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NEW RECORDS AND SPECIES OF SCOLYTIDAE
(COLEOPTERA) FROM WESTERN
NORTH AMERICA

Stephen L. Wood¹

Significant extensions of the distributions of several species of bark beetles from the western United States and the State of Chihuahua, in Mexico, are reported in the following pages. A genus, *Aphanocleptus*, and six species are described as new to science. The new species represent the following genera: *Carphoborus*, *Chramesus*, *Micracis*, *Aphanocleptus*, and *Ips* (2). In addition, the homonym *Chramesus striatus* Wood is renamed, and notes are included concerning *Xyleborus saxeseni* (Ratz) and *X. xylographus* (Say).

Carphoborus brevisetosus Wood

Only the type series of this species from southern Wyoming has been known previously. It was collected again in Utah at McKee Draw, Ashley National Forest (Uinta Mountains), on June 16, 1960, and at Sanford Canyon, Dixie National Forest, on June 22, 1960, from *Picea pungens*.

Carphoborus perplexus, n. sp.

In the key to North America *Carphoborus* (Wood, 1954, Canadian Ent. 86(11):508) this species would appear to fit *ponderosae* Swaine in couplet twelve. It is, however, more closely allied to *sansoni* Swaine than to other known species. It is distinguished from *ponderosae* by the less strongly elevated more finely serrate declivital interspaces, particularly the ninth which is also less closely tuberculate, and by the absence of a serrate elevation extending from the junction of interspaces three and nine to the apex of interspace one. From *sansoni* it is distinguished by the coarser declivital teeth, and by the tuberculate posterior portion of the ninth declivital interspace.

Female.—Length 1.9 mm., 2.4 times as long as wide.

Frons flattened, weakly elevated along epistomal margin; epistomal margin medially produced in front of mandibles; surface rather coarsely, closely punctured; vestiture long, abundant, rather coarse. Antennal club 1.3 times as long as wide, the sutures straight

Pronotum 1.2 times as wide as long; sides slightly arcuate, indistinctly converging anteriorly, a weak lateral constriction just

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behind the broadly rounded anterior margin; surface reticulate, punctures of moderate size, deep, close; median line elevated only near middle; vestiture consisting of abundant small, erect scales, each scale distinctly longer than wide.

Elytra 1.7 times as long as wide; sides subparallel on basal two-thirds, rather broadly rounded behind, the posterior profile interrupted by the elevated declivital interspaces; basal margins elevated and armed by about nine large crenulations; striae slightly impressed, the punctures rather large, deep, close; interstriae about as wide as striae, weakly convex, the punctures confused, close, deep, rather coarse. Declivital interspaces one and three moderately rather evenly elevated; two rather slender flat; one, three, five, seven, and nine coarsely serrate; nine somewhat more sparsely serrate than others (often with gaps in paratypes); declivital elevation ending at junction of interspaces three and nine, not continued across interspace two. Vestiture consisting of large, abundant, erect, interstitial scales, each scale longer than wide.

Male— Similar to female except frons convex above, strongly, transversely impressed below (longitudinally concave), the median non-tuberculate, transverse elevation as in other species of the genus; surface of frons more coarsely, deeply punctured, and vestiture shorter.

Type locality.— Ten miles east of Kamas, Utah.

Host.— *Pinus ponderosa*.

Type material.— The female holotype, male allotype and 38 paratypes were collected at the type locality on September 9, 1960, from small shaded-out branches of *Pinus ponderosa*, by S. L. Wood and D. E. Bright, Jr.

The holotype, allotype, and some paratypes are in the collection of the writer, other paratypes are in the U.S. National Museum.

Liparthrum arizonicum Wood

Previously known only from the Huachuca Mountains of Arizona, this species was collected on July 17, 1960 at La Laja and at 20 and 23 miles south of Creele, Chihuahua, Mexico, on July 17, 1960. It was common wherever a species of Madrone, either *Arbutus arizonicus* or *glandulosa*, was present.

Carphobius arizonicus Blackman

This unique species was described (Blackman, 1943, Proc. U.S. Natl. Mus. 94(3174):398) from a short series collected in the Huachuca Mountains of Arizona in 1907. The host and further distribution have remained unknown until the species was again encountered during the past summer. Short series were collected 23 miles east of Maguerichic, Chihuahua, Mexico, on July 13, 1960, and again 23 miles south of Creele, Chihuahua, Mexico, on July 18, 1960, from *Juniperus pachyphloea*, by the writer.

Phloeosinus spinosus Blackman

Specimens collected 30 miles south of Creele, Chihuahua, Mexico, on July 18, 1960, from *Cupressus arizonica*, are referred to this species previously known only from Arizona. Compared to a series from the Chiricahua Mountains, the type locality, there are consistent differences in the size of declivital tubercles of the male. However, as the distributional pattern of this species becomes more completely known, the Chihuahua specimens almost certainly will fall well within the limits of variability.

Leperisinus hoferi Blackman

The known distribution of this species has included southern Arizona and New Mexico. During the past summer specimens were collected at Colonia Juarez, Chihuahua, Mexico, on July 22, 1960, from *Fraxinus velutinia*. The same host with galleries of what appeared to be this species was also observed at 23 miles south of Creele, and 16 miles northeast of San Juanito, Chihuahua, although specimens were unobtainable.

Phloeotribus pruni Wood

This species, previously known only from the type series, was collected at Maguerichic, Chihuahua, Mexico, on July 13, 1960. It was taken from both large and small branches of cultivated peach trees. The four trees examined in the area were all severely damaged indicating that this is, or may become, an important economic pest in the area.

Chramesus setosus, n. sp.

This species is closely related to *asperatus* Schaeffer, but may be distinguished by the smaller average size; by the more slender, less abundant vestiture; in the male by the less deeply impressed frons; and in the female by the absence of granules on the upper area of the frons. The prothorax is as coarsely sculptured as in *asperatus*.

Male.— Length 1.4 mm. (paratypes 1.2-1.8), 1.5 times as long as wide; body color black, vestiture yellowish-brown.

Frons deeply, broadly concave between inner margins of eyes from epistomal margin to well above upper margins of eyes, deepest point on upper half; epistoma slightly elevated and with a median lobe projecting in front of mandibles; lateral margins acute and armed by a pair of small teeth as in *asperatus*; surface reticulate, with sparse, fine, inconspicuous punctures; vestiture scanty, inconspicuous. Eye and antenna as in *asperatus*.

Pronotum 1.4 times as wide as long; sides rather strongly, arcuately convergent toward constriction located just behind the broadly rounded anterior margin; surface reticulate with isolated setose granules over entire surface, subsperate in lateral areas,

punctate just in front of scutellum; vestiture rather abundant, bristlelike.

Elytra as in *asperatus* except vestiture less abundant, and both erect bristles and smaller ground setae more slender, not at all scalelike; bristles in rows, erect, as long as those of *asperatus*.

Female.— Similar to male except frons flat with slight interantennal ridge; its surface similar, not granulate above as in *asperatus*; and pronotum with asperities in anterolateral areas much larger.

Type locality.— Madera Canyon, Santa Cruz County, Arizona.

Hosts.— *Rhamnus betulaeifolia* (type), and *Morus alba* (paratype).

Type material.— The male holotype, female allotype and 59 paratypes were taken at the type locality on August 1, 1960, from small branches of *Rhamnus betulaeifolia*; 18 paratypes were collected at Oak Creek Canyon, Arizona, on July 30, 1960, from the same host; and 107 paratypes were collected at Colonia Juarez, Chihuahua, Mexico, on July 22, 1960, from *Morus alba*; all were collected by S. L. Wood and J. B. Karren.

The holotype, allotype and some paratypes are in the collection of the writer, other paratypes are in the U. S. National Museum.

Chramesus strigatus, n. n.

At the time *Chramesus striatus* Wood (1956, Canadian Ent. 88:256) was described the usage of the same name for another species of this genus by Eggers (1943, Mitt. Munchn. Ent. Ges. 33:344) was unknown to the writer. Since *striatus* Wood is a junior homonym of *striatus* Eggers, the new name *strigatus* is proposed as a replacement.

Micracis carinulatus, n. sp.

This species is more closely allied to *suturalis* Leconte than to other known representatives of the genus, but is readily distinguished in the female by the more broadly concave frons which extends higher on the vertex and which is armed by a sharp, low median carina on the upper half and a row of long hair on the dorsal margin; and in both sexes by the more distinctly serrate anterior margin of the pronotum; by the coarser scalelike elytral vestiture; by the more strongly impressed stria punctures on the declivity; and by the uniformly convex declivital interspaces.

Female.— Length 2.4 mm. (paratypes 1.9-2.5). 3.3 times as long as wide; mature color brown.

Frons broadly concave from epistomal margin to well above upper margin of eyes with a smaller deeper median impression just above epistoma; a sharply elevated, low median carina extending from upper level of eyes to the rounded upper margin of concavity; surface rather coarsely reticulate; vestiture consisting of very short, sparse, recumbent hair within concavity and a row of long yellow

hair along upper margin of concavity extending from eye to eye, some of the hairs at least equal in length to antennal club. Eye large, coarsely faceted, 2.3 times as long as wide. Antennal scape triangularly expanded and setose, similar to *swainei*; club 1.5 times as long as wide, sutures procurved, the first reaching middle.

Pronotum 1.3 times as long as wide; sides straight and parallel on slightly more than basal half then abruptly narrowed to the rather broadly rounded anterior margin; anterior margin armed by a rather indefinite row of about ten small teeth; summit in front of middle, not high, asperate anterior to summit, coarsely reticulate behind and with rather sparse granulate punctures. Vestiture rather short, coarse and bristlelike anteriorly, becoming somewhat scalelike toward base.

Elytra 2.2 times as long as wide; sides straight and parallel on basal three-fourths, mucronate behind; striae not impressed, the punctures, small, distinct, shallow; interstriae feebly convex, twice as wide as striae, almost smooth, the punctures close, about half as large as those of striae, weakly raised (subvulcanate). Declivity steep, convex; striae weakly convex, bearing a row of rather small rounded granules. Vestiture rather abundant; consisting of small, semierect strial hair; and longer bristlelike scales, those on declivity slightly longer and pointed.

Male.— Similar to female except shorter (2.0 mm.), stouter (2.9 times as long as wide); frons convex above shallowly, narrowly concave below with surface granulate; antennal scape less strongly expanded; anterior margin of pronotum strongly serrate; surface of pronotum and elytra somewhat more coarsely sculptured; and elytral scales much broader, not pointed on declivity.

Type locality.— Cave Creek Canyon, Chiricahua Mountains, Arizona.

Host.— *Salix* sp.

Type material.— The female holotype, male allotype and 64 paratypes were collected at the type locality on August 4, 1960, from small branches of the common willow growing along the bank of Cave Creek, by S. L. Wood. Galleries were in the wood and appeared to be similar to those of *suturalis*.

The holotype, allotype, and some paratypes are in the collection of the writer; other paratypes are in the collection of the U.S. National Museum.

Aphanocleptus, n. g.

This genus belongs to the Micracini and is more closely allied to *Stenocleptus* Blackman than other known genera. From *Stenocleptus* it may be distinguished by the evenly convex elytral declivity; by the striate, closely squamous elytra; by the sixth segment of the funicle being as wide or wider than the pedicle; and by the sutures of the antennal club being only sparsely setose.

Description.— Head convex above, moderately impressed be-

low; funicle six-segmented, increasing gradually in width from segment two to six, six wider than pedicle; club elongate, widest on basal half, sutures straight and marked by rows of setae, the three sutures dividing club into segments of about equal length; eye rather large, oval; finely granulate. Median half of anterior half of pronotum coarsely asperate, the summit at middle and rather high. Elytra striate and squamose; declivity evenly convex, the apical margin ascending very slightly. Anterior tibia slender and armed on outer apical margin by three or four small teeth.

Type species.— *Aphanocleptus coniferae*, n. sp.

Aphanocleptus coniferae, n. sp.

Superficially this species resembles certain species of *Pseudothysanoes*, but is readily distinguished by the smaller more slender antennal club which has straight sutures similar to that of *Sterno-cleptus* and *Phloeocleptus*.

Female.— Length 1.7 mm., 2.9 times as long as wide; body color black, tarsi and antennae lighter.

Frons convex above, shallowly concave on median half below upper level of eyes; epistomal margin medially produced in front of mandibles; surface closely subgranulate-punctate except smooth on epistomal extension. Eye entire, elongate-oval; rather coarsely granulate. Antennal scape scarcely longer than pedicle, triangularly expanded and bearing a tuft of long hair; funicle six-segmented, pedicle as long as 2-4 combined, gradually increasing in width apically, six distinctly wider than pedicle; club 1.7 times as long as wide, apically pointed, widest on proximal half; sutures straight, marked by rows of short setae, the first one-fourth of length from base, the second at middle, the third one-fourth of length from apex.

Pronotum about equal in length and width, subcircular in outline; summit at middle rather high; asperities coarse, sparse except at summit, confined to a definite area and extending from summit anteriorly but not reaching anterior margin; surface behind summit somewhat irregular, apparently reticulate, the punctures rather close, moderately coarse and subgranulate, each bearing a coarse, rather long fimbriate seta.

Elytra 1.9 times as long as wide, 2.2 times as long as pronotum; sides straight and subparallel on basal three-fourths, broadly rounded behind; striae not impressed, the punctures small and separated by about one-half their diameters; interstriae as wide as striae, evidently subreticulate and bearing a single row of subvulcanate punctures each of which bears an erect scale. Scutellum large, flat. Declivity convex, rather steep; striae and striae punctures indistinct, somewhat confused, with the subvulcanate interstitial punctures as on disc. surface partly concealed by vestiture; sutural interspace very feebly elevated. Vestiture consisting of short recumbent fimbriate hairs; and interstitial rows of erect scales each about three to four times as long as wide and almost as long posteriorly as distance

between rows; scales on sutural interspaces forming a double row.

Male.—Smaller. 1.5 mm., stouter, 2.5 times as long as wide; frons more shallowly and broadly impressed; antennal scape less broadly expanded and more sparsely pubescent; pronotum slightly wider than long, and armed by two widely spaced teeth on anterior margin; and elytral scales broader, not more than twice as long as wide, and in less definite (partly double) rows; otherwise similar to female.

Type locality.— Eighteen miles west of La Laja, Chihuahua, Mexico.

Host.— *Picea* sp. (type), and *Pseudotsuga taxifolia* (paratype).

Type material.— The female holotype, male allotype and 28 paratypes were collected at the type locality on July 16, 1960 from shaded-out branches of spruce. Ten paratypes were taken the following day sixteen miles northeast of San Juanito, Chihuahua, Mexico, from Douglas fir. Galleries were transverse and engraved both bark and wood. The two broad egg tunnels extended transversely about 10 mm. in opposite directions from a small irregular nuptial chamber, rarely a short feeding tunnel extended perpendicular to the main gallery. Larval tunnels engraved the wood lightly parallel to its grain, and were as much as 40 mm. in length.

The holotype, allotype and some paratypes are in the collection of the writer; other paratypes are in the U.S. National Museum.

Pseudothysanoes phorodendri Blackman

This species previously has been known from southern Texas and southern Arizona. Specimens were collected in Mexico on July 18, 1960, 35 and again 40 miles south of Creele, Chihuahua, from small *Phorodendron* twigs.

Pseudothysanoes huachucae Blackman

Known previously from the Huachuca Mountains of Arizona, this species was collected in Mexico at La Laja, Chihuahua, on July 16, 1960, and 20 and 25 miles south of Creele, Chihuahua, on July 18, 1960 from *Quercus* sp.

Pseudothysanoes spinura Wood

The original sample of the host shrub from which the type series of this species was collected was not identifiable and remained unknown until another sample from the same shrub recently was obtained. It has now been identified as *Ceanothus integerrimus*.

Six miles north of Chihuahua, Chihuahua, Mexico, a long series of specimens was collected on July 21, 1960 from an unidentified *Rhus*-like shrub. Although minor, consistent differences in the sculpture and armature of the male decivity are apparent, they appear at present to represent only slight geographical variations unworthy of subspecific designation. These consist of slightly smaller and

less numerous spines on declivital interspace one, and a somewhat more strongly impressed submarginal area within the declivital face.

Ips utahensis, n. sp.

This is a common economically important species attacking Engelmann spruce in Utah and the surrounding states. Although it has been known to me for more than fifteen years it has not been recognized as a distinct species until now because of its deceptive resemblance to *hunteri* Swaine. Biological studies of the two species conducted during the past summer remove all doubts concerning the distinctness of these sympatric species.

Superficially this species resembles *perturbatus* Eichhoff in size, coloration, declivital armature, etc. The species *utahensis* may be distinguished from it by the larger more strongly impressed stria punctures, particularly in the lateral areas; by the distinctly, somewhat irregularly punctured interspaces, particularly on interspaces three, four, and five, by the more coarsely, deeply punctured pronotum; and by the less coarsely granulate, more protuberant lower half of the frons. From the more closely allied *hunteri* it is distinguished by its larger size, by the first declivital tooth being distinctly closer to the second than to the suture (the reverse is true in *hunteri*); by the more protuberant, more finely granulate, more densely pubescent frons; by the host and by the galleries.

Female.— Length 4.6 mm. (paratypes 4.0-4.8). 2.4 times as long as wide; mature color dark brown, almost black.

Frons convex, broadly, moderately protruding midway between epistomal margin and upper level of eyes; upper half smooth and shining with moderately sparse, fine, sharp punctures, becoming more closely punctured toward summit of protuberance, and finely, closely granulate below. Vestiture fine, short, moderately abundant on lower half, appearing almost subpilose from a lateral aspect. Eye and antenna as in *hunteri*.

Pronotum as in *hunteri* except somewhat more coarsely, deeply punctured, and vestiture somewhat longer and more abundant at sides.

Elytral profile as in *hunteri*; striae not conspicuously impressed, except the first, the punctures rather coarse, and very deep; interstriae slightly wider than striae, surface smooth and shining, the punctures rather small, irregular, more abundant toward declivity, present on all interspaces, coarser and more abundant in lateral areas, those on posterior portions of interspaces one and two becoming tuberculate. Declivity essentially as in *hunteri*, except first declivital tooth distinctly closer to second tooth than to suture.

Male.— Similar to female except somewhat more coarsely sculptured, declivital teeth larger, and frons less protuberant and more coarsely granulate.

Type locality.— Logan Canyon, Utah.

Host.— *Picea engelmannii*.

Type material.— The female holotype, male allotype and 70 paratypes were collected at the type locality on July 31, 1947, at an elevation of 8500 feet, from *Picea engelmanni*, by S. L. Wood. Two hundred and seventy-five other paratypes were collected from the same host at other Utah localities as follows: Beaver Canyon, Beaver Co., and Puffer Lake, September 10, 1949; Spirit Lake, Uinta Mts., August 3, 1946; Monte Cristo, July 20, 1949; and Wolf Creek Pass, Uinta Mts., June 17, and July 12, 1960. It is also known to occur in Colorado, Wyoming, and southern Idaho.

The egg galleries of this species parallel the grain of the wood. They are usually straight, two egg galleries extending in opposite directions from the entrance tunnel, usually with no suggestion of a nuptial chamber. When a third egg gallery appears, it branches off abruptly, then runs parallel to, just a few millimeters from its companion from the same gallery system, giving the whole the appearance of a tuning fork. Larval mines extend at right angles to the egg galleries, perpendicular to the grain of the wood.

The holotype, allotype and some paratypes are in the collection of the writer, other paratypes are in the U. S. National Museum, and the Canadian National Collection.

Ips hunteri Swaine

Swaine described this species (1917, Dom. Canada Dept. Agric. Ent. Br. Bull. 14(1):31) from a long series collected at Creede, Colorado. After examining the type and a long series of paratypes in the Snow Entomological Collection (University of Kansas) and comparing them with numerous other series collected in Utah and Colorado, it is now apparent that the host of *hunteri* is *Picea pungens* and that it is distinct from the larger more common species found in *Picea engelmanni*, described above.

The completed gallery system usually consists of two egg galleries extending in opposite directions from the entrance tunnel; there is no nuptial chamber. The egg galleries are not oriented with respect to the grain of the wood, but appear to be scattered rather haphazardly through the bark. A few gallery systems are transverse, a few are longitudinal, a few are diagonal, but most of them are curved in such a manner as to avoid crossing one another. If a third egg tunnel appears in a gallery system it usually begins at right angles to the main gallery and may or may not curve toward either of those on the main stem. Larval mines extend more or less at right angles from their points of origin on the egg gallery regardless of its orientation.

Ips sulcifrons, n. sp.

This distinctive species belongs to the *tridens* group and is more closely allied to *pilifrons* Swaine than to other known species. From *pilifrons* it is distinguished by the larger punctures on both the elytral striae and the posterior area of the pronotum; and, in the

female. by the higher, narrower, deeply sulcate frontal elevation.

Female.— Length 4.4 mm. (paratypes 4.0-5.0), 2.6 times as long as wide; body color brown.

Frons strongly protuberant below upper level of eyes on a rather narrow area occupying not more than half the distance between eyes; protubrance deeply cleft by a median sulcus; median surfaces of sulcus densely clothed by minute pilose hair except on a narrow median line at bottom of sulcus; surface smooth and shining above with moderately large, sparse punctures, gradually becoming closely granulate-punctate toward protubrance; vestiture almost entirely restricted to median surfaces of protubrance. Eye and antenna as in *pilifrons*.

Pronotum 1.03 times as long as wide; widest at base, sides feebly arcuate and gradually converging to the rather broadly rounded anterior margin; asperate on anterior half, rather coarsely, closely, deeply punctured in posterior areas.

Elytral profile from dorsal aspect as in *pilifrons*; striae not impressed, except feebly on first, the punctures large, moderately deep, separated by about one-half their own diameters; interstriae as wide as striae, smooth and shining, the punctures small, present on all interspaces. less abundant anteriorly, those on interspace one bearing minutely pointed tubercles from anterior margin of declivity almost to base. Declivity and lateral armature as in *pilifrons*.

Male.— Similar to female, except lower half of frons very feebly protuberant, the surface coarsely, irregularly granulate with the vestiture consisting of moderately abundant fine, long hair; and declivital teeth larger.

Type locality.— Santa Fe, New Mexico.

Host.— Unknown.

Type material.— The female holotype, male allotype and 24 paratypes were collected at the type locality on October 6, 1949, by Owen Bryant. In addition, the holotype, allotype and nine paratypes bear the lot number 59.

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

Xyleborus saxeseni (Ratzeburg)

Recently Dr. K. E. Schedl (1960, *Coleopterists' Bull.* 14:11) placed *Bostrichus saxeseni* Ratzeburg (1837, *Die Forstinsekten* 1:167) in synonymy under *Bostrichus xylographus* Say (1826, *Jour. Acad. Nat. Sci. Philadelphia* 5:256). Although it is agreed that the species to which he referred is widely distributed in Europe and North America, it is apparent that a misidentification has led to an error in synonymy.

It has been presumed that the entire type series of Say's species

xylographus was lost. There is, however, a single specimen among Swaine's material in the Canadian National Collection bearing the label "*Bostrichus xylographus*, teste Say," evidently written by Leconte. Whether or not this specimen actually belonged to the type series is problematical; however, because of Swaine's intimate knowledge of and repeated use of the Leconte Collection and because of the well known connection between Leconte and Say, there is good reason to believe this specimen is as nearly authentic as any existing specimen that has been referred to Say's species. To my knowledge there has never been disagreement among North American writers concerning the identity of Say's species. The reason for this agreement evidently was the existence of the above mentioned specimen.

The species *xylographus* (Say) belongs to the *Xyleborus* (s. str.) and *saxeseni* (Ratzeburg) to the subgenus *Xyleborinus*. Both species are widely distributed and common in North America.

Pityoborus secundus Blackman

Previously this species has been known only from the La Sal Mountains of Utah. On July 30, 1960, at Oak Creek Canyon, Arizona, it was collected again from the small shaded-out branches of *Pinus ponderosa*.

Pseudopityophthorus pulvereus Blackman

Specimens of this species were collected at La Laja, Chihuahua, Mexico, on July 16, 1960, and 23 miles south of Creele, on July 18, 1960, from *Quercus* sp.

Pseudopityophthorus yavappi Blackman

Specimens of this species were taken from the same branches at the same two localities as the above species, *P. pulvereus*.

Pityophthorus virilis Blackman

Previously unknown from Mexico, this species was collected 16 miles northeast of San Juanito, Chihuahua, on July 19, 1960, from *Rhus trilobata*.

Pityophthorus juglandis Blackman

This species was collected six miles north of Chihuahua, Chihuahua, Mexico, on July 21, 1960, from native black walnut (*Juglans* sp.)