orange throughout, appendages lighter, dull orange; body and appendages with very short, fine, appressed, yellowish pubescence. Length 2.8–3.3 mm.

←

Figs. 1–6. Male genitalia. 1, *Xyletinus bicolor*. 2, *X. fucatus*. 3, *X. rotundicollis*. 4, *X. californicus*, holotype. 5, *X. confusus*, holotype. 6, *X. lugubris*. Fig. 7. *Xyletinus carinatus*. Fig. 8. *Xyletinus parvus*. Fig. 9. *Xyletinus californicus*. Fig. 10. *Xyletinus rotundifrons*, holotype. Fig. 11. *Xyletinus parvus*, holotype. Fig. 12. *Xyletinus cylindricus*, holotype. Fig. 13. *Xyletinus aurantiacus*.

Head.—Nearly evenly, moderately convex throughout; front feebly, longitudinally carinate; surface indistinctly rugose, rugosities weakly, longitudinally aligned. Eyes small, bulging, separated by $4\times$ frontal width of an eye. Antenna $0.4\times$ as long as body, serrate from segments 3–10, segments 5–8 subequal, segments 9 and 10 slightly more elongated than those preceding. Last segment of maxillary palpus about $2\times$ as long as wide, outer margin nearly straight, inner margin broadly rounded; last segment of labial palpus a little longer than wide, outer margin nearly straight, inner margin very broadly rounded.

Dorsal surface.—Pronotal disk nearly evenly convex, pronotum at side concave; lateral margin produced, sharp, complete, explanate; surface sculpture vaguely granulate punctate, sculpture coarsest at side of pronotum. Scutellum slightly longer than wide, apex rounded. Elytra striate, each elytron with 10 fine, distinct, non-punctate, complete grooves, nearly equally impressed throughout, in addition with a short scutellar, and 1 short subhumeral groove; intervals weakly to feebly convex; surface finely, obscurely, densely punctate throughout.

Ventral surface.—Metasternum at middle with a distinct, longitudinal carina, weaker posteriorly, about 0.4 length of metasternum, metasternum produced to between middle coxae; surface obscurely granulate punctate. Abdomen with surface finely, densely punctate and obscurely granulate; fifth segment nearly flat front to back. Anterior tibia with outer face more or less concave, middle tibia with outer face flat nearly throughout, hind tibia outer face convex.

The male holotype (in CAS) is labeled "CALIF.: Shasta Co., Big Bend, VII-3-65, El. 2,800 feet, R. M. Brown"; 1 paratype (in CAS) is labeled "CALIF. Sisk Co., Fowlers Camp, 5 mi. E. of McCloud, 22-VII-1962; D. C. Rentz, C. D. MacNeill, Collectors"; 1 paratype (in USNM) is labeled "CAL. Eldorado Co., Rubicon River at Georgetown-Ralston road 27.VII.1963; Buckeye Flat. at light; H. B. Leach Collector."

The specific name refers to the metasternal carina. *Xyletinus carinatus* is immediately separable from all other N. American members of *Xyletinus* in bearing this structure. *Xyletinus carinatus* is otherwise similar to *X. fucatus* Lec.

Xyletinus parvus White, new species
(Figs. 8, 11)

General.—Body robust, about $1.9\times$ as long as wide, elytral sides subparallel at basal $\frac{1}{2}$; body dark brown to reddish brown, appendages reddish brown to orange brown; pubescence short, sparse, minutely bristling, weakly yellowish or reddish. Length 2.4 mm.

Head.—Front nearly evenly convex, a little depressed above clypeus; surface longitudinally rugose. Eyes small, weakly bulging, separated by

4.4–5.5× frontal width of an eye. Antenna a little less than $\frac{1}{2}$ as long as body, serrate from segments 3–10, segment 3 a little longer than wide, segments 4–10 wider than long, segment 4 slightly wider than long, segment 7 about 1.6× as wide as long, segment 10 a little wider than long. Last segment of maxillary palpus subcylindrical, about 3× as long as wide; last segment of labial palpus subtriangular, about 2× as long as wide.

Dorsal surface.—Pronotum as wide as elytra at base, moderately, nearly evenly rounded throughout, at side nearly flat front to back; lateral margin sharp, distinct, complete, minutely recurved; surface finely, densely granulate, granules at side obscurely crescent shaped. Scutellum a little longer than wide, sides subparallel. Elytra with strongly impressed, complete striae, with no evidence of punctures, each elytron with 1 short scutellar, 10 complete, and 1 subhumeral stria, intervals convex; surface irregularly granulate.

Ventral surface.—Metasternal intercoxal process broadly arcuate, surface rather coarsely granulate punctate. Abdomen finely, densely punctate; 5th segment at middle nearly flat front to back, at sides weakly convex before apex. Front and middle tibiae concave apically, hind tibia flat apically.

The male holotype (USNM no. 73688) is labeled "Falls Church, 12.VI.18 Va.; E.A. Chapin Collector; On *Oesnoth americanus*." The generic name may be a misspelling of *Ceanothus*. The single paratype (in CNC) is labeled "Mt. Misery, 4/4/38 NJ, L. Bottimer; Larva coll. in rabbit dung March 1938." The latter collection record is unusual, for other members of this genus are known exclusively as wood borers.

The small size (2.4 mm) and bristling pubescence readily distinguish this species from all others occurring in eastern United States.

Xyletinus fucatus Complex

Fall (1905, p. 202) was correct in stating that a number of different species were included in his taxon *Xyletinus fucatus* Lec. I have seen the type of the latter (MCZ no. 3621, likely a female) and I now restrict the name *fucatus* to light colored specimens. The true *fucatus* is generally recognized by being decidedly lighter in color than other species that have been confused with it. See under *fucatus* (below), the partial key, and the genitalia illustrations for a definition of *fucatus*.

For future work on this group many specimens should be amassed, and numerous dissections of male genitalia should be made. The male genitalia appear to be diagnostic for species, but the differences between 2 similar species are not always obvious. The most important character is the form of the lateral lobes, but the form of the median lobe is important, as is the nature of its internal processes. In working with ex-

tracted genitalia in a liquid (usually alcohol or glycerine) one must force air bubbles out of the median lobe, for they obscure or conceal internal characters.

In my genitalic illustrations (Figs. 1-6), the internal processes of the median lobe show up clearly when, in preparation of the genitalia, I was able to force all or most of the air out of the median lobe.

The three new species are as difficult to identify as any other group of Anobiidae with which I have worked.

Xyletinus fucatus LeConte

(Fig. 2)

General.—Body elongate robust, 2.0-2.1× as long as wide, elytral sides weakly arcuate, elytra widest at about middle; body and appendages nearly unicolorous, orange brown to reddish brown, elytral striae usually dark, elytra infrequently a little darker than remainder of body; body and appendages with very short, fine, moderately dense, weakly yellowish, appressed pubescence. Length 2.8-4.3 mm.

Head.—Front nearly evenly, moderately convex throughout, weakly, longitudinally carinate at middle; surface finely, densely granulate-punctate. Eyes small, separated by 5-6× frontal width of an eye, varying in size but slightly between sexes. Antenna 0.4× to nearly ½ as long as body, serrate from segments 3-10, in female segments 4-9 each a little wider than long, segment 10 about as wide as long, in male segments 5-7 a little wider than in female, segment 9 about as wide as long, segment 10 a little longer than wide. Last segment of maxillary palpus subtriangular, or with sides subparallel, 2× as long as wide; last segment of labial palpus subtriangular, about 1.5× as long as wide.

Dorsal surface.—Pronotum at base as wide as to a little wider than elytra at base; disk moderately, nearly evenly convex, at side shallowly concave; lateral margin sharp, complete, explanate, usually broadly, weakly recurved; surface finely, densely punctate-granulate, punctation most distinct, granulation most obscure on disk. Scutellum about as wide as long, sides subparallel and apex broadly rounded to triangular with apex pointed. Elytron with 10 distinct, complete, impressed striae, and with a scutellar and a subhumeral stria, sometimes laterally with evidence of punctures on striae; intervals moderately to distinctly convex; surface finely, densely granulate-punctate.

Ventral surface.—Metasternal intercoxal process broadly arcuate, surface variably punctate-granulate, coarsest anteriorly. Abdomen with 5th segment sometimes bearing 2 small tubercles before apex; surface finely, densely punctate. Anterior and middle tibiae with outer face concave except basally, hind tibia with outer face flat nearly throughout.

Separation of *fucatus* from related species may be difficult, so following is a resumé of diagnostic characters of *fucatus*. Body and appendages nearly unicolorous, orange brown to reddish brown, elytra infrequently darker than remainder; pronotum at side shallowly concave, with lateral margin usually broadly, weakly recurved; elytral intervals moderately to quite distinctly convex.

Specimens that I have seen are from the following states and provinces (listed east to west): New Brunswick; Quebec; New York; Ontario; Michigan; Wisconsin; Kansas; South Dakota; Saskatchewan; British Columbia; Oregon; California.

Xyletinus bicolor White, new species
(Fig. 1)

General.—Body elongate robust, 1.8–1.9× as long as wide, elytral sides subparallel, weakly widest at about middle. Color variable, usually as follows: Head and metasternum dark brown to black, pronotum dark brown to black and with sides and anterior margins reddish brown, abdomen and elytra brown; body thus often bicolored, but sometimes body brown throughout, sometimes elytral humeri lighter than remainder of elytra; usually with antennae and femora brown, tibiae and tarsi light brown. Body and appendages with short, fine, appressed, weakly yellowish to whitish pubescence. Length 2.7–3.5 mm.

Head.—Front moderately, nearly evenly convex throughout, with a weak, longitudinal carina evident; surface finely, densely granulate punctate. Eyes small, separated by 5 to nearly 6× width of an eye, size in sexes overlapping. Antenna 0.4–0.5× as long as body, shorter in female, serrate from segments 3 through 10, each segment from 6–8× wider than long, 9th segment a little wider than long, 10th segment about as wide as long. Last segment of maxillary palpus subtriangular, about 2× as long as wide; last segment of labial palpus subtriangular, about as wide as long.

Dorsal surface.—Pronotum at base as wide as elytra at base, disk moderately, nearly evenly convex, at side shallowly concave; lateral margin sharp, complete, explanate, broadly, weakly reflexed; disk finely, densely punctate granulate, at side with irregularly developed, rimmed punctures, dorsal rim of each often obscure. Scutellum wider than long to as wide as long, apex broadly rounded. Elytron with 10 distinctly impressed, non-punctate striae plus a scutellar and a subhumeral stria; intervals moderately to weakly convex; surface finely, densely granulate punctate.

Ventral surface.—Metatarsal intercoxal process broadly arcuate, with rimmed punctures (variable in size; largest basally) on a subgranulate surface. Abdominal surface finely, densely punctate and subgranulate. Front

and middle tibiae each with outer face convex apically, flat basally, or flat nearly throughout, each hind tibia with outer face flat nearly throughout.

The holotype (male), allotype, and 8 paratypes (all in CNC except 2 paratypes in USNM) are labeled "Attona Lake, Cut Knife, Sask., 9-VI-1940, A. R. Brooks." A single specimen in this series has the label "Host *Populus tremuloides*." Eight specimens (2 in CNC, 6 in USNM) are labeled "Riding Mt. Pk., Man. VI-9-1937, W. J. Brown." This locality is Riding Mt. National Park. Three additional specimens (in CNC) are labeled essentially the same except for dates, 1 has 15-6-1938, another has 4-VI-1938, and the last has 8-VI-1938. Two specimens (in CNC) are labeled "Elbow, Sask., 23.VI.1954, Brooks-Wallis." Two specimens (1 in CNC, 1 in USNM) are labeled "Chaplin, Sask., 21.VI.1954, Brooks-Wallis." Two specimens (in CNC) are labeled "5 mi. SW. Shilo, Man. 28-V-1958, C. D. F. Miller." Four specimens (2 in CNC, 2 in USNM) are labeled "Ross River, Y.T., 132°30', 61°56', 3,000' 22.VI.60, E. W. Rockburne." Two specimens on 1 pin (in CNC) are labeled "Aweme, Man., R. M. White, 5.VI.1923." Seven specimens (in CNC) with differing data are labeled "Oak Lake, Man., July 9 1953, Brooks-Kelton," "McMurray, Alta. VI-10-53, W. J. Brown," "2 mi. W. Stockton, Man. 26-V-1958, J. F. McAlpine; Spruce-San community," "Assiniboia, Sask. 18.6.1955, A. R. Brooks," "Carberry, Man., June 15 1953, Brooks-Kelton," "Saskatoon, Sask. 7.VII.1949, J. R. Vockeroth," and "Saskatoon, Sask., 2-V-1951, A. R. Brooks."

Of the above characters, the most diagnostic follow: Usually with head and metasternum dark brown to black, pronotum dark brown to black and with sides and anterior margins brown to reddish brown, abdomen and elytra brown; front of head with a weak, longitudinal carina; side of pronotum shallowly concave, lateral margin explanate, broadly, not strongly reflexed, surface with irregularly developed, rimmed punctures, dorsal rim of each often obscure. The male genitalia of this species are distinctive for the narrow, curving lateral lobes that are directed outwardly at the apex.

Although many members of this species have the dorsal surface bicolored as described above, this color alone will not always distinguish the species, for members of *confusus* may be very similar in color.

Xyletinus confusus White, new species

(Fig. 5)

General.—Body elongate robust, 1.9–2.0× as long as wide, sides weakly arcuate, elytra widest at about middle; color much as that of *bicolor*, except light margin of pronotum when present less distinct; body and appendages with short, fine, appressed, weakly yellowish pubescence. Length 2.8–3.7 mm.

Head.—Front moderately, nearly evenly convex, with a weak, longitudinal carina usually evident; surface finely, densely granulate punctate, granulation obscurely, longitudinally aligned. Eyes small, separated by 4.1–5.4× frontal width of an eye, size in sexes overlapping. Antenna 0.4–0.5× as long as body, serrate from segments 3–10, segments 5–8 a little wider than long, segment 9 about as wide as long, segment 10 a little longer than wide. Maxillary palpus last segment subtriangular, about 2× as long as wide; labial palpus last segment subtriangular, about as long as wide, inner angle broadly rounded.

Dorsal surface.—Pronotal disk moderately convex, each side of midline often with a weak elevation basally, surface at side shallowly concave; disk finely, densely punctate and subgranulate, with dense, rimmed punctures at side, running together, posterior rim of most punctures obscure; lateral margin sharp, complete, explanate, broadly, weakly reflexed. Scutellum usually wider than long, sometimes about as wide as long, apex broadly rounded. Elytron with 10 distinctly impressed, complete striae, sometimes with vague indication of punctures at sides, also with a scutellar and a subhumeral stria; intervals moderately to weakly convex; surface finely, densely granulate punctate.

Ventral surface.—Metasternal intercoxal process broadly arcuate; surface granulate punctate, most coarsely so near base. Abdomen finely, densely granulate punctate. Front and middle tibiae with outer face concave apically, flat ventrally, middle tibia sometimes flat nearly throughout, outer face of hind tibia flat nearly throughout.

The male holotype and a paratype (both in CNC) are labeled "Banff Natl. Pk., Alta VIII.22.55, W. J. Brown; Eisenhower Junction, 4,700 feet." Four additional paratypes (in USNM) differ only in the date VIII-13-55; 1 specimen (in USNM) differs only in VII-12-55. There are 8 additional paratypes (all in CNC) with differing data as follows: "10 mi. E. of Oliver, B.C., 3-VI-1958, H. & A. Howden"; "Truckee, CALIF., 6,000' Tahoe Co., 14.VII.1961, B. H. Poole" (Truckee is in Nevada Co.); "McMurray, Alta. VI.12.53, W. J. Brown"; "17 mi. NW of Oliver, B.C., 6-VI-1958, H. & A. Howden"; "Norman Wells, N.W.T., VII-3-1949, S. D. Hicks"; "Elkwater, Alta., 11-VI-1956, O. Peck"; "5,400' Flynn Creek, 8 mi. N. Pringle, S.D., VII-8-9, 1961, H. & A. Howden.malt."; and, finally "Orofino Mt., 4,000' nr. Oliver, B.C. VI-8-1958, H. & A. Howden; D. fir." Two paratypes (in USNM) have identical data except 1 has the date June 26–29, the other has July 7–10, 1972, the identical data are: "Stratton Expt. Watershed nr. Saratoga, Wyo., J. M. Schmid; LIT-2; HOPK. U.S. 36774-F."

The most diagnostic of the above characters follow: Color much as that of *bicolor* except light margin of pronotum when present less distinct; front of head with a weak, longitudinal carina, surface granulation obscurely, longitudinally aligned; sculpture at side of pronotum of dense,

rimmed punctures, running together, posterior rim of most punctures obscure; lateral pronotal margin broadly, weakly reflexed.

Xyletinus rotundicollis White, new species
(Figs. 3, 10)

General.—Body elongate-robust, 1.8–2.0× as long as wide, elytral sides weakly arcuate, elytra widest at about middle; usually head, pronotum and metasternum black and abdomen and elytra dark brown to dark reddish brown, antenna brown, femora dark brown, tibiae and tarsi brown, sometimes black nearly throughout, or black with elytra brown to dark reddish brown, antenna brown, femora dark brown, tibiae and tarsi brown, sometimes black nearly throughout, or black with elytra brown to dark reddish brown, often with anterior and or lateral margins of pronotum reddish brown; body and appendages with very fine, very short, moderately dense, appressed pubescence, that on dorsal surface with a primarily reddish reflection, that on ventral surface with a yellowish reflection. Length 2.7–3.7 mm.

Head.—Front nearly evenly, moderately convex throughout, not carinate; surface finely, densely punctate to subgranulate, punctures varying in size, infrequently clearly dual. Eyes small, separated by 4–6× transverse diameter of an eye. Antenna about $\frac{1}{3}$ to nearly $\frac{1}{2}$ as long as body, serrate from segments 3–10, segment 3 longer than wide, segments 4–8 wider than long, segment 9 as wide as long or longer than wide, segment 10 longer than wide, segment 11 about 2× as long as wide. Last segment of maxillary palpus subtriangular, widest beyond middle, about 2× as long as wide; last segment of labial palpus subtriangular, inner angle broadly rounded, about as wide as long.

Dorsal surface.—Pronotum at base as wide as elytra at base; pronotum distinctly, nearly evenly convex throughout, even to extreme side; lateral margin sharp, complete, explanate at level of hind angle, sometimes weakly reflexed; disk with fine, dense punctation, punctures toward side becoming larger and coarse, running together, obscurely dual, surface subgranulate. Scutellum a little wider than long, apex broadly rounded. Elytron with 10 strongly impressed, complete striae, striae with little to no evidence of punctures, also with 1 sutural and 1 subhumeral stria; intervals clear convex at side, nearly flat on disk; surface finely, densely granulate.

Ventral surface.—Metasternal intercoxal process broadly arcuate, surface with dense punctation, obscurely dual, subgranulate, especially anteriorly. Abdominal punctation fine, dense, obscurely dual. Front and middle tibiae with outer face concave apically, flat basally, outer face of hind tibia weakly flattened.

The male holotype (no. 73689 in USNM) is labeled "Turner, East Lake Cal, Rec. June 21.83; Through C. V. Riley," the allotype (in USNM) is labeled "Mather Toulmne (sic) Co, California, VIII-18-32; Colln E. C. Zimmerman, 1941."

A male paratype (in CNC) is labeled "Richter Pass Rd., 7 mi. W. Osoyoos, B.C. 2-VI-1958, H. & A. Howden"; a female paratype (in CNC) has essentially the same except for no mile designation, and the date V-30-1958. Three male paratypes with differing data (first 2 in CNC, last in USNM) are labeled "Val Marie, Sask., 49°15', 107°44', 13.VI.1955, J. R. Vockeroth," "Naramata, B.C., V.28 1958, H. & A. Howden; Sage brush," and "Boulder, Colo., 16.VI.61 6,400', B. H. Poole." There are 16 additional paratypes, the first 5 are in CNC, the last 11 in USNM, their data follow: "7 mi. N. of Oliver, B.C., V-26-1958, H. & A. Howden"; "Summerland, May. 30.32 B.C., A. N. Cartrell"; Bridgeville, Calif. 20.VI.69, Kelton & Madge"; "15 mi. N. Burns Ore., June 8, 1955, Joe Schuh Collector"; "Scandia, Alta., VIII-9-1956, O. Peck"; "Oliver, B.C., 13.V.1959, E. E. MacDougall"; "Kings Canyon, Cal. 6-23-1955, PS Bartholomew; P. S. Bartholomew Coll. Calif. Acad. Sci., Accession 1967"; "Yosemite, Cal. 7-4-49 PSB; P. S. Bartholomew Collection Calif. Acad. Sci. Accession 1967"; "Carmel, Monterey Co., June 14, 1908 Cal; L. S. Slevin Collection"; and "Twin Lakes, Mono Co. Cal, July 1929; 3411"; "Sweeping alfalfa Oroville Wn., 6-5-1919, A. C. Burrill"; "CAL. Shasta Co., Lake Britton, VI-29-1947, H. Chandler; H. P. Chandler Collection"; "Topenish, Wn, IV-24-1925, M. C. Lane Co."; three final paratypes are labeled "Easton, Wash. K.; A. Koebele Collector."

The most important diagnostic characters of this species follow: Usually head, pronotum and metasternum black and abdomen and elytra dark brown; surface of head finely, densely punctate to subgranulate, punctures varying in size; pronotum distinctly, nearly evenly convex throughout, even to extreme side; pronotal disk with fine, dense punctation, toward side, punctures becoming larger, coarse, and running together, obscurely dual, surface subgranulate.

The specific name (meaning round hill) refers to the nearly evenly convex side of the pronotum.

The following key replaces the last part of my key to North American *Xyletinus* species (White, 1973, p. 81) and includes the six new species described above.

Partial Key to North American Species of *Xyletinus*

- | | |
|---|----------------------------|
| 12(11). Dorsal surface and head with short, bristling hairs, see Fig. | |
| 11 | 13 |
| - Dorsal surface and head with appressed pubescence | 14 |
| 13(12). Length 2.6-3.5 mm; Texas | <i>pubescens</i> , LeConte |

- Length 2.4 mm; eastern U.S. *parvus*, new species
- 14(12). Metasternum anteriorly at middle with a carina; California
carinatus, new species
- Metasternum lacking a carina; various localities 15
- 15(14). Body reddish brown, pronotum clouded with dark brown;
pronotum at side distinctly convex (Fig. 9); California
californicus, new species
- Body usually dark brown to black, if reddish brown to nearly
orange then side of pronotum shallowly concave; various lo-
calities 16
- 16(15). Body orange brown to reddish brown throughout; male geni-
talia Fig. 2 *fucatus* LeConte
- Body nearly always dark brown to black, at least in part;
male genitalia Figs. 1, 3, 5, 6 17
- 17(16). Antennal segments each about 2× as wide as long (female)
or about 3× as wide as long (male); eastern U.S. to Nebraska
and Alberta; male genitalia Fig. 6 *lugubris* LeConte
- Antennal segments as wide as long to a little wider than
long; Manitoba and South Dakota to California 18
- 18(17). Pronotum at side nearly evenly convex, lateral margin weakly,
narrowly reflexed, similar to Fig. 9; male genitalia Fig. 3; head
lacking a median carina *rotundicollis*, new species
- Pronotum at side broadly, shallowly concave, lateral margin
broadly, weakly reflexed; male genitalia Figs. 1, 5; head with a
weak, longitudinal carina 19
- 19(18). Sculpture at side of pronotum of dense, rimmed punctures,
dorsal rim of each often obscure; male genitalia with lateral
lobes narrow and arcuate (Fig. 1) *bicolor*, new species
- Sculpture at side of pronotum of dense, rimmed punctures,
posterior rim of each often obscure; male genitalia with lateral
lobes broader, less arcuate (Fig. 5) *confusus*, new species

Mexican *Xyletinus*

Descriptions of new Mexican species and a key to the five species occurring in Mexico follow.

Xyletinus aurantiacus White, new species (Fig. 13)

General.—Body elongate, robust, about 2.3× as long as wide, sides of elytra subparallel for basal $\frac{2}{5}$; ground color of body and appendages reddish orange, head and portions of ventral surface often clouded with brown; body and legs clothed with fine, short, appressed, moderately dense, orange

pubescence, with a sheen in light; body surface finely, densely granulate. Length 3.2–4.0 mm.

Head.—Distinctly, nearly evenly convex throughout, front vaguely, longitudinally produced between eyes. Eyes large, bulging, separated by 2.1–2.6× frontal width of an eye. Antenna about 0.65× as long as body, serrate from segments 3–10, segment 3 widest medially, about 2× as long as wide, segments 4–7 similar, segments 8–10 more elongate, each longer than wide, 10th most elongate, 11th segment nearly 4× as long as wide, widest before apex. Last segment of maxillary palpus subcylindrical, about 4× as long as wide; last segment of labial palpus elongate, tapering to apex, about 3× as long as wide.

Dorsal surface.—Pronotal disk with a median basal gibbosity and on each side 2 lateral gibbosities, these moderately developed, surface at side convex; lateral margin complete, sharp, narrowly explanate. Scutellum a little longer than wide, narrowed apically, apex rounded. Elytra with 10 complete, irregularly impressed striae, with scattered evidence of punctures, also with a scutellar and a subhumeral stria, intervals weakly convex.

Ventral surface.—Metasternal intercoxal process broadly angulate. Abdomen with 5th segment feebly depressed before apex. Front tibia with outer face concave nearly throughout; middle tibia with outer face flattened; hind tibia with outer face weakly flattened; tarsi long, each nearly as long as its tibia.

The male holotype and a paratype (in CAS) are labeled "MEX.B.Calif., 2 mi. NE. of El Rosario, 7-XII-1958; H. B. Leech Collector." Three paratypes (in CAS) are labeled "MEX.: Baja Calif., 7 mi. NNW. Rosarito, 8-9.IV.1961, Allyn G. Smith"; two paratypes (in USNM) are labeled "Mezquital, BAJA CALIF., VIII-25-1959. lt. trap., K. W. Radford & F. G. Werner."

This species is quite distinctive for the much reduced pronotum and the very elongate tarsi, see Fig. 13. The species name refers to the orange color.

Xyletinus cylindricus White, new species

(Fig. 12)

General.—Body elongate robust, about 2.4× as long as wide, sides of elytra subparallel for about basal $\frac{1}{2}$; body reddish brown, head and pronotum mostly dark brown, antennae and tarsi lighter than remainder; body with fine, short, mostly appressed, greyish pubescence, weakly bristling on head and pronotum. Length 3.1 mm.

Head.—Nearly evenly, moderately convex throughout, not carinate; surface finely, densely granulate. Eye size moderate, eyes bulging, separated by about 3× frontal width of an eye. Antenna about $\frac{1}{3}$ length of body,

serrate from segments 3-10, segments 3-4 each about $2\times$ as long as wide, segments 5-8 each about as wide as long, segments 9 and 10 longer than wide, segment 11 about $2\times$ as long as wide. Last segment of maxillary and labial palpi similar, fusiform, each about $2\times$ as long as wide.

Dorsal surface.—Pronotum distinctly, nearly evenly rounded throughout; lateral margin sharp, complete, narrowly produced; surface sculpture of minute granules and intermixed larger granules. Scutellum about as long as wide, apex broadly rounded. Elytra striate, each elytron with 10 more or less distinct striae, 1 scutellar and 1 subhumeral stria, striae irregularly impressed, most distinct at sides, intervals nearly flat; surface finely, densely granulate.

Ventral surface.—Metasternal intercoxal process arcuate, metasternal surface finely, densely granulate. Abdomen with 5th segment nearly flat front to back; surface sculpture of fine, dense granules. (Front legs missing); middle tibia with outer face more or less flattened; hind tibia with outer face not flattened.

The female holotype (in CAS is labeled "MEXICO: Sonora, Tastiota, VII-18-1950; Col. by J. P. Fig-Hoblyn.")

This species differs from other Mexican *Xyletinus* in the weakly serrate antennae, the cylindrical body shape, relatively small eyes, and minute, bristling hairs on the head and pronotum.

Xyletinus mexicanus White, new species

General.—Body elongate robust, $2.3-2.4\times$ as long as wide, sides of elytra subparallel for about basal $\frac{2}{3}$; body and legs reddish brown, antennae orange brown, various body regions (except elytra) sometimes clouded with dark brown; body with short, fine, dense pubescence, appressed throughout to minutely bristling in part, obscuring surface, pale tan, with a sheen in light. Length 3.9-4.3 mm.

Head.—Nearly evenly, moderately convex throughout, not carinate; surface finely, densely granulate, granules obscurely of 2 sizes. Eyes very large, bulging, separated by $1.4-2.0\times$ frontal width of an eye. Antennae about $\frac{1}{2}$ length of body, serrate from segments 3-10, segment 3 about $1.5\times$ as long as wide, segment 4 a little longer than wide, segment 5-8 with similar proportions, segments 9 and 10 each about $2\times$ as long as wide, segment 11 about $3\times$ as long as wide. Last segment of both maxillary and labial palpi elongate-fusiform, each about $3\times$ as long as wide.

Dorsal surface.—Pronotum distinctly, nearly evenly rounded throughout, at side distinctly convex; lateral margin sharp, distinct, complete, very narrowly produced, in side view nearly evenly arcuate; surface with fine, dense granulation, granules of 2 sizes. Scutellum about as wide as long, apex broadly rounded. Elytra usually distinctly striate, striae of elongate,

usually well-aligned punctures, striae strongest at side of elytra; intervals weakly convex; surface very finely, densely granulate.

Ventral surface.—Metasternal intercoxal process nearly straight across or minutely angulate; surface finely, densely granulate. Abdomen with 5th segment nearly flat front to back; surface finely, densely granulate. Front tibia with outer face flat nearly throughout; middle tibia with outer face mostly flat; hind tibia outer face not flattened.

The male holotype (in CAS) is labeled "Coronados I., Gulf Calif., May 18, 1921; EPVanduzee Collector; Ed. 3596." One paratype (in CAS) is labeled "Porto Ballandra; Carmen Isd., Gulf Calif., May 21, 1921; EPVanduzee Collector"; 2 paratypes (1 in CAS; 1 in USNM) are labeled "Mezquitil, BAJA Calif., VIII-25-1959. Lt. trap. KWRadford&FGWerner"; the final paratype (in USNM) is labeled "Venancio, L. Cal. VII-17-38; Michelbacher & Ross Collectors."

This species is quite similar to *X. mucoreus mucoreus* Lec., the differences follow: In *mucoreus mucoreus* the pubescence is distinctly bristling in part, the metasternal intercoxal process is deeply, distinctly angulate, the length is 3.4–6.2 mm, and the lateral margin of the pronotum is sinuate in lateral view; in this species the pubescence is appressed throughout to minutely bristling in part, the metasternal intercoxal process is minutely angulate, the length is 3.9–4.3 mm, and the lateral margin of the pronotum in lateral view is nearly evenly arcuate. The head beneath in *mexicanus* is less distinctly depressed, and the palpi are much more elongated than in *mucoreus mucoreus*. In addition, *mucoreus mucoreus* occurs from Florida to Texas and this species occurs in Lower California.

Xyletinus rotundifrons White, new species
(Fig. 10)

General.—Body elongate robust, about 2× as long as wide, sides of elytra subparallel for basal $\frac{3}{4}$; body and appendages orange brown, antennae palest, head and pronotum vaguely clouded with brown; body and legs clothed with fine, moderately dense pubescence, with a dull yellowish sheen in light. Length 4.4 mm.

Head.—Quite strongly, nearly evenly convex throughout; surface finely, densely punctate. Eyes large, bulging, separated by 2.8× frontal width of an eye. Antenna nearly $\frac{1}{2}$ as long as body, serrate from segments 3–10, segment 3 about 2× as long as wide, segment 4 about as wide as long, segments 5–8 subequal, each about $\frac{1}{2}$ wider than long, segments 9 and 10 subequal, each a little longer than wide, 11th segment about 4× as long as wide. Last segment of maxillary palpus elongate, subcylindrical, about 4× as long as wide; last segment of labial palpus elongate, widest near base, about 3× as long as wide.

Dorsal surface.—Pronotal disk distinctly convex, less strongly so anteriorly, at side strongly convex, surfaces before posterior angle and behind anterior margin depressed; lateral margin sharp, complete, slightly produced; surface finely, densely punctate. Scutellum subtriangular, a little wider than long, apex narrowly rounded. Elytra striate, each elytron with 10 fine, complete, distinctly impressed grooves, with indistinct evidence of punctures, with a short scutellar and subhumeral stria, last and subhumeral striae very strong at base; intervals nearly flat; surface finely, densely granulate-punctate, sculpture sometimes forming transverse rugulae.

Ventral surface.—Metasternal intercoxal process broadly angulate; surface of metasternum finely, densely punctate-granulate, sculpture in places forming rugulae. Abdomen with surface finely, densely punctate granulate throughout; 5th segment nearly flat front to back. Anterior tibia with outer face flat nearly throughout, middle tibia weakly flattened, hind tibia not flattened.

The female holotype (in CAS) is labeled "Pto Refugio, Gulf Calif., May 1, 1924; Angel de la Guardia Isd; EPVanDuzec Collector."

This species is distinctive for the quite strongly, nearly evenly convex head; the species name refers to this character.

Key to Species of Mexican *Xyletinus*

1. Elytral striae formed of distinct, sometimes much elongated punctures 2
 - Elytral striae formed of impressed grooves, these sometimes obscurely punctate 4
- 2(1). Antenna weakly serrate (Fig. 12); eyes smaller, separated by about 3× vertical diameter of an eye *cylindricus*, new species
 - Antenna more strongly serrate; eyes larger, separated by 1-2× vertical diameter of an eye 3
- 3(2). Length 1.9-4.1 mm; pubescence sparse; body reddish orange to orange brown *pallidus* LeConte
 - Length 5.2-5.4 mm; pubescence dense; body brown *mexicanus*, new species
- 4(1). Head large and markedly convex; pronotum normal in size (Fig. 10); pubescence silvery *rotundifrons*, new species
 - Head not as above; pronotum reduced in size (Fig. 13); pubescence orange *aurantiacus*, new species

I thank the following persons for loans: Dr. Edward C. Becker, Canadian National Collection (CNC), Ottawa; Dr. David Kavanaugh, California Academy of Sciences (CAS). The initials are used in the text in referring to sources of material. The initials USNM refer to the United States National Museum of Natural History.

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NOTE

A NEW SYNONYM AND LECTOTYPE DESIGNATION
IN EPHYDRIDAE (DIPTERA)

The purpose of this note is to clarify the nomenclature of, and to designate a lectotype for *Notiphila solita* Walker. I am doing this now so that the proper name will be used in a forthcoming paper on the biology of this species prepared by Mr. J. D. Busacca and Dr. B. A. Foote, Kent State University, Ohio.

Notiphila solita Walker

Notiphila solita Walker, Insecta Saund., 1852:406. LECTOTYPE ♂ (here designated) (BM(NH)), labelled: "68·4 US solita/United States, W. W. Saunders. B.M. 1868-4 LECTOTYPE *Notiphila solita* Walker by W. N. Mathis."

Notiphila vittata Loew, Smithson. Misc. Coll. 1862, 6(141):136. Holotype ♀, (MCZ), labelled: Dista-Columb. Loew Coll./vittat. ♀/Type 11127."
NEW SYNONYMY.

Through the courtesy of Mrs. Janice C. Scott (MCZ) and Dr. Brian H. Cogan (BM(NH)), I have studied both of the specimens indicated above to confirm their conspecificity.

Wayne N. Mathis, Department of Entomology, Smithsonian Institution, Washington, D.C. 20560.