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## A List of Cerambycidae from the Chiricahua Mountain Area, Cochise County, Arizona (Coleoptera)

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The Chiricahua Mountains of southeastern Arizona have long been of interest to biologists because of their fauna and flora. The establishment of the Southwestern Research Station of the American Museum of Natural History, near Portal, Arizona, has greatly increased collecting activity in this area and provided excellent facilities as a base for biological and ecological studies. The collections that form the basis of the present report, in addition to those made by Linsley and Knull at various times over the last 30 years, were assembled largely by Dr. M. A. Cazier and his colleagues at the American Museum of Natural History, the faculty and students of the 1958 University of California Summer Field Course in Entomology, and personnel of the California Academy of Sciences, San Francisco, including a considerable amount of material collected in the early days by J. A. Kusche. We do not claim that the list is exhaustive; no doubt additional species are represented in other collections and more will be captured in the future.

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<sup>1</sup>The University of California, Berkeley; Ohio State University, Columbus; and the American Museum of Natural History, respectively. The authors are indebted to Dr. Mont A. Cazier, Director of the Southwestern Research Station of the American Museum of Natural History, Portal, Arizona, for aid and encouragement in the present project and in others. This project was also supported in part by National Science Foundation Grant G-9899.

However, we hope that the list is sufficiently comprehensive to indicate the nature of the cerambycid fauna and to permit a few generalizations on its composition and affinities.

For purposes of this report, the Chiricahua Mountains Area is defined to the southeast by United States Highway 80 from Rodeo, New Mexico, to Cazador, Arizona; on the west by a line northward to Arizona State Highway 181 and hence along State Highway 186 to Apache Pass; on the northeast by a line from Apache Pass to San Simon; and to the northwest by the San Simon Road to Rodeo by way of Portal, Arizona.

### CHIRICAHUA MOUNTAINS LOCALITIES

The principal collecting localities referred to in the list of species can be described as follows:

#### RODEO, HIDALGO COUNTY, NEW MEXICO

A small railroad town in the San Simon Valley about 1 mile east of the Arizona state line at an elevation of 4050 feet. This area is mostly range land, with scattered cotton and alfalfa fields, and marks the easternmost point in the region as defined. To the west the area slopes upward through a desert flora to lower elevations of the Chiricahua Mountains and to Portal. In the immediate vicinity of Rodeo the cerambycid fauna is largely limited to root-feeding types such as *Tetraopes* and *Crossidius*, cactus feeders such as *Coenopoeus* and *Moneilema*, and borers in yucca, agave, catclaw, mimosa, and mesquite.

#### PORTAL, COCHISE COUNTY, ARIZONA

A small community at the mouth of Cave Creek Canyon at an elevation of 4700 feet. To the east of Portal the flora is dominated by thorn scrub. Cave Creek Canyon, formed by an intermittent stream, is dominated by riparian floras along the stream bed (sycamore, willow, cottonwoods), merging into oaks and conifers near the canyon walls.

#### SOUTHWESTERN RESEARCH STATION

Located on the site of the old Painted Canyon Ranch, 5 miles west of Portal, above Cave Creek Canyon, at an elevation of 5400 feet, in an ecotonal area of meadows and intermittent streams surrounded by mixed deciduous and coniferous upland xeric forests characteristic of lower middle elevations. The riparian phase of the woody flora includes *Platanus wrightii* (Arizona sycamore), several species of *Salix* (willow), *Populus fremontii* (Fremont cottonwood), *Acer negundo* (box elder), and

*Juglans major* (Arizona walnut). The upland phase includes *Pinus chihuahuana* (Chihuahua pine), *Juniperus deppeana* (alligator bark juniper), *Quercus emoryi* (Emory oak) and *Q. arizonica* (Arizona white oak).

#### PARADISE

At one time a flourishing mining community, elevation 5400 feet. It is likewise an ecotonal area of meadows, intermittent streams, with associated riparian plants, and mixed coniferous and deciduous forests.

#### RUSTLER PARK

A high mountain locality, elevation 8500 feet, dominated by coniferous forests. Open meadows contain a variety of flowers, of which *Helenium hoopsei* is the most conspicuous and most commonly visited by cerambycids, although they also frequent *Achillea*, *Solidago*, and *Circium*.

#### PINERY CANYON

On the west side of the Chiricahua Mountains, named for the extensive coniferous forests which at one time served as a pinery for the military establishment at Fort Bowie. The lower part of the Canyon, elevation 4800–5000 feet, as is that of Cave Creek, is dominated by a riparian flora along the intermittent stream.

### CERAMBYCIDAE OF THE CHIRICAHUA MOUNTAINS

#### *Parandra punctillata* Schaeffer

Although this species has not yet been found in the Chiricahua Mountains, it probably occurs. It has been taken in the Graham Mountains on Arizona alder (*Alnus oblongifolia*).

#### *Archodontes melanopus serrulatus* (LeConte)

Taken at Haystack Mountain, July 26 (K. R. John).

#### *Stenodontes (Neomallodon) arizonicus* Casey

Two females were captured 2 miles southwest of Portal, July, 1959, and September 5, 1947. A male was found in the same area July 29, 1953. This species is rare in collections. We have seen it from Mt. Washington near Nogales and from Miller Canyon in the Huachuca Mountains.

#### *Stenodontes (Stenodontes) masticator* (Thomson)

Adults were taken at light near Portal, July 1 to August 10; at the

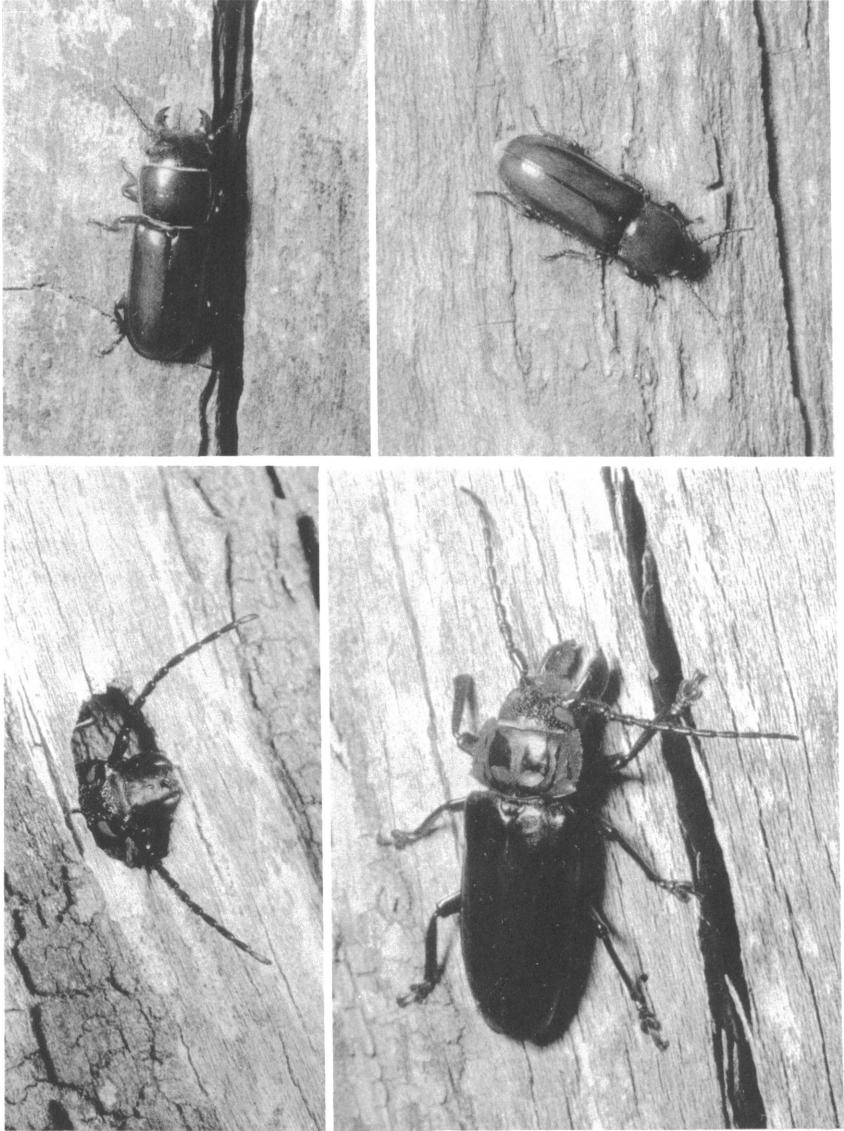


FIG. 1 (UPPER). *Parandra punctillata* on dead Arizona alder, *Alnus oblongifolia*. Left: Male. Right: Female.

FIG. 2 (LOWER). *Stenodontes masticator* on dead section in living Arizona sycamore, *Platanus wrightii*. Left: Male in emergence hole. Right: Male on surface.

Southwestern Research Station, July 20 to August 21; in Pinery Canyon on July 3; and at Flys Peak, July 9.

This species attacks areas of sun scald on trunks of living Arizona sycamore (*Platanus wrightii*), usually on the west side of the tree, and is abundant in ravines near Portal, in Cave Creek Canyon, and in the vicinity of the Southwestern Research Station. Larvae work in the living wood and frequently cause large trees and branches to fall. The adults remain in the vicinity of their burrows for some time after transforming and secrete themselves in them during the day. In the early evening and at night they may be seen with their heads and antennae protruding from large oval exit holes or crawling over the surface nearby. Adults are preyed upon by nocturnal birds and by bats, judging by remains near their roosts. Also, a male was taken from the stomach of a great horned owl near Apache, Arizona, by R. Thorington. Larvae of the large, eye-marked elaterid, *Alaus zuniana* Casey, are predaceous on *Stenodontes* larvae. During the heat of the day the adults may be observed crawling over infested areas and backing into exit holes to oviposit. They are capable of making a loud clicking sound, which can be heard at a distance of 6 feet, when they are not disturbed.

*Ergates spiculatus neomexicanus* Casey

Found at the Southwestern Research Station in July, Pinery Canyon, July 8, and Rustler Park, July 13 to August 30. In the Rustler Park area adults were taken under loose bark of dead standing pine trees, especially *Pinus ponderosa*. Larvae mine the heartwood of dead pines and are sometimes found in lumber shipped to other parts of the country. In one instance, three living larvae were found in two-by-four-inch lumber in Ohio.

*Derobrachus geminatus geminatus* LeConte

Taken at light 2 miles southwest of Portal, July 16–23, 1959. The subspecies *forreri* Bates occurs in the vicinity of Douglas.

*Prionus californicus* Motschulsky

Captured at light at the Southwestern Research Station, June 15 to August 4; in Cave Creek Canyon, June 17; at Portal, July 20; 2 miles southwest of Portal, from July 1 to August 16; in Rucker Canyon, elevation 6000 feet, on July 7; and Price Canyon, elevation 4000 feet, on July 17. Adults are variable, and it may be that sibling species are involved—a question that probably cannot be answered in the absence of biological data. Males have been found about stumps and logs of both

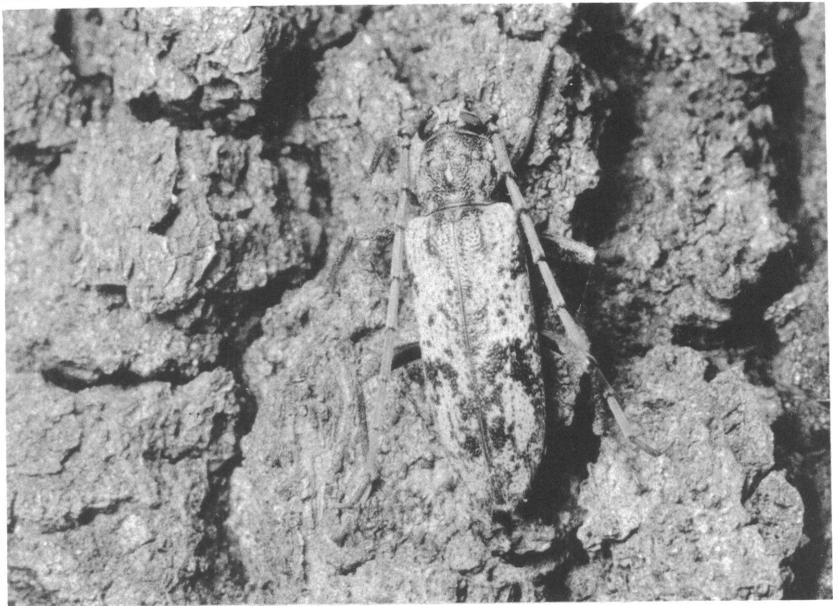
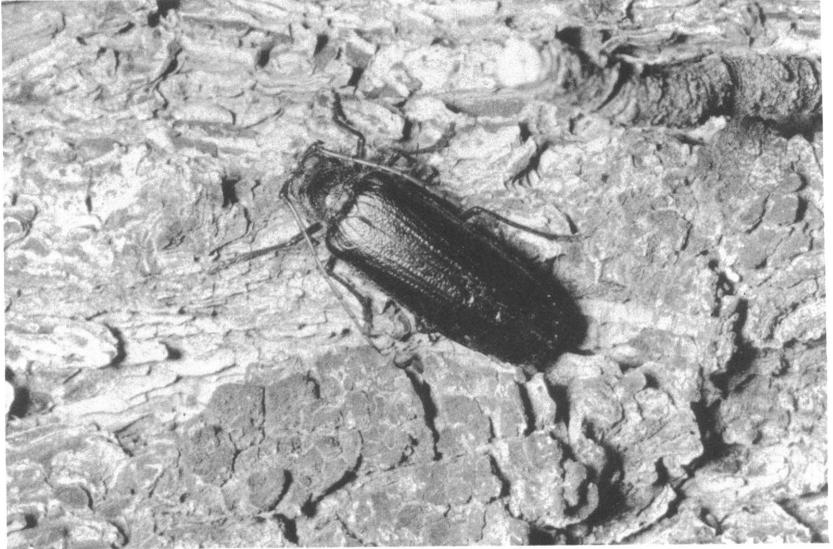


FIG. 3 (UPPER). Female of *Tragosoma chiricahuae* on bark of Chihuahua pine, *Pinus chihuahuana*.

FIG. 4 (LOWER). Male of *Enaphalodes niveitectus* on bark of dead Emory oak, *Quercus emoryi*.

pine and oak, but females have not yet been associated with precise hosts in this area.

*Prionus heroicus* Semenov

Examples have been taken at the Southwestern Research Station from June 3 to July 15; at Paradise, July 24 to August 10; at Herb Martyr Dam, June 8; and 2 miles southwest of Portal. Adults fly during the day, as well as at night. They are more numerous in the early summer season.

*Tragosoma depsarium* (Linnaeus)

Adults were taken under loose bark of ponderosa pine at Rustler Camp, July 15 to September 9.

*Tragosoma chiricahuae* Linsley

Captured at light at the Southwestern Research Station, June 20 to August 18, and found at night ovipositing in cracks in the bark of *Pinus chihuahuana*. Also taken in Pinery Canyon at an elevation of 6500 feet, July 8.

*Spondylis upiformis* Mannerheim

A small male with reddish brown elytra was captured at Rustler Park, June 1, by M. A. Cazier.

*Arhopalus asperatus* (LeConte)

Taken at light, Southwestern Research Station, July 15.

*Arhopalus montanus* LeConte

This species commonly bores in the roots of pines. In the vicinity of the Southwestern Research Station adults were taken at light from the latter part of June to the middle of September. Shortly after dark on September 16, 1958, 11 mating pairs and a few extra males were taken on or about the exposed roots of a large, wind-blown, western yellow pine (*Pinus ponderosa*). Several pairs were on exposed soil which had been brought up when the tree was uprooted. All were fresh appearing and were apparently newly emerged. Adults were also abundant on Chihuahua pine (*Pinus chihuahuana*) suffering from drought. By means of headlamps, 102 males and 94 females were found in late August at the base of standing dying trees. These same trees were being visited by *Xylotrechus sagittatus chiricahuae* Chemsak which were in bark crevices a foot or more above and below eye level; also by *Monochamus clamator* LeConte, *Acanthocinus spectabilis* LeConte, and *A. obliquus* LeConte, which

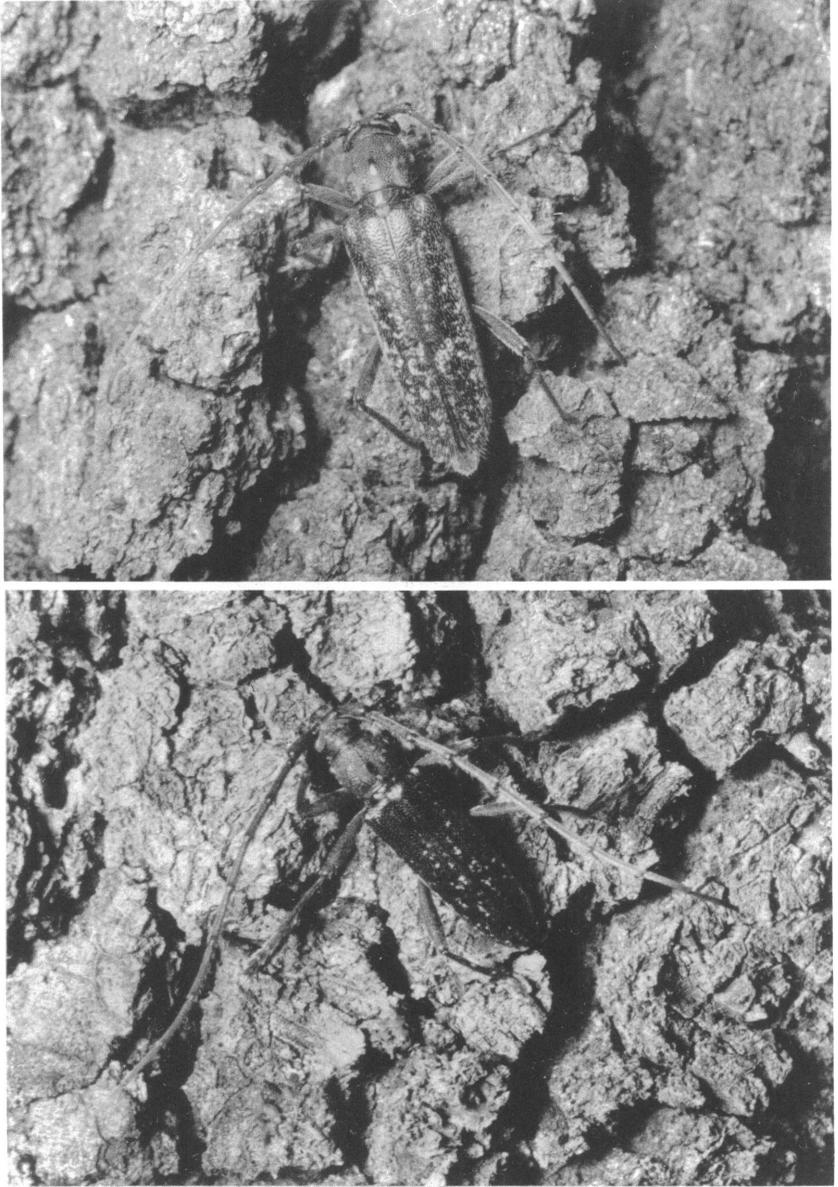


FIG. 5. *Elaphidionoides arizonensis* on bark of dying Emory oak, *Quercus emoryi*. Upper: Female. Lower: Male.

occurred high on trunks where it was necessary to climb in order to capture them.

*Megasemum asperum* (LeConte)

Chiricahua Mountains, June 23 to August 2.

*Asemum atrum* Eschscholtz

Found at Rustler Camp, June 1.

*Tetropium parallelum* Casey

Chiricahua Mountains, August 20.

*Tetropium auripile* Bates

Flys Peak, elevation 9500 feet, June 9.

*Atimia huachucae* Champlain and Knull

Adults attracted to light at the Southwestern Research Station were taken from June 10 to August 4. A mating pair was found on *Juniperus deppeana*, on July 18. Two miles southwest of Portal, the species was captured at light and by beating juniper, July 5 to July 30. The larvae live in dying juniper.

*Malacopterus tenellus* (Fabricius)

One example, Cave Creek Canyon, June 21. This species was reared from dead hackberry (*Celtis laevigata*) in southern Texas.

*Oeme deserta* Casey

Southwestern Research Station, July 3 to August 14, also 2 miles west of Portal, July 4 to August 4, and Paradise, July 1 to July 3. Adults are taken at light and on dead juniper. Larvae live in small branches of juniper pruned by *Styloxus bicolor* (Champlain and Knull).

*Methia flavicornis* Casey

At light, 2 miles southwest of Portal, July 5 to August 12.

*Methia mormona* Linell

At light, Southwestern Research Station, June 7 to August 14, and 2 miles west of Portal, June 27 to July 29. Also taken at Paradise, July 1 to July 3, and in the Chiricahua National Monument, July 2.

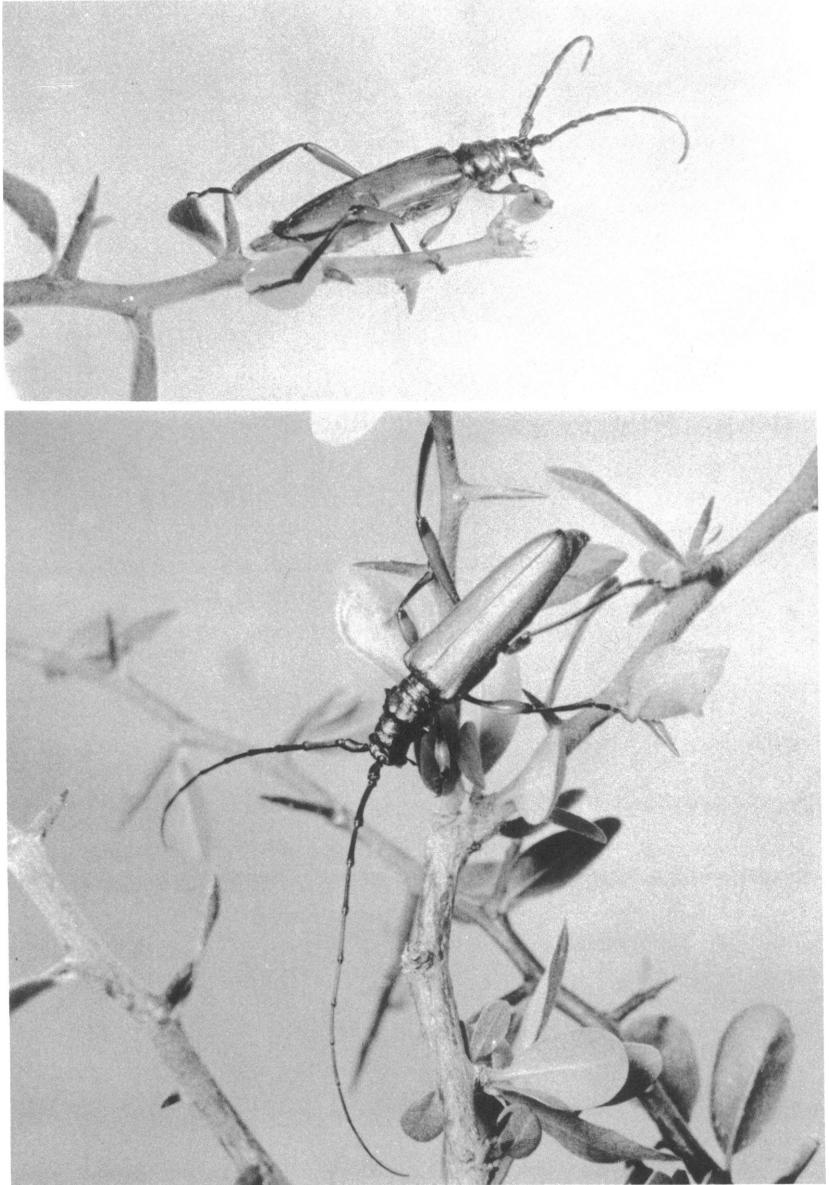


FIG. 6. *Plinthocoelium suaveolens plicatum* on foliage of *Bumelia lanuginosa* var. *rigida*.  
*Upper*: Female. *Lower*: Male.

*Methia* spp.

A number of examples of *Methia* from the Southwestern Research Station at various dates in June and July cannot be placed satisfactorily because of inadequate material.

*Styloxus bicolor* (Champlain and Knull)

Taken at light 2 miles southwest of Portal, July 16 to August 12, and Southwestern Research Station, July 12 to August 10. Larvae prune small branches of juniper, making extensive galleries parallel with the grain of the wood. Infested branches can be recognized by the brown color of the needles.

*Malobidion brunneum* Schaeffer

At light 2 miles southwest of Portal, July 2 and July 26, and the Southwestern Research Station, June 13 to July 17.

*Eburia linsleyi* Lacey

Adults were beaten from oak foliage, trapped in fermenting bait, and captured at light, 2 miles southwest of Portal, July 9-27.

*Eucrossus villicornis* LeConte

Found at Paradise, 2 miles southwest of Portal, and at the Southwestern Research Station, June 28 to July 22.

*Tylonotus bimaculatus* subsp.

Specimens of a dark form of *T. bimaculatus* were taken at night on living velvet ash (*Fraxinus velutina* Torrey) 2 miles west of Portal, July 22-26. Adults were also taken at light at the Southwestern Research Station on July 14, 30, and August 1. This subspecies breeds in living ash, and the work is similar to that of the nominate eastern form.

*Stenosphenus beyeri* Schaeffer

Beaten from walnut foliage July 5-22, Southwestern Research Station, June 16 to August 12, and Pinery Canyon, June 17.

*Stenosphenus lepidus* subsp.

Chiricahua Mountains on flowers at 5500 feet, July 7 and August 12. Also taken at Portal.

*Atylostagma glabrum* Schaeffer

One specimen was captured at light 2 miles southwest of Portal,

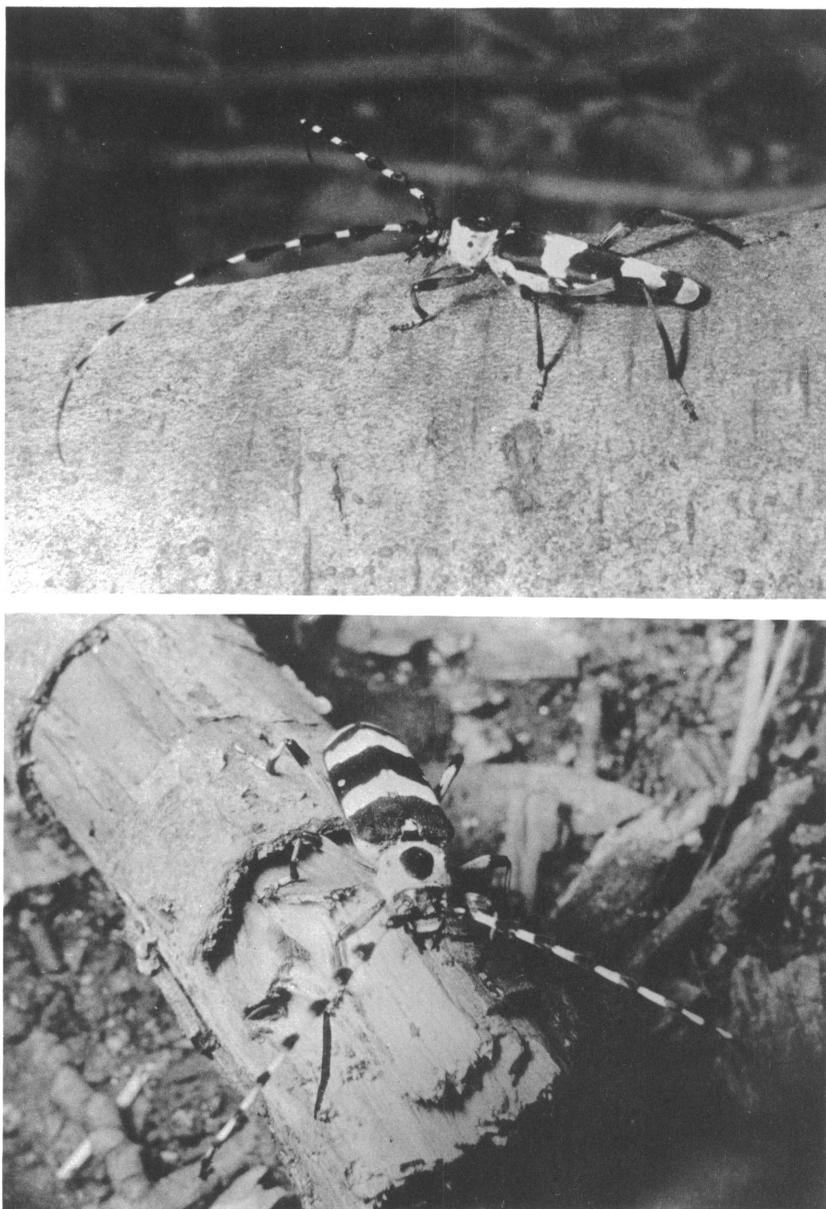


FIG. 7. *Rosalia funebris* on dead branches of Arizona alder, *Alnus oblongifolia*. Upper: Male. Lower: Female.

August 7, 1959, another at the Southwestern Research Station, August 16, 1959.

*Stenelaphus alienus* (LeConte)

Chiricahua Mountains, September.

*Aneflus sonoranus* Casey

At light 2 miles southwest of Portal, July 15, 1953.

*Aneflus levettei* Casey

At light 2 miles southwest of Portal, July 17 to 30; 3½ miles southwest of Portal, August 13; and the Southwestern Research Station, July 15.

*Aneflus prolixus* LeConte

At light 2 miles southwest of Portal, August 2, 1952.

*Aneflus protensus* (LeConte)

At light 2 miles southwest of Portal, July 2; at Portal, June 23; and Rucker Canyon, July 5.

*Anepsyra* sp.

Adults were beaten from oak foliage July 17 and August 12.

*Aneflomorpha rectilinea* Casey

At light 2 miles southwest of Portal and also by beating oak, July 5 to August 12.

*Aneflomorpha unispinosa* Casey

Chiricahua Mountains, elevation 9000 feet, July 29.

*Aneflomorpha* spp.

At light 2 miles southwest of Portal and beating oak, July 7 to August 3, also at Southwestern Research Station, July and August, and Rucker Canyon, July 5.

*Aneflomorpha* sp.

An oak pruner, taken July 29 and August 2, in Cave Creek Canyon.

*Axestinus obscurus* LeConte

Taken at light 2 miles southwest of Portal, July 16 to July 27, and at

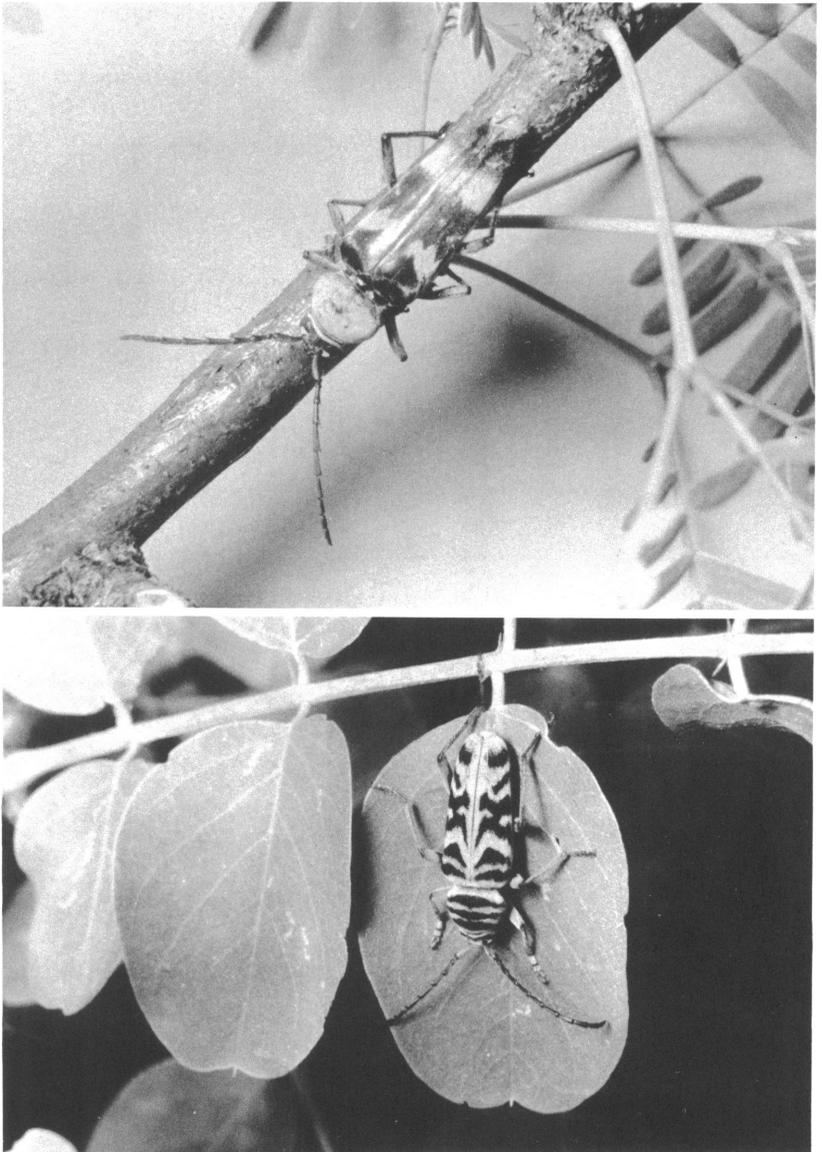


FIG. 8 (UPPER). Female of *Megacyllene antennatus* on stem of mesquite, *Prosopis juliflora*.

FIG. 9 (LOWER). Male of *Megacyllene snowi* on foliage of New Mexican locust, *Robinia neomexicana*.

Portal, June 23.

*Enaphalodes hispicornis* (Linnaeus)

Taken at light 2 miles southwest of Portal, July 2 to August 7, and at Southwestern Research Station, June 13 to October 4.

*Enaphalodes niveitectus* (Schaeffer)

Taken at light at the Southwestern Research Station, July 29 to September 9, and 2 miles southwest of Portal, July 9 to August 7. Larvae live in Emory oak.

*Enaphalodes atomarius* (Drury)

Taken at light in Cave Creek Canyon, June 24, and at the Southwestern Research Station, August 25 to September 9.

*Enaphalodes cylindricus* (Knull)

Taken at light in Cave Creek Canyon on July 4 and at Paradise and Southwestern Research Station, July 22 to August 12; also in Pinery Canyon, 6500 feet, July 8 to August 23.

*Eustromula validum* (LeConte)

Taken at light at Portal, June 23, and 2 miles southwest of Portal, July 9 to July 12; also at the Southwestern Research Station, July 9.

*Elaphidionoides arizonensis* (Casey)

This species breeds in dying Emory oak, and adults can be collected from unhealthy trees at night. They also come to light and fermenting baits. Specimens were collected 2 miles southwest of Portal from July 7 to August 19; at Paradise, July 3; and at the Southwestern Research Station from June 19 through September 9.

*Elaphidionoides villosus* (Fabricius)

One specimen at Southwestern Research Station, June 6, 1958.

*Gymnopsyra magnipunctata* (Knull)

At light 2 miles southwest of Portal, July 9, 1959; at Paradise, July 3, 1955; and at the Southwestern Research Station, June 25, 1957.

*Anelaphus brevidens* (Schaeffer)

At light 2 miles southwest of Portal, July 9 to July 24.

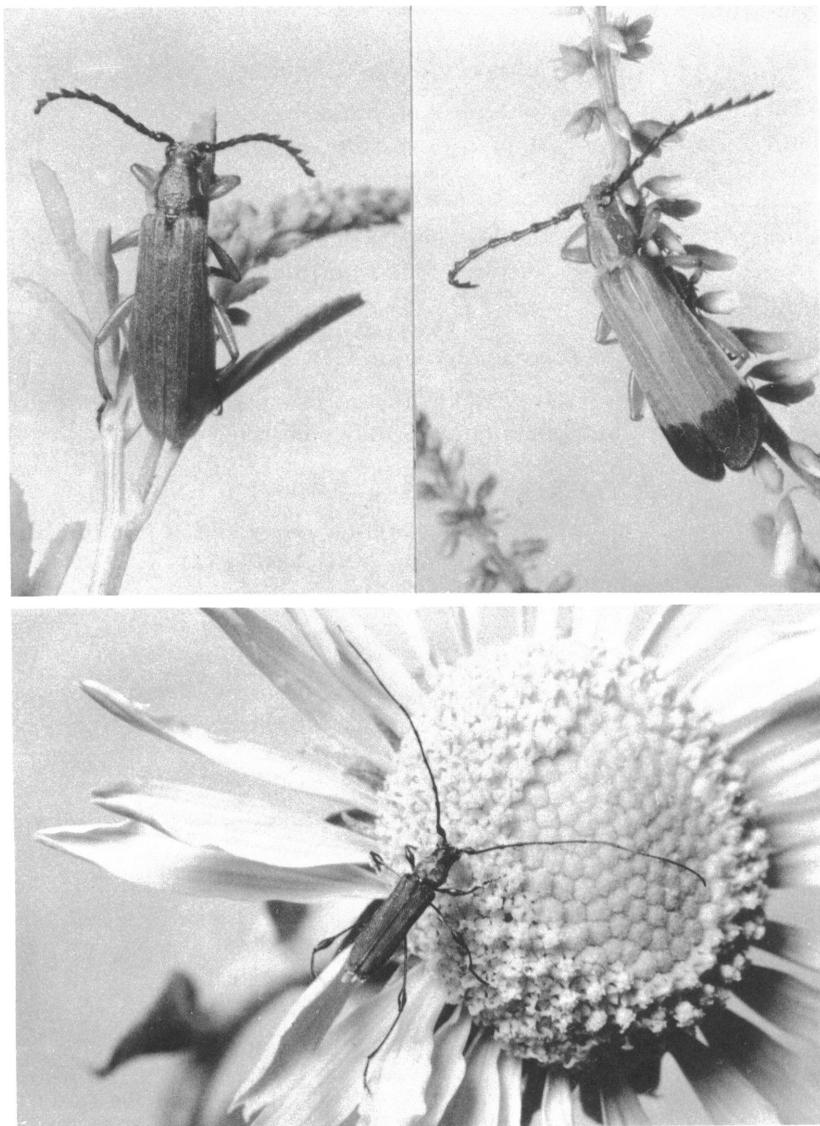


FIG. 10 (UPPER LEFT). *Elytroleptus ignitus* on flowers of *Melilotus alba*.

FIG. 11 (UPPER RIGHT). *Elytroleptus apicalis* on flowers of *Melilotus alba*.

FIG. 12 (LOWER). Male of *Rhopalophora longipes meeskei* on flower of *Helenium hoopesii*.

*Peranoplium tuckeri* (Casey)

Chiricahua Mountains, August.

*Peranoplium simile* (Schaeffer)

At light, Southwestern Research Station, June 16 to July 2, and Cave Creek Canyon, June 15. Reared from a dead *Agave* floral stem.

*Peranoplium hoferi* (Knull)

Cave Creek Canyon, July 4, and Southwestern Research Station, June 13 (M. Statham).

*Anoplocurius altus* Knull

Captured at light and by beating oak 2 miles southwest of Portal, July 2 to July 15; taken at light at the Southwestern Research Station, June 17 through July 16, and at Paradise, July 3.

*Obrium constricticolle* Schaeffer

Southwestern Research Station, June 15 to August 1, 1959. This species breeds in small branches of oak. Adults can be obtained at light and by beating drooping dead limbs of trees containing many small branchlets at 5000 to 6000 feet, from July 9 to August 7.

*Plinthocoelium suaveolens plicatum* (LeConte)

One specimen was taken at Portal eating a peach in an orchard, July 20, 1959. Another was found 1½ miles northeast of Portal flying about *Condalia spathulata* on August 7. Larvae were found infesting roots of living chicle (*Bumelia lanuginosa* var. *rigida*) in Price Canyon.

*Rosalia funebris* Motschulsky

This species was not found by us but may occur in the Chiricahua Mountains. It has been taken in the Graham Mountains on Arizona alder (*Alnus oblongifolia*).

*Semanotus juniperi* (Fisher)

Work of this insect was observed 2 miles southwest of Portal and in the South Fork of Cave Creek Canyon. It attacks tops of healthy junipers and also trunks of dying trees. Larvae mine beneath the bark, then enter heartwood to construct pupal cells.

*Phymatodes varius* (Fabricius)

One female on *Quercus emoryi*, July 21, from Herb Martyr Dam.

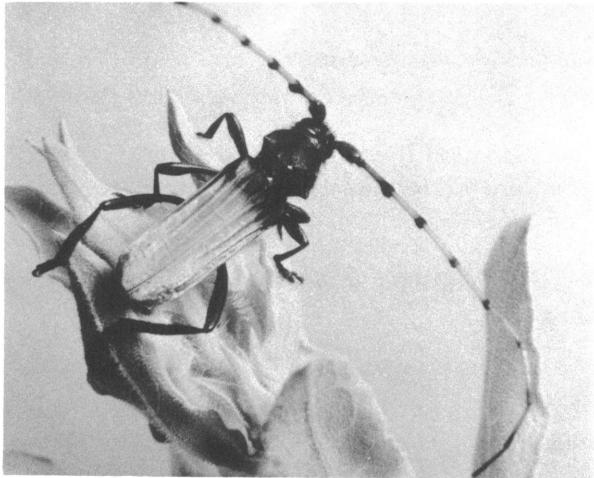


FIG. 13 (UPPER). Male of *Tragidion annulatum* on foliage of *Heterotheca subaxillaris*.  
FIG. 14 (LOWER). Male of *Stenaspis solitaria* on foliage of *Condalia spathulata*.

*Megacyllene antennatus* (White)

One specimen was taken at light at the Southwestern Research Station, July 28. It is common near Rodeo where it breeds in dead mesquite.

*Megacyllene snowi* (Casey)

An example was found on goldenrod (*Solidago*) flowers 2 miles southwest of Portal, September 12, 1947, another on leaves of New Mexican locust (*Robinia neomexicana* Gray) at the Southwestern Research Station in August. Larvae mine in living roots of locust.

*Xylotrechus sagittatus chiricahuae* Chemsak

Adults were found active on dead Chihuahua pine at night between June 25 and August 30 near the Southwestern Research Station.

*Xylotrechus quercus* Schaeffer

A male was captured at Rustler Park, June 29, 1960, by M. A. Cazier.

*Xylotrechus* sp.

Chiricahua Mountains, July 26, 1952.

*Rhopalophora longipes meeskei* Casey

On flowers of *Melilotus alba* and *Heterotheca subaxillaris* at the Southwestern Research Station, August 12 to September 6; on *Helenium hoopseii* at Rustler Park, July 25 to August 12; on *Helianthus* and *Solidago* at Onion Flat, July 29; and on *Baileya pleniradiata* 4 miles southwest of Portal, August 12. Also taken in Cave Creek Canyon, June 20.

*Rhopalophora bicolorella* Knull

Found at the Idlewilde Camp Ground, Cave Creek Canyon, July 12 and August 2, on flowers of *Bumelia lanuginosa*; also at the Southwestern Research Station, July 24 to August 2, on flowers of *Melilotus alba*.

*Elytroleptus apicalis* LeConte

Captured on flowers of *Melilotus alba* at the Southwestern Research Station, July 17 to July 25, on blossoms of soapberry (*Sapindus drummondii*) 2 miles northwest of Portal, July 9 to July 22, and on flowers of *Bumelia lanuginosa* at Idlewilde Camp Ground, Cave Creek Canyon. This species joins aggregations of *Lycus fernandezi* Dugès and its sibling *L. arizonensis* Green, both of which it resembles superficially in coloration and form.

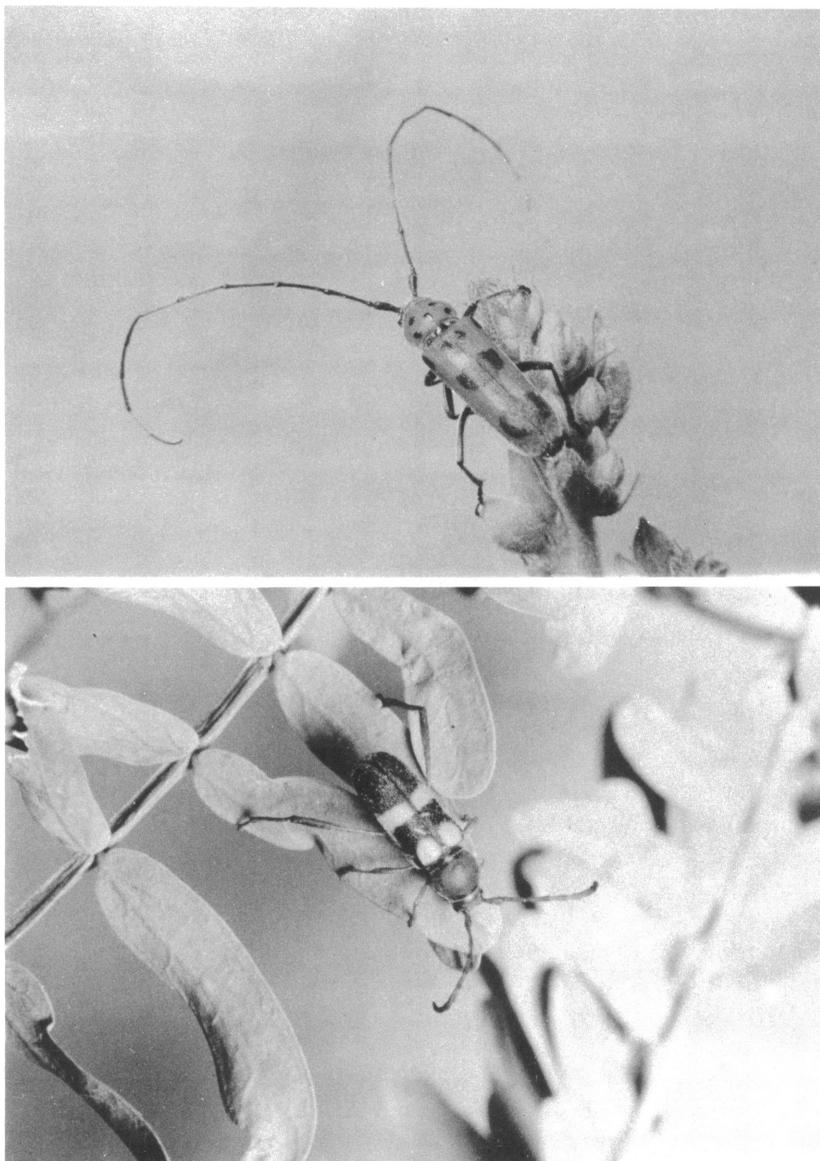


FIG. 15 (UPPER). Male of *Tylosis maculata* on flower head of *Sphaeralcea*.

FIG. 16 (LOWER). Female of *Aethecerinus latecinctus* on foliage of mesquite, *Prosopis juliflora*.

*Elytroleptus ignitus* (LeConte)

Visiting flowers of *Melilotus alba* at the Southwestern Research Station, July 18 to July 30, blossoms of soapberry 2 miles northwest of Portal, July 2 and August 2, and flowers of *Bumelia lanuginosa* at the Idlewilde Camp Ground, Cave Creek Canyon. This species, as does the preceding one, joins aggregations of lycids, in this case *L. loripes* Chevrolat and its sibling *L. simulans* Schaeffer.

*Elytroleptus rufipennis* (LeConte)

On flowers of *Melilotus alba* at the Southwestern Research Station, July 17, and blossoms of *Bumelia lanuginosa* at Idlewilde Camp Ground, Cave Creek Canyon, July 29.

*Taranomis bivittata* (Dupont)

Not taken by us, but it should occur in the Chiricahua Mountains.

*Plionoma suturalis* (LeConte)

Abundant on fire-killed mesquite (*Prosopis*) and catclaw (*Acacia*) near Rodeo in July and August. Also taken on mesquite 1 mile east of Portal on June 11 and July 24 and 1 mile west of Portal, June 17 to 22; Cave Creek Canyon, July 8; and Southwestern Research Station, August 18.

*Stenaspis solitaria* (Say)

This large black species is a common and conspicuous visitor to the blossoms of mesquite (*Prosopis juliflora*), catclaw (*Acacia*), and related leguminose thorn shrubs. In the Chiricahua foothills 1.5 miles northeast of Portal, males were seen on several occasions on squaw bush (*Condalia spathulata* Gray), a spiny shrub with very inconspicuous flowers, growing in thickets 4–6 feet high. The males were not feeding but were either resting on the tips of branches or crawling over the blossoms, with the head erect and the antennae extended. Periodically they took off in broad circling flights several hundred feet in diameter, returning to the plants a few minutes later. No females were in evidence, nor was there evidence of larval activity in the stems or roots of the *Condalia*. The only other cerambycid seen on these plants was a single example of the aromatic *Plinthocoelium suaveolens plicatum* (LeConte). *Stenaspis solitaria* also exudes a conspicuous odor, musty and tenebrionid-like.

*Cerasphorus cinctus sonorensis* (Schaeffer)

Adults were reared from a fallen oak branch 4 inches in diameter. Larvae make extensive galleries in the wood. It has been found in Cave



FIG. 17 (UPPER). Male of *Moneilema appressa* on cholla cactus, *Opuntia spinosior*.  
FIG. 18 (LOWER). Males of *Coenopoeus palmeri* on cholla cactus, *Opuntia spinosior*.

Creek Canyon, at the Southwestern Research Station, May 21-27, and in Price Canyon.

*Tragidion annulatum* LeConte

On foliage of basket grass at 5500 feet, July 15 to July 24; on *Verbascum* at the Southwestern Research Station, July 13 to August 12; at Paradise, July 3; and Onion Saddle, September 13.

*Tragidion armatum* LeConte

An adult was collected on *Agave* at 5000 feet, August 7; others were reared from bases of dead flower stems collected at the same elevation, also 9 miles north of Portal, June 26, 1959 (M. A. Cazier).

*Metaleptus batesi* Horn

Reared from branches of a fallen oak limb about 1½ inches thick collected at an elevation of 5500 feet.

*Aethecerinus latecinctus* Horn

On blossoms of mesquite, mimosa, and catclaw 1 mile east of Portal, June 14 to June 27. Also taken 2 miles north of Portal on June 16 and 1 mile west of Portal on June 17 (M. Statham).

*Tylosis maculatus* LeConte

On *Sphaeralcea* at the Southwestern Research Station, July 21 to August 30, and 1 mile southwest of Portal, September 8. Also taken 2 miles southwest of Portal on July 30 and September 19 and in Pinery Canyon, August 24.

*Tylosis puncticollis arizonensis* Linsley

Chiricahua Mountains, August 15; 2½ miles west of Portal, August 18; and Pinery Canyon, November 1.

*Crossidius pulchellus* LeConte

Three miles east of Portal, September 13 to 14, on flowers of *Gutierrezia sarothrae*. Also taken at Portal, September 7, and Silver Creek, October 3.

*Crossidius suturalis suturalis* Leconte

Portal, August 17, and Chiricahua National Monument, August 28. Adults occur on flowers of *Haplopappus*.

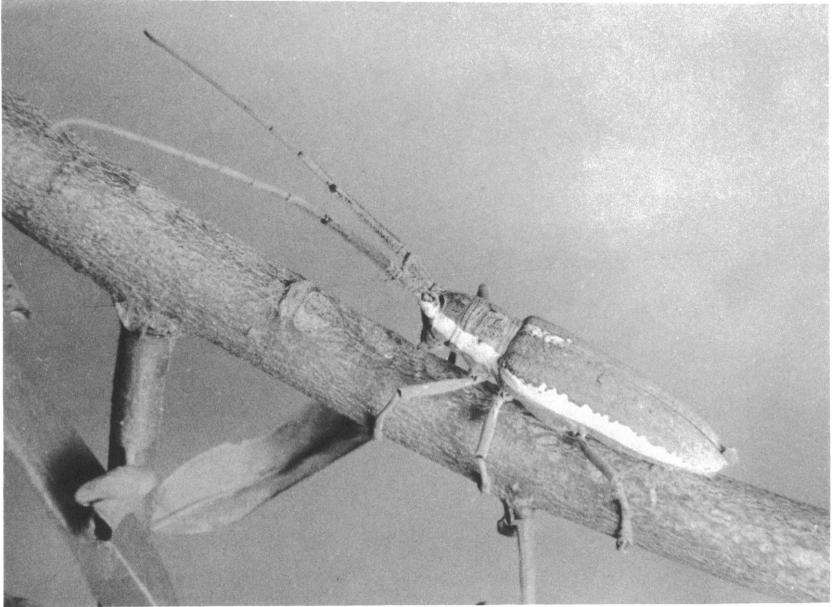
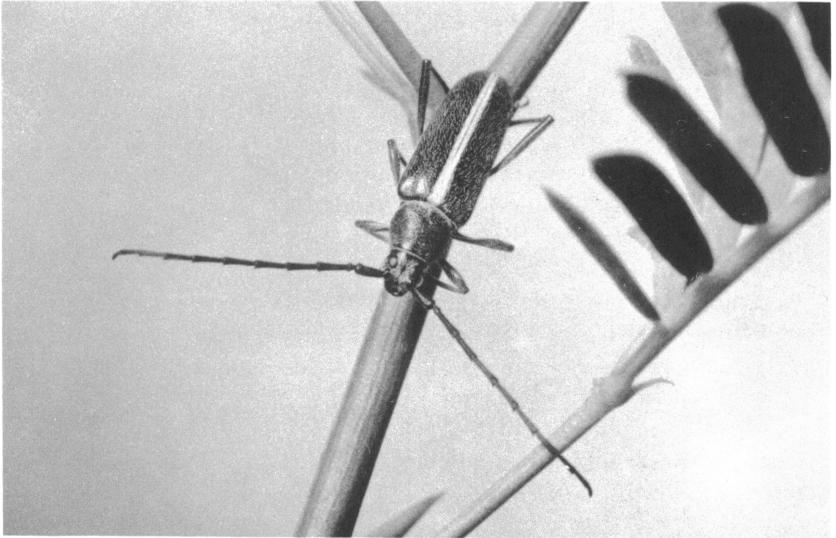


FIG. 19 (UPPER). Female of *Plionoma suturale* on stems of mesquite, *Prosopis juliflora*.  
FIG. 20 (LOWER). Female of *Neoptychodes trilineatus* on willow (*Salix*).

*Acmaeops pinicola* Schaeffer

Taken at Rustler Park, June 17 to July 12, on pine slash.

*Bellamira antennata* Schaeffer

Beaten from oak at 5000–5300 feet, July 17 to July 20.

*Ophistomis laevicollis* Bates

Five miles south of Apache, August 11, on blossoms of *Baccharis*.

*Euryptera huachucae* Schaeffer

On flowers of *Melilotus alba* at the Southwestern Research Station, July 9 to August 13; on mullein, 2 miles north of Southwestern Research Station, July 15 to August 2; also on flowers of thimbleberry at Onion Flat, July 29.

*Euryptera ignita* (Schaeffer)

Found on goldenrod (*Solidago*) blossoms 2 miles southwest of Portal, July 12, 1953.

*Euryptera cruenta* Martin

Captured at Onion Saddle, July 15, 1952, by beating oak.

*Anoplodera canadensis* (Olivier)

A female, with the elytra wholly reddish, was taken at the Southwestern Research Station, July 28 (M. A. Cazier).

*Anoplodera chrysocoma* (Kirby)

Several specimens at Rustler Park, June 29 to August 9.

*Anoplodera instabilis* (Haldeman)

Taken at Rustler Park, June 17 to July 16. A copulating pair was found on young *Pinus ponderosa* and a single specimen on *Helenuim hoopseii*.

*Anoplodera laeta* (LeConte)

Found in Pinery Canyon, June 23, and along the south fork of Cave Creek Canyon, June 28, on choke cherry (*Prunus virens*) by M. A. Cazier.

*Anoplodera flaviventris* (Schaeffer)

Found at Rustler Park on bases of dead pines, June 3 and August 2; Chiricahua Mountains, June 18 to June 23; and feeding on fresh tips

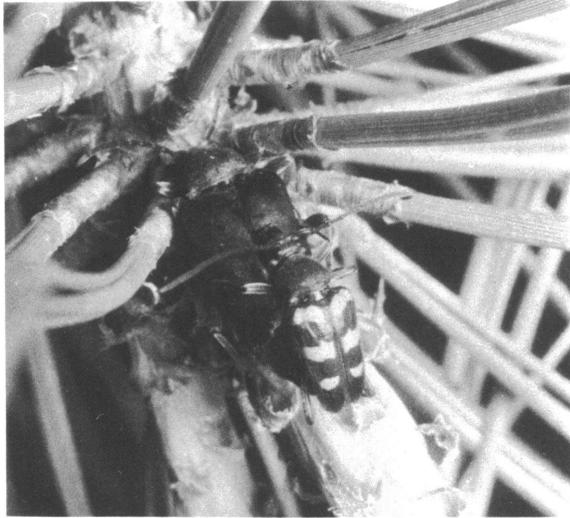


FIG. 21 (UPPER). Mating pair of *Anoplodera flaviventris* near top of young *Pinus ponderosa*.

FIG. 22 (LOWER). Male of *Acanthocinus obliquus obliquus* "sleeping" during daytime on tip of young yellow pine, *Pinus ponderosa*.

of young *Pinus ponderosa*, June 29.

*Anoplodera sexmaculata* (Linnaeus)

Taken at Rustler Park, July 17. This is a circumpolar boreal species.

*Anoplodera lucifera* (R. Hopping)

Southwestern Research Station, May 3 and May 5; 5 miles west of Southwestern Research Station, May 3; 3 miles southwest of Portal, June 15, 5500 feet; Rustler Park, June 17 to June 22.

*Necydalis cavipennis* LeConte

Found on oak foliage in the south fork of Cave Creek, June 27 to July 21.

*Moneilema appressa* LeConte

Taken on cholla cactus, *Opuntia spinosior*, at 5000 feet on June 27 and July 29; also 8 miles northeast of Portal, June 12, 1957; Haystack Mountain, July 26; and Price Canyon, July 17.

*Moneilema corrugans* Casey

At Portal, July 28 to August 5, on *Opuntia*.

*Monochamus clamator clamator* LeConte

Near the Southwestern Research Station, June 9 to August 26, on standing dead *Pinus chihuahuana*. Also taken on ponderosa pine slash at Rustler Park on June 9 and July 17 and Pinery Canyon, June 17.

*Monochamus oregonensis* LeConte

An example labeled "2 miles east of Portal, July 15, 1955 (E. Ordway)," is in the collection of the American Museum of Natural History.

*Neoptychodes trilineatus* (Linnaeus)

At light at Portal, July 30 and October 26, and at the Southwestern Research Station from July 28 to August 19. On willow 2 miles southwest of Portal, July 4, September 12. It is a primary borer in Texas mulberry (*Morus microphylla*) and willow (*Salix* spp.) in this area.

*Glaucotes yuccivorus* Fall

Chiricahua Mountains, July 12, and on yucca at 5000 feet, August 26. As the name indicates, the species breeds in yucca.

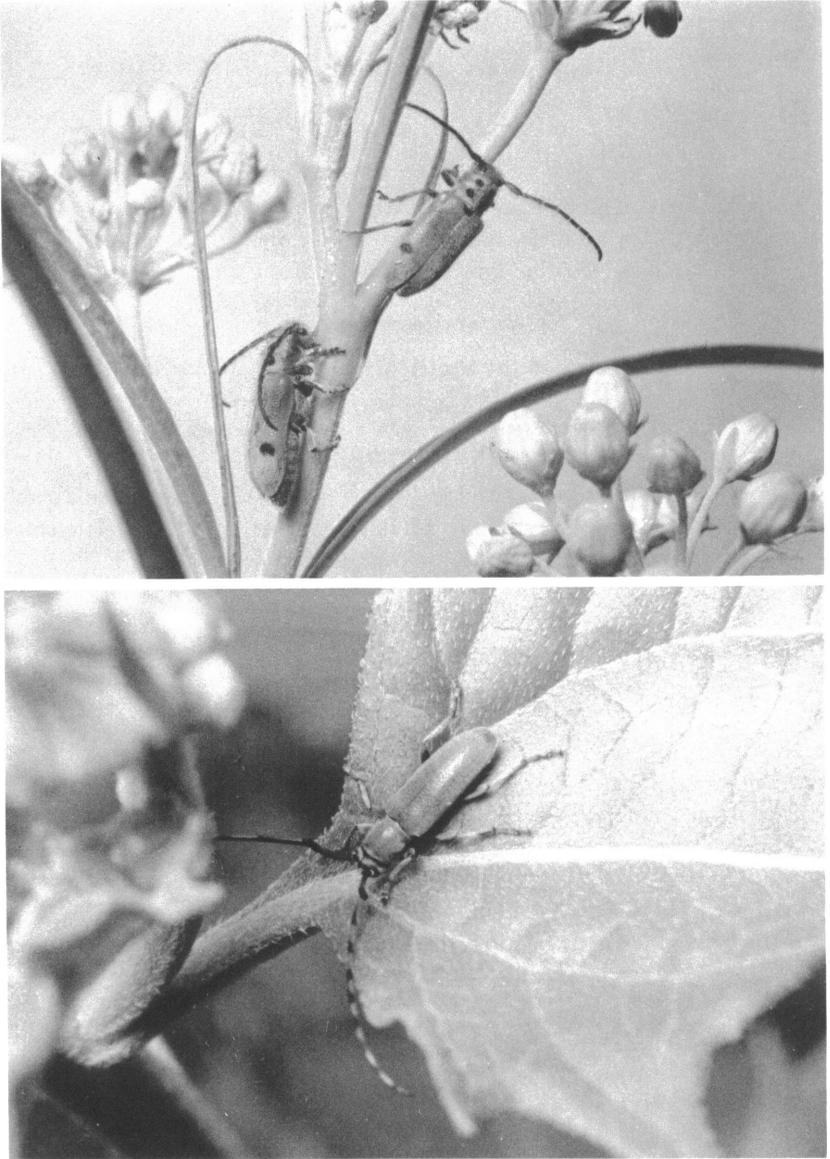


FIG. 23 (UPPER). *Tetraops discoideus* on *Asclepias subverticillata*.

FIG. 24 (LOWER). Female of *Dectes texanus* on *Verbesina encelioides*.

*Coenopeus palmeri* LeConte

Taken on *Opuntia spinosior* at Portal, June 22 to August 1; at 5000 feet, June 27 to August 16; and also found at Haystack Mountain and in Price Canyon.

*Sternidius alpha arizonensis* Dillon

Described originally from Cave Creek, July 4; July 19 at 5000 feet; and Southwestern Research Station, June 26, 1957 (M. Statham).

*Sternidius imitans* (Knull)

On oak at 5000 feet, July 24. Southwestern Research Station, June 18 to July 7.

*Sternidius decorus* (Fall)

Common on dead oak branches at 5000 to 5500 feet from July 19 to August 12.

*Trichastylopsis falli* (Linsley)

This species occurs on box elder with *Poliaenus negundo* (Schaeffer) in the Huachuca Mountains and may also be found with it in the Chiricahua Mountains. Dillon has placed *falli* as a synonym of *T. albidus* (LeConte), apparently without consulting the LeConte type.

*Pseudostylopsis pini* (Schaeffer)

Attracted to light at the Southwestern Research Station, June 21 to August 24, and taken on dead branches of pine at Rustler Park, June 27 to August 2.

*Eutrichillus neomexicanus* (Champlain and Knull)

Taken on dead branches of pine at Rustler Park, July 9 to July 30; also found at the Southwestern Research Station, June 17 to August 1.

*Eutrichillus pini* (Schaeffer)

On dead branches of pine at Rustler Park, July 12 to August 2, and Pinery Canyon, July 12. Attracted to light at the Southwestern Research Station, June 20 to July 14.

*Eutrichillus canescens nelsoni* Dillon

On dead branches of pine at Rustler Park, July 9 to August 7. At

light at Paradise, June 6, and at the Southwestern Research Station, June 20 to August 6.

*Acanthocinus (Trichocanonura) linearis* Skinner

Taken at light at the Southwestern Research Station, June 25 to August 24, and 2 miles southwest of Portal, August 12; also Pinery Canyon, June 23.

*Acanthocinus (Canonura) spectabilis* (LeConte)

Southwestern Research Station, July 30 to August 26. Rather common at night on bark of standing dead Chihuahua pine (*Pinus chihuahuana*). Also taken at Rustler Camp, July 16, on dead yellow pine (*Pinus ponderosa*).

*Acanthocinus (Neacanthocinus) angulosus* (Casey)

On pine at Rustler Park, June 1, 1952 (M. A. Cazier).

*Acanthocinus (Neacanthocinus) obliquus obliquus* (LeConte)

Southwestern Research Station, July 4 to September 6. Attracted to light and beaten from dead branches of Chihuahua and western yellow pines. Also found at Cave Creek, June 21, and at Rustler Camp, June 1 to July 16.

*Lepturges yucca* Schaeffer

Beaten from yucca at 5000 feet and also taken at light July 2, August 2.

*Valenus inornatus* Casey

By beating yucca at 5000 feet and at light, July 2 to July 20. Southwestern Research Station, June 23 to August 1, and Cave Creek Canyon, June 14 to August 14.

*Dectes texanus* LeConte

Taken on the desert 4 miles east of Portal and 2 miles southwest of Portal, August 7 to 27. Also at the Southwestern Research Station, August 4 through September 30, on *Heterotheca subaxillaris*, *Baileya pleniradiata*, *Verbesina encelioides*, and *Baccharis*.

*Estola tigrina* (Skinner)

Found on dead branches of oak and at light at 5000 feet, July 5 to 29, and at the Southwestern Research Station from July 4 to August 7.

*Poliaenus obscurus* (Fall)

Beaten from dead branches of pine 2 miles southwest of Portal and at Southwestern Research Station, June 17 to August 7. Also taken at Cave Creek Canyon, July 4.

*Poliaenus negundo* (Schaeffer)

Attracted to light at the Southwestern Research Station from May 31 to July 15. The larvae live in box elder (*Acer negundo*).

*Pogonocherus (Eupogonocherus) medianus* Linsley

Taken on a dead pine branch at Rustler Park on July 9, 1959. The type is from the same locality, July 6, 1930.

*Oncideres quercus* Skinner

Attracted to light at the Southwestern Research Station between August 3 and September 16. Also taken 3 miles east of Portal on August 11. The adults prune branches of oak, and their work can be seen between the elevations of 5000 and 6000 feet in August.

*Oncideres rhodosticta* Bates

Adults of this widespread and common girdler of mesquite (*Prosopis juliflora*) were observed at 1 P.M. on an overcast day in September, with rain threatening. They were girdling trees scattered over a broad wash 5 miles southeast of Portal, Arizona. At this time of day the females were feeding on tender bark out near the tips of freshly girdled branches. They were braced against branchlets or thorns with the legs wrapped around the branch, the head facing outward, with the antennae extended forward. Some females had made as many as 10 egg niches, five on each side of the branch and separated by from 5 to 5.7 cm. on a side; others had not yet begun to oviposit. One female had erroneously cut egg niches in a lateral branch below, rather than above, the girdle. However, this was the only such error observed. Girdled branches varied in diameter at the girdle from 6 to 12 mm., but most of the girdles were 11 or 12 mm. Males were usually found resting in a pairing position but when separated from, or searching for, the female they ran up and down the branches above the girdle with the antennae extending forward, one on each side of the branch.

*Mecas ruficollis* Horn

Taken at the Southwestern Research Station on August 12, and 2 miles southwest of Portal, September 5.

*Mecas marginella* LeConte

Found at the Southwestern Research Station, August 24.

*Mecas* sp.

Two miles southwest of Portal, July 24, 25.

*Tetraopes discoideus* LeConte

Chiricahua National Monument, July 8, and near Rodeo, July and August. Found on *Asclepias subverticillata*.

*Tetraopes*, new species

Found near Rodeo (M. A. Cazier).

*Tetraopes femoratus* LeConte

Found at the Southwestern Research Station and at Paradise on *Asclepias lemmonii* in late July (K. R. John and family) and near Rodeo on *Asclepias subverticillata* in August (Linsley).

## DISCUSSION

## PRIOR LISTS OF SOUTHWESTERN CERAMBYCIDAE

Few accounts of the Cerambycidae inhabiting limited areas of southwestern United States have been published. The Brownsville region and adjacent areas of the lower Rio Grande Valley of Texas have perhaps received the most attention, lists of species having been published by Townsend (1903), Schaeffer (1908), Linsley and Martin (1933), and Vogt (1949). With subsequent additions, particularly by Knull, the number of species and subspecies known from this region approaches 100. However, these are mostly Neotropical forms, many apparently near the northern limits of their ranges. About 26 per cent also occur in the Austro-Riparian or Carolinian faunas of the Southeast, and only about 12 per cent are derived from the arid southwestern or desert montane fauna (Linsley, 1958).

Of more immediate interest is the list of Cerambycidae collected in the Huachuca Mountains by expeditions of the Museum of the Brooklyn Institute of Arts and Sciences. Schaeffer (1908) lists 59 species, and with subsequent additions the number now exceeds 75. However, with the use of his list and allowances made for misidentifications, only about 9 per cent are widespread southern (Neotropical) forms; about 25 per cent, desert (Sonoran) species; about 12 per cent, western North American montane (Vancouverian); about 6 per cent, eastern North American (Alleghenian); and one is a Great Basin species. The remaining

45 per cent can be regarded as more or less endemic to the Huachuca Mountains and the mountain ranges of the adjacent areas of Arizona and northern Mexico. Of these montane endemics, 19 species have southern geographical and phylogenetic affinities, 12 have northern or northwestern affinities, and only two have affinities with the Alleghenian fauna of eastern North America (see, for instance, Knull, 1946).

COMPOSITION AND AFFINITIES OF THE CERAMBYCID FAUNA  
OF THE CHIRICAHUA MOUNTAINS

One hundred and thirty-two species of Cerambycidae are now known from the Chiricahua Mountains. Based on present knowledge of their distribution, 43 per cent can be classed as southwestern montane endemics, virtually the same proportion as was found in the Huachuca Mountains (45 per cent). The majority of these have southern affinities and are found primarily in the mixed coniferous-hardwood forests of the middle altitudes. These include species of *Euryptera*, *Elytroleptus*, *Stenosphenus*, *Aneflomorpha*, *Anoplocurius*, *Obrium*, *Rhopalophora*, and *Estola*. About a dozen have northern or northwestern affinities, for example, *Anoplodera flaviventris*, *Acmaeops pinicola*, *Tragosoma chiricahuae*, and *Atimia huachucae*, and occur primarily in the higher and middle elevation forests. Those with eastern or northeastern affinities are somewhat fewer, and include *Enaphalodes cylindricus* and *Elaphidionoides arizonensis*. Southeastern relationships are indicated for *Cerasphorus cinctus sonorensis*, *Xylotrechus sagittatus chiricahuae*, and *Plinthocoelium suaveolens plicatum*.

Among the non-endemic Cerambycidae, at least three are widespread southern (Neotropical) forms (*Stenodontes masticator*, *Malacopterus tenellus*, and *Neoptychodes trilineatus*) which inhabit principally the moister canyons and the riparian flora. Forty-one species can be classed as Sonoran and occur primarily in the desert trees, thorn-scrub, cactus, agaves, and yuccas of the lower elevations. Sonoran species fall in such genera as *Aneflus*, *Axestinus*, *Methia*, *Plionoma*, *Stenaspis*, *Aethecerinus*, *Tylosis*, *Moneilema*, *Glaucotes*, *Coenopoeus* and *Valenus*.

Northern Cerambycidae that extend their ranges southward into the Chiricahua Mountains are found primarily in the high elevation coniferous forests. Included are three widespread boreal types which appear to be at or near the southern limits of their ranges: *Tragosoma depsarium*, *Asemum atrum*, and *Anoplodera sexmaculata*. Twelve species with northwestern montane (Vancouverian) ranges include *Spondylis upiformis*, *Arhopalus asperatus*, several species of *Anoplodera*, *Necydalis cavipennis*, *Monochamus clamator*, and *Acanthocinus obliquus*. Half this number can be classed as Rocky Mountain types, the most characteristic being *Ergates spiculatus*

*neomexicanus*, *Arhopalus montanus*, and *Tetropium parallelum*. Four Alleghenian species occur on broad-leaved trees in the middle elevation, hardwood-coniferous forests. These are *Enaphalodes atomarius*, *Elaphidionoides villosus*, *Tylonotus bimaculatus*, and *Phymatodes varius*. A fifth, *Neoclytus capraea* (Say), probably occurs also but has not yet been seen by us.

In conclusion, the cerambycid fauna of the Chiricahua Mountains appears to have received contributions from all the principal faunal elements in North America, from boreal to tropical, although the affinities of most of the known species, endemic and widespread, appear to be southwestern montane or Sonoran. Of the species thus far reported from the Huachuca Mountains, only four, *Peranoplium subdepressum* (Schaeffer), *Neoclytus capraea* (Say), *N. irroratus* (LeConte), and *Pogonocherus arizonensis* Schaeffer, have not yet been found in the Chiricahua Mountains. There is no reason to believe that any of these will not be turned up by further collecting.

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