

# STUDIES OF NORTH AMERICAN WEEVILS.

By W. DWIGHT PIERCE,

*Of the Bureau of Entomology, U. S. Department of Agriculture.*

While in Washington during the winter of 1908-9 it was my pleasure, through the courtesy of Dr. L. O. Howard and Mr. E. A. Schwarz, to study the collections of weevils in the U. S. National Museum. The following notes present the records of all determined specimens in the collections of North American weevils as they are at present arranged in those groups preceding the true Curculionidæ.

The most recent writers on the Rhynchophora seem to agree in the main in considering only four families—Curculionidæ, Anthribidæ, Brenthidæ, and Ipidæ (Scolytidæ). This arrangement necessitates the subdivision of the Curculionidæ into a very large number of subfamilies. In all probability each of these families will soon be raised to superfamily rank, and the tribes of LeConte and Horn will in many cases become families or subfamilies.

Recognizing the Curculionidæ as a family at present, I shall follow Sharp and Champion in the use of groups where LeConte and Horn used tribes. The order of these groups is kept practically as now recognized in America.

## Family CURCULIONIDÆ.

### Subfamily RHINOMACERINÆ.

#### KEY TO GENERA.

- Maxillary palpi filiform and flexible.....*Rhinomacer* Fabricius.  
Maxillary palpi normal.....*Diodyrrhynchus* Schönherr.

### Genus RHINOMACER Fabricius.

#### KEY TO SPECIES OF RHINOMACER.

- Pubescence long and coarse.  
Prothorax not longer than wide .....*pilosus* LeConte.  
Prothorax longer than wide .....*elongatus* LeConte.  
Pubescence short and fine.  
Prothorax evenly rounded from base, considerably narrower than elytra,  
*comptus* LeConte.  
Pubescence long and sparse, head very convex, eyes protuberant. *bombifrons* LeConte.

## RHINOMACER PILOSUS LeConte.

This is included in the U. S. National Museum from Cambridge, Massachusetts; Washington, District of Columbia, May 9; Marquette, Michigan, June, July; Eagle Harbor, Lake Superior, June; all from the Hubbard and Schwarz collection; and from Agricultural College, Mississippi, November (Weed).

## RHINOMACER ELONGATUS LeConte.

Durham, New Hampshire (Weed and Fiske); Washington, District of Columbia, April, May; Marquette, Michigan, July (Hubbard and Schwarz); Bayfield, Wisconsin; Ontario (Wickham); Eufaula, Alabama, February, on pine trees; Meridian, Mississippi, February; Jackson, Mississippi, February (Hubbard and Schwarz); Texas.

## RHINOMACER COMPTUS LeConte.

Veta Pass, Colorado, June; Tenino, Washington (Hubbard and Schwarz).

## RHINOMACER BOMBIFRONS LeConte.

This species is not represented.

## Genus DIODYRRHYNCHUS Schönherr.

## DIODYRRHYNCHUS BYTUROIDES LeConte.

Monterey County, California, January, on needles of *Pinus radiata* (Coleman); The Dalles, Oregon, May (Hubbard and Schwarz).

## Subfamily ALLOCORYNINÆ.

## Genus ALLOCORYNUS Sharp.

## ALLOCORYNUS SLOSSONI Schaeffer.

Biscayne Bay, Florida (Mrs. A. T. Slosson).

## Subfamily RHYNCHITINÆ.

## Genus AULETES Schönherr.

## KEY TO SPECIES OF AULETES.

Antennæ inserted at middle of beak; last joint of club triangular, pointed, as wide as the preceding; body black, coarsely punctured, thinly pubescent. . . . .*ater* LeConte.  
Antennæ inserted at about basal third of beak.

Body black, finely punctured, thinly pubescent; beak nearly as long as head and prothorax; last joint of antennæ narrower than the preceding, obtuse, . . . . .*nasalis* LeConte.

Body pale yellowish throughout; pubescence sparse, short, semierect; beak twice as long as head; last joint of antennal club about as wide as tenth, slightly wider than long and obtusely rounded at apex; the tenth joint fully as long as wide. . . . .*laticollis* Casey.

Body black, with disk of elytra red, finely punctured, sparsely pubescent; beak as long as prothorax and occiput; last joint of antennal club a little narrower than preceding, longer than wide, rounded at tip. . . . .*rufipennis*, new species.  
 Antennæ inserted within basal fourth of beak.

Body greenish, lustrous, rather coarsely punctured, thinly clad with short, semi-erect pubescence; beak as long as prothorax; last joint of antennal club slightly narrower than the preceding, as long as wide, obtusely rounded at apex,  
*viridis*, new species.

Body bluish black, densely punctured, thinly pubescent. . . . .*congruus* Walker.  
 Very small, brown, irregularly pubescent. . . . .*cassandrae* LeConte.

AULETES ATER LeConte.

Milton, Massachusetts, June; Warwick, Rhode Island, May (E. S. Calder); New York (Linell); Toronto, Canada, May (R. J. Crew); Port Huron, Michigan, June (Hubbard and Schwarz); Cadet, Missouri (J. G. Barlow).

AULETES NASALIS LeConte.

This species is not represented.

AULETES LATICOLLIS Casey.

This species is not represented.

AULETES RUFIPENNIS, new species.

Described from one specimen collected by D. W. Coquillett, in Los Angeles County, California (922).

Length 2 mm. Three-fourths longer than wide, slightly convex; black, with elytra, except a wide band along the suture and lateral edges, reddish brown, and with antennal funicle, tip of beak and legs more or less piceous, or testaceous; punctuation fine; pubescence sparse, short, semierect, whitish. Head with occiput wider than long, convex; feebly convex between the eyes; occiput finely, transversely, lineolately rugose; punctuation between the eyes shallow, sparse, several of the median punctures open in front; eyes large, convex, and prominent. Beak as long as thorax and occiput, one-third as wide as head, slightly arcuate behind base of antennæ, somewhat flattened above and below, medianly shallowly sulcate, laterally punctato-sulcate; scrobes deep, beginning in a point at above middle and almost as wide as depth of beak at base; antennæ inserted just within the basal third of the beak, two basal joints stout, others small, becoming shorter; club large, very loosely jointed, first and second joints subquadrate and equal, third a little narrower and constricted at base, longer than wide and rounded at tip. Prothorax widest at basal third, barely one-third wider than long, sides strongly arcuate at base, more strongly convergent and straighter toward apex; apex straight, more than three-fourths as wide as base; base broadly and feebly arcuate; disk evenly and feebly convex,

transversely impressed near base, finely, feebly, sparsely and unevenly punctate with traces of median sulcus on impunctate line. Elytra broadly and separately rounded at apex, one-half longer than wide, two-thirds wider than prothorax, sides parallel and nearly straight; humeri narrowly rounded; disk convex, impressed along suture, feebly and irregularly punctate, rather finely and more coarsely so near suture. Claws armed with a large tooth.

*Type*.—Cat. No. 12589, U.S.N.M.

AULETES VIRIDIS, new species.

Described from three specimens collected in July in Siskiyou County, California, by A. Koebele. Another specimen in the Hubbard and Schwarz collection is labeled from Colorado.

Length 2 mm. Twice as long as wide, slightly convex; greenish, lustrous throughout, antennæ piceous, beak violaceous; punctuation coarse and generally rather close; pubescence moderate, short, semi-erect, whitish. Head almost flat between the eyes; punctuation behind the eyes very minute, but between them close and coarse; front sulcate; eyes large, convex, and prominent. Beak short, stout, as long as prothorax, over one-third as wide as the head, evenly arcuate, cylindrical, rugosely punctate, finely above and more coarsely on the sides; scrobes deep, broad, anterior opening broad, rounded, not narrowed to a point as in *rufipennis*, beginning at basal third of beak; antennæ inserted at basal fourth, 11-jointed, scape and first funicular joint short and stout, second funicular longer than broad, last four becoming shorter and transverse; club three-jointed, as long as the preceding portion of the antennæ and three times as broad, first two joints quadrate, third slightly narrower, as long as wide, obtusely rounded at apex. Prothorax widest at basal third, wider than long, sides strongly arcuate at base, more strongly convergent and straighter toward apex; apex straight, three-fourths as wide as base; base broadly, feebly arcuate; disk evenly and feebly convex, transversely impressed near base, coarsely, closely, and unevenly punctate with a smooth impunctate line in front, becoming a sulcus behind the middle. Elytra separately rounded at apex, one-half longer than wide, two-thirds wider than the prothorax, sides nearly straight, humeri narrowly rounded; disk almost flat, somewhat impressed along suture, coarsely, closely, and unevenly punctate. Claws armed with a large tooth.

*Type*.—Cat. No. 12588, U.S.N.M.

AULETES CONGRUUS Walker. (SUBCERULEUS LeConte.)

Fort McKenny, Wyoming; National Park, Wyoming, August (Hubbard and Schwarz); Leavenworth Valley, Colorado, June (Wickham); Moscow, Idaho (Aldrich).

## AULETES CASSANDRÆ LeConte.

Durham, New Hampshire; Webster, New Hampshire; Nottingham, New Hampshire (Fiske); Holderness, New Hampshire (Hubbard and Schwarz); Marion, Massachusetts; Oswego, New York, July, August; Dundee, New York, June (Hubbard and Schwarz); Water Gap, Pennsylvania; Detroit, Michigan (Hubbard and Schwarz); Bayfield, Wisconsin (Wickham); Crescent City, Florida; Key West, Florida, April; Mobile, Alabama, June (Hubbard and Schwarz); Mississippi (Soltau).

## Genus EUGNAMPTUS Schönherr.

## KEY TO SPECIES OF EUGNAMPTUS.

- Elytral interspaces very narrow.....*striatus* LeConte.  
 Elytral interspaces wider than the striae.  
 Front not channeled.  
 Head feebly punctured, narrowed behind.....*angustatus* Gyllenhal.  
 Head feebly punctured, not narrowed behind.....  
*collaris* Gyllenhal; *pallidus* Schaeffer.  
 Head more strongly punctured, antennæ stouter.....*puncticeps* LeConte.  
 Front distinctly channeled.  
 Head nearly smooth, slightly narrowed behind.....*nigriventris* Schaeffer.  
 Head feebly punctured, narrowed behind.....*sulcifrons* Gyllenhal.

## EUGNAMPTUS STRIATUS LeConte.

Hanover, Florida, March; Crescent City, Florida (Hubbard and Schwarz).

## EUGNAMPTUS ANGUSTATUS Gyllenhal.

Chicopee, Massachusetts, July; Lime Rock, Pennsylvania (Wickham); Washington, District of Columbia, June; Afton, Virginia; Harper's Ferry, West Virginia, May; St. Catherine Island, Georgia, April; Retreat, North Carolina, May; Port Huron, Michigan, June; Detroit, Michigan (Hubbard and Schwarz); Iowa City, Iowa, June (Wickham); Kansas; Kenosha, Nebraska (Slimek); West Point, Nebraska, June (Bruner).

## EUGNAMPTUS COLLARIS Gyllenhal.

Marion, Massachusetts, July; Montgomery, Massachusetts (Wickham); Lime Rock, Pennsylvania; Washington, District of Columbia, June, July; Retreat, North Carolina; St. Catherine Island, Georgia, April; Jacksonville, Florida; Oak Grove, Alabama (Hubbard and Schwarz); Iowa; Texas (Belfrage); Pinal Mountains, Arizona (Wickham).

## EUGNAMPTUS PALLIDUS Schaeffer.

Not represented.

## EUGNAMPTUS PUNCTICEPS LeConte.

Washington, District of Columbia, June (Hubbard and Schwarz);  
Arizona (Morrison).

## EUGNAMPTUS NIGRIVENTRIS Schaeffer.

Chiricahua Mountains, Arizona, June; Santa Rita Mountains,  
Arizona, May (Hubbard and Schwarz); Huachuca Mountains, Ari-  
zona, July (Schaeffer).

## EUGNAMPTUS SULCIFRONS Gyllenhal.

Alexandria, Virginia, July (Palmer); Jacksonville, Florida; Oak  
Grove, Alabama, June (Hubbard and Schwarz); Meridian, Mississippi,  
June (Soltau); Texas (Belfrage); Onaga, Kansas, June (Crevecoeur).

## Genus RHYNCHITES Herbst.

## KEY TO SPECIES OF RHYNCHITES.

## Pubescent species.

Pubescence coarse, white, prostrate; thorax black, elytra violet coppery,  
*relatus* LeConte.

## Pubescence short.

Black, prothorax red, elytral intervals very finely punctured,  
*palmii* Schaeffer.

Entirely red above.....*bicolor* Fabricius.

## Pubescence long, erect.

Beak bistriate and carinate at base.

Striae distant, not very distinct.

Color black bronzed; pubescence long.....*aneus* Boheman.

Color blue; pubescence long.....*mexicanus* Gyllenhal.

Color golden, tinged with green; pubescence not so long,  
*eximius* LeConte.

Striae composed of large deep punctures.

Elytral intervals serially punctulate; beak narrow; color bluish-  
black.....*hirtus* Fabricius.

Elytral intervals not serially punctulate; beak much longer; pro-  
notal punctuation denser; color greenish.....*naso* Casey.

Beak flattened, not carinate at base; color green.....*planifrons* LeConte.

## Pubescence very fine, inconspicuous and decumbent, or absent.

Legs yellow or reddish; body coppery golden.....*aureus* LeConte.

## Legs dark colored.

Bronzed; frontal fovea deep .....*fossifrons* LeConte.

(This may have been an extreme variation. *Rh. aratoides* sometimes  
displays a frontal fovea, and may possibly be a synonym of this  
species).

## Frontal fovea usually obsolete.

Blue bronzed; head strongly punctured.....*cyanelus* LeConte.

Aeneus or coppery; head more or less feebly punctured.

First three ventral segments of male with median impressed line;  
elytra very feebly depressed behind base; beak medianly sul-  
cate; color greenish-aneus.....*aratoides* Fall.

First three ventral segments of male smooth.

Beak in both sexes longer than prothorax; elytra viewed in profile strongly depressed behind base, median line sinuate; beak opaque, longitudinally impressed, long and slender; color coppery ..... *aratus* Say.

Beak in male only three-quarters as long as prothorax, in female longer than the prothorax, more or less distinctly sulcate, sulcus sometimes extending onto front; elytra viewed in profile slightly depressed behind base; hind femora of female more or less swollen; color ranging from black to green or æneus; size varies from 1.3 to 2.3 mm.,

*macrophthalmus* Schaeffer.

RHYNCHITES VELATUS LeConte.

Not represented.

RHYNCHITES PALMII Schaeffer.

Arizona (Charles Palm).

RHYNCHITES BICOLOR Fabricius.

Mount Tom and Boston, Massachusetts; Durham, New Hampshire; Washington, District of Columbia; Iowa City, Index, Sioux City, and Spirit Lake, Iowa; Minnesota; Wisconsin; Winnipeg and Aweme, Manitoba; Volga and Brookings, South Dakota; University, North Dakota; Havre and Kalispell, Montana; Breckenridge, Berkeley, and Ouray, Colorado; Cheyenne and National Park, Wyoming; American Fork, American Fork Canyon, and Fort Douglas, Utah; Pocatello, Idaho; Kaslo and North Bend, British Columbia; Victoria, Vancouver; Oregon; Everett, Easton, Seattle, and Takoma, Washington; Eureka, Los Gatos, San Francisco, Kaweah, Dunsmuir, San Mateo County, San Diego County, and Los Angeles County, California; Williams and Prescott, Arizona; Santa Fe, New Mexico.

RHYNCHITES ÆNEUS Boheman.

Lake City, Florida; Big Springs, Texas; Detroit, Michigan; Wisconsin; Chicago and Bloomington, Illinois; Arkansas; Iowa; Volga, South Dakota; West Point, Nebraska; Ottawa, Kansas; Brandon and Winnipeg, Manitoba; Oregon.

RHYNCHITES MEXICANUS Gyllenhal.

San Antonio, Texas, May, on *Coreopsis cardaminifolia* (Pierce); San Diego, Texas, October (Schwarz); Catalina Springs, Arizona, April, on *Eucillia farinosa* (Hubbard and Schwarz).

RHYNCHITES EXIMIUS LeConte.

Colorado Springs, Colorado, June, on *Thelesperma gracilia* (Wickham); Flagstaff, Arizona, July (Hubbard and Schwarz).

## RHYNCHITES HIRTUS Fabricius.

Boston, Massachusetts, June (Ormonde); New York (Linell); Washington, District of Columbia, June, July; Haulover, Florida, March; Enterprise, Florida, May; Tampa, Florida, April; Michigan (Hubbard and Schwarz).

## RHYNCHITES NASO Casey.

Los Angeles County, California, April, on *Juniperus californicus*; San Bernardino County, California, May (Coquillett).

## RHYNCHITES PLANIFRONS LeConte.

Los Gatos, California (Hubbard and Schwarz).

## RHYNCHITES AUREUS LeConte.

Oregon; Lake Tahoe, California, September (Koebele); Los Angeles County, California, July (Coquillett); Ojai Valley, Colorado (Hubbard and Schwarz).

## RHYNCHITES CYANELLUS LeConte.

Webster, New Hampshire (Fiske); Toronto, Ontario, May (R. J. Crew); Detroit, Michigan; Eagle Harbor, Lake Superior, July (Hubbard and Schwarz); Bayfield, Wisconsin (Wickham); Iowa; West Point, Nebraska, June, on willow (Bruner); Bear Creek Canyon, Evans Peak Range, Colorado, July (E. J. Oslar).

## RHYNCHITES ÆRATOIDES Fall.

Redondo, California, April, May (Fall); Los Angeles County, California (Coquillett).

## RHYNCHITES ÆRATUS Say.

Bladensburg, Maryland, June; Washington, District of Columbia, May, June; North Carolina; St. Catherine Island, Georgia, April; Stone Creek, Lee County, Virginia (Hubbard and Schwarz); Missouri; Nebraska City, Nebraska, June.

## RHYNCHITES MACROPTHALMUS Schaeffer.

Ouray, Colorado, July; Colorado Springs, Colorado, June (Wickham); Brownsville, Texas, June (Townsend); Arizona (Morrison); Chiricahua Mountains, Arizona, June (Hubbard and Schwarz).

## Genus DEPORAUS Samouelle.

## DEPORAUS GLASTINUS LeConte.

Arizona (Morrison); Chiricahua Mountains, Arizona, June (Hubbard and Schwarz); Williams, Arizona, June (Barber and Schwarz); Ouray, Colorado, July (Wickham); Redwood Creek, Humboldt

County, California, June (Barber); Los Gatos, California (Hubbard and Schwarz); Los Angeles County, California, July (Coquillett); Santa Cruz Mountains, California (Koebele); American Fork Canyon, Utah, June (Hubbard and Schwarz); Washington (Morrison); Tenino, Washington (Hubbard and Schwarz).

Subfamily PTEROCOLINÆ.

Genus PTEROCOLUS Schönherr.

PTEROCOLUS OVATUS Fabricius.

Andover, Massachusetts; Dover, Massachusetts, June (Wickham); Atco, New Jersey, June; Lehigh Mountain, Pennsylvania, June; Washington, District of Columbia, June (Hubbard and Schwarz); Maryland; St. Catherine, Georgia, April; Crescent City, Florida; Haulover, Florida, March (Hubbard and Schwarz); Iowa City, Iowa (Wickham); Missouri (Riley); Texas.

Subfamily ATTELABINÆ.

Genus ATTELABUS Linnæus.

ATTELABUS ANALIS Illiger.

Toronto, Canada (R. J. Crew); Rawdon, Ontario, July (Hastings); Winton, New Hampshire, August; Springfield, Massachusetts, June; Chicopee, Massachusetts, July; Wellesley, Massachusetts, July; Melton, Massachusetts; Merchantville, New Jersey, June; Allegheny, Pennsylvania; Washington, District of Columbia, June; Pennington Gap, Virginia, June; Afton, Virginia; Biscayne, Florida, May; Haulover, Florida, March (Hubbard and Schwarz); Archer, Florida; Columbus, Texas, June; Detroit, Michigan (Hubbard and Schwarz); Indiana; Iowa City, Iowa (Wickham).

ATTELABUS NIGRIPES LeConte.

Marion, Massachusetts, July; Bladensburg, Maryland, July; Great Falls, Maryland, May (Hubbard and Schwarz); Virginia, June; Berkeley, West Virginia; Iowa City, Iowa (Wickham); St. Louis, Missouri (Riley); Kansas; Colorado.

ATTELABUS BIPUSTULATUS Fabricius.

West Springfield, Massachusetts, June; Boston, Massachusetts, June (Ormonde); Marion, Massachusetts, July; Atco, New Jersey, June; Allegheny, Pennsylvania; Washington, District of Columbia, June; Berkeley, West Virginia; Retreat, North Carolina, May; Marquette, Michigan, June; Detroit, Michigan (Hubbard and Schwarz); Bayfield, Wisconsin (Wickham); St. Louis, Missouri (M. Schuster); Arkansas; Texas.

## ATTELABUS GENALIS LeConte.

This species is not represented in the collection.

## ATTELABUS RHOIS Boheman.

Holderness, New Hampshire, September, on *Alnus*; Durham, New Hampshire (Weed and Fiske); Lewiston, Maine (Hubbard and Schwarz); Springfield, Massachusetts, July; Lawrence, Massachusetts; Marion, Massachusetts, July; Halifax, Nova Scotia (Wickham); Pennington, Virginia, July; Marquette, Michigan, July (Hubbard and Schwarz); Bayfield, Wisconsin (Wickham); Southern Illinois, on *Corylus americana*; Iowa City, Iowa (Wickham); Onaga, Kansas (Crevecoeur); Baldwin, Kansas (Baldwin); West Point, Nebraska, June (Bruner); Chiricahua Mountains, Arizona, June (Hubbard and Schwarz).

## Subfamily THECESTERNINÆ.

## Genus THECESTERNUS Say.

This genus has long been left alone because of doubt as to the specific characters available. The majority of specimens in the collections are badly rubbed or else matted with dirt. It is not advisable to attempt a determination of rubbed specimens. There are, however, several distinct species in the series of eighty-four specimens which I examined in the National Museum collection. I have some hesitation in describing them, because I realize that possibly one or two may be synonymous with LeConte's species. Valid descriptions are, however, necessary. How many of LeConte's species are good I can not say, although I consider that *rectus* is a synonym of *humeralis*, while *rudis* and *erosus* are possibly variations of *affinis*. The four species herein described as new are all from the extreme southwestern semiarid and arid portions of the country.

## KEY TO SPECIES OF THECESTERNUS.

- I. Elytra without clusters of erect black setæ; prothorax at widest part as wide as, or wider than the elytra at humeri, not strongly narrowed on sides at front, very feebly elevated in front; humeral angles prominent, but never produced.  
 Setæ white, decumbent; prothorax very coarsely pitted; elytra coarsely pitted and tuberculate.....*foveolatus*, new species.  
 Setæ brown and white, erect; prothorax coarsely punctured, tuberculate; elytra coarsely pitted and densely tuberculate; entire body bristling with erect setæ.....*hirsutus*, new species.  
 (Prothorax unequal, less deeply impressed on sides, hardly transversely elevated at apex, elytra not produced at humeri.....*morbillosus* LeConte.)
- II. Elytra with clusters of erect black scales; prothorax at widest part rarely as wide as the elytra at humeri.  
 Prothorax one-third longer than wide, very gradually narrowed at base and tip, with four dorsal impressions, and strong lateral impression; elytra only moder-

- ately emarginate at base, with humeri only slightly produced, and somewhat acute.....*longior* LeConte.
- Prothorax wider than long, strongly narrowed on sides at apex, with elevated apical ridge; humeral angles more or less prominent, produced.
- Humeral angles very prominently produced to at least basal fourth of prothorax; elytra in outline sinuate from tip of humeri; setæ brown and white, suberect.....*humeralis* Say (*rectus* LeConte).
- Humeral angles only slightly produced forward.
- Elytra only slightly more than twice as long as prothorax, sides slightly convex; humeral angles very short; setæ dark and white, more or less prominent.....*maculosus*, new species.
- Elytra at least two and a half times as long as prothorax, sides subparallel; humeral angles twice as long as in preceding species; setæ dark and white, erect.....*albidus*, new species.
- Elytra not two and a half times as long as prothorax, sides convex; humeral angles moderate, generally covering basal angles of prothorax; setæ dark and white.....*affinis* LeConte (*rudis* LeConte) (*erosus* LeConte).

THECESTERNUS FOVEOLATUS, new species.

Described from a series of seven specimens in the collection of the Southern Field Crop Insect and Tick Investigations, collected by J. D. Mitchell and R. A. Cushman at Marfa, Texas, June 5, 1908.

Length 8-10 mm. Black, densely clothed with white scales below, and on head; with scaly vestiture above mottled in distinct patterns; without any clusters of erect black scales on elytra; sparsely clothed with white bristles, which are, however, never prominent.

Large, robust, outline almost straight from anterior portion of thorax to posterior third of elytra, thence sinuate, apex broadly rounded. Head convex; densely clothed with narrow white scales radiating from center of occiput; punctuation in three series, largest punctures very shallow and ill defined, between these are sharp fine punctures, and finally the entire surface is exceedingly minutely punctulate; front sulcate. Prothorax very large, slightly wider than long, widest at anterior third, where it is wider than the elytra at the humeri, rather abruptly narrowed in front of this point; base straight, apex arcuate; ocular lobes large, broadly rounded; a broad deep impression starts at the sides near the base, travels forward on the sides, upward at the apex, becomes very deep at sides of disk, just within the widest point and then crosses the disk, arching forward; the punctuation of the thorax has become pitting in this species, with the pits irregular, sometimes connected, and the partitions very thin; scaly vestiture very dense in front and at sides. Elytra with humeri very slightly prominent, more than twice as long as prothorax; striate, the first, third, and fifth and other alternate interspaces wider than the even series, with a double row of small tubercles; striæ wider than intervals, pitted with very large quadrate pits, separated by high transverse tubercles, each pit with a distinct round puncture in its center; bristles are borne on these tubercles

and on the interspaces; scaly vestiture condensed in transverse fasciæ. Under surface of abdomen deeply, moderately, and rather sparsely punctured, with squamiform setæ arising from each puncture; scaly vestiture dense except in punctures. Metathoracic sidepieces anteriorly prolonged obliquely upward and forward, causing a deep emargination of the elytra and sometimes extending over the elytral margin.

The markings of this species are very plain, being composed of blotches of black and white. It may readily be separated from the other species by the characters given in the table.

*Type*.—Cat. No. 12590, U.S.N.M.

THECESTERNUS HIRSUTUS, new species.

Described from a series of three specimens in the Hubbard and Schwarz collection, collected by E. A. Schwarz at San Diego, Texas, in April, May, and June.

Length 4.5–8.5 mm. Black, densely mottled above and below with brown and pale scales, intermixed and bristling with erect brown and white setæ, but with no patches of erect black scales.

Variable in size, oblong, very much resembling *Acalles* in form and color. Head convex, closely clad with narrow, elongate, appressed scales radiating from about the middle of the occiput in all directions, mixed with a few white setæ; punctuation very shallow and sparse in largest series, very finely, minutely, and closely punctulate; front sulcate. Prothorax about as long as wide, widest a little beyond the middle, where it is slightly wider than the humeri; broadly rounded on sides, especially toward apex, not suddenly constricted; base straight, slightly angulate at suture of elytra; apex convex; ocular lobes broad, prominent; sides moderately impressed behind, anterior transverse impression evident on sides and slightly so on disk; surface pitted with large, coarse, close pits, partitions tuberculate; vestiture close, composed of both scales and bristles. Elytra slightly emarginate at suture; humeri almost rectangular, very slightly enlarged; elytra twice as long as prothorax; striate as in preceding species, sometimes covered with many small tubercles; scaly vestiture close, mottled brown and light, surface bristling with brown and white setæ. Metathoracic sidepieces causing a rounded emargination of the elytra.

*Type*.—Cat. No. 12591, U.S.N.M.

THECESTERNUS HUMERALIS Say.

A series of sixteen specimens from Colorado, Nebraska, Kansas, and Missouri appear to answer to the description of this species.

The humeral angles are very prominent, although produced in varying degrees, always directed outward and forward, causing a sinuation of the lateral margin of the elytra. The thorax is deeply

emarginate on the sides in front, elevated into a broad rounded arcuate ridge in front, strongly depressed on the sides and in two spots on the disk behind the middle. The body is extremely densely clothed with a dull yellowish brown crust of closely appressed scales, with numerous semierect brown and white setæ, and with clusters of close dark scales pushing up through the crust on the third interspace especially.

The following are the records assigned distinctly to this species: Canyon City, Colorado (Wickham); Denver, Colorado (Dyar and Caudell); Fort Collins, Colorado, June 17; Colorado Springs, Colorado, June 15 (Wickham); Nebraska, Central Missouri, May (Riley), Kansas.

There is no essential difference in the sexes, as two pairs are before me from Denver, the males being considerably smaller.

THECESTERNUS MACULOSUS, new species.

Described from one specimen in the collection of the Southern Field Crop Insect and Tick Investigations, collected by J. D. Mitchell and R. A. Cushman at Marfa, Texas, June 6, 1908.

Length 7.5 mm. Black, clothed with black and white scales, mainly white below, mottled but arranged in more or less distinct transverse fasciæ with a black V on the base of the thorax; with black and white setæ more or less erect, and with erect masses of black scales especially on the third interspace.

Robust, outline broadly elliptic. Head convex, clothed with broad, flat scales, white on the front, and black on the occiput with three longitudinal lines of white and ochreous scales, setæ sparse; front sulcate. Prothorax a little wider than long, widest in front of middle where it is almost as wide as the humeri, abruptly emarginate and narrowed in front of this point; base slightly arcuate due to humeral angles, apex arcuate; ocular lobes broad; impressions as in *foveolatus*; vestiture dense; punctuation deep, irregular, and rather coarse. Elytral base broadly roundly emarginate with a small triangular emargination at the suture; a little more than twice as long as the prothorax; sides convex; striæ deeply pitted, intervals more or less moderately tuberculate especially on the sides; scaly vestiture dense, with erect black and white setæ, and with masses of black scales on third interspace. Metathoracic sidepieces causing a rather strong emargination of the elytra.

This species is very differently colored from the next and has the elytra shorter in proportion and more convex on the sides. I have specimens at hand from Cotulla, Texas, May 11, 1906 (J. C. Crawford and F. C. Pratt); Beeville, Texas, October 22 (Hubbard and Schwarz); Big Springs, Texas (Wickham).

*Type*.—Cat. No. 12592, U.S.N.M.

## THECESTERNUS ALBIDUS, new species.

Described from a series of four specimens in the U. S. National Museum, collected by H. Soltau at Albuquerque, New Mexico, February 20.

Length 9–11 mm. Black, densely clothed above and below with yellowish white scales, which are so dense that they give a spongy appearance; two black lines at middle of sides unite to form a triangle; thorax and elytra with occasional clusters of closely placed erect black scales; sparsely clothed with erect white squamiform bristles.

Large, robust, without continuous outline on thorax and elytra, generally elliptic, apex broadly rounded. Head spongily clothed with broad white and ochreous scales mixed with white bristles; front deeply sulcate. Prothorax large, slightly wider than long, widest at anterior third, not as wide as elytra at humeri; strongly narrowed in front with prominent arcuate ridge just behind apex; a deep impression passes downward on sides between the widest portion and the lateral ends of the arcuate ridge and describes a downward and backward arc, ending just below the humeral projections; two depressions also occur on the thoracic disk at the basal third; punctuation moderate, deep and course, but not nearly as large as in *foveolatus*; scaly vestiture spongy throughout, with a mass of black scales on each side of the median line at the base and two smaller masses more widely separated at middle of disk. Elytra with humeri prominent, more or less closely embracing prothorax, prolonged only one-sixth of the length of the prothorax; two and one-half times the length of the prothorax, sides impressed behind humeri; striate with alternate intervals elevated, but not as wide as striæ; even intervals very narrow or obsolete, giving the striæ the appearance of a double row of large punctures; scutellar angles prominently tuberculate, disk otherwise not tuberculate; scaly vestiture dense, spongy, white or ochreous, intermixed with scaly bristles and with raised spots of black erect scales on the alternate intervals. Under surface of abdomen deeply, moderately and rather sparsely punctured, with squamiform setæ arising from each puncture; scaly vestiture dense. Metathoracic side-pieces anteriorly prolonged obliquely upward and forward, causing a deep emargination of the elytra.

The markings of this species are distinct. The black Y formed by the two spots on the thorax and the scutellar spot, and the black triangles on the sides of the elytra are generally distinct.

*Type*.—Cat. No. 12593, U.S.N.M.

## THECESTERNUS AFFINIS LeConte, RUDIS LeConte, EROSUS LeConte.

In addition to the species heretofore mentioned, there are in the collection others more or less varying, but in the main possessing the characters ascribed to *Lithodus affinis*, *rudis*, and *erosus* LeConte. The following are the National Museum records: Kentucky; Nashville, Tennessee, August (Wickham); central Missouri (Riley); west Kansas; north Colorado (Wickham); Denver, Colorado, November (E. J. Oslar); Dallas, Texas, May (A. W. Morrill); Texas (A. S. Fuller); Columbus, Texas, June (Hubbard and Schwarz); Alpine, Texas, July (Wickham).

These specimens are all robust and agree fairly well with *humeralis*, except that the humeral angles are short.

## Subfamily OTIORHYNCHINÆ.

## Tribe EPICÆRINI.

## Genus GRAPHORHINUS Schönherr.

## GRAPHORHINUS VADOSUS Say.

Grosvenor, Texas, March; Texas (Belfrage); Denver, Colorado, November; Fort Collins, Colorado, April (Soltau).

## Genus EPICÆRUS Schönherr.

## EPICÆRUS LUCANUS Horn.

San José del Cabo, Lower California (Fuchs). This species belongs in Casey's table next to *texanus*.

## EPICÆRUS MEXICANUS Sharp.

Brownsville, Texas (Townsend). This species belongs in Casey's table near *sulcatus*, but has silky pubescence covering club.

## EPICÆRUS IMBRICATUS Say.

Washington, District of Columbia; Atlanta, Georgia; St. Louis Missouri; Clay County, Kansas; Texas.

## EPICÆRUS TEXANUS Casey.

Corpus Christi, Texas, April; Nueces, Texas, April (Marlatt); Victoria, Texas, June.

## EPICÆRUS SULCATUS Casey.

Columbus, Texas, May; New Braunfels, Texas, August (Schwarz); Kansas; Colorado (Hubbard and Schwarz); New Mexico (Williams); Wasatch, Utah, June (Hubbard and Schwarz).

## EPICÆRUS FORMIDOLOSUS Boheman.

Lake Poinsett, Florida, May; Hillsboro County, Florida, May (Hubbard and Schwarz).

The species of *Epicærus* have generally been confused as one species under the name *E. imbricatus*. There are still one or more distinct species in the southwest undescribed. This genus becomes very complex in Mexico and Central America.

## Genus ANOMADUS Horn.

## ANOMADUS OBLIQUUS Horn.

This species is not contained in the collection.

## Genus BARYNOTUS Germar.

## BARYNOTUS SCHÖNHERRI Zetterstedt.

St. Johns, New Brunswick, August (Hubbard and Schwarz).

## Genus STAMODERES Casey.

## STAMODERES UNIFORMIS Casey.

This species is not represented.

## Genus HORMORUS Horn.

## HORMORUS UNDULATUS Uhler.

Montreal, Canada, June; Chicopee, Massachusetts (Wickham); Berlin, Connecticut (N. Coleman); Flatbush, Long Island, New York, July (J. L. Zabriskie); Washington, District of Columbia, May, June; Pointe aux Pins, Lake Superior, July (Hubbard and Schwarz); Bayfield, Wisconsin; Iowa City, Iowa (Wickham).

## Genus AGASPHÆROPS Horn.

## AGASPHÆROPS NIGRA Horn.

This species is not represented.

## Genus BRACHYDERES Schönherr.

## BRACHYDERES INCANUS Linnæus.

This species is not represented.

## Genus TRIGONOSCUA Motschulsky.

## TRIGONOSCUA PILOSA Motschulsky.

Yuma, Arizona, May (Brown); San Diego, California, June; Palm Springs, California, March (Hubbard and Schwarz); Los Angeles, California; San Francisco, California, June, August (Wickham, Coquillett); Alameda County, California; Newport, Oregon, July (Wickham).

## Genus CALYPTILLUS Horn.

## CALYPTILLUS CRYPTOPS Horn.

McCook, Nebraska (Hubbard and Schwarz).

## Tribe OPHRYASTINI.

## Group OPHRYASTES.

## KEY TO GENERA OF GROUP OPHRYASTES.

Rostrum with scrobes that are very deep and definite, even at their termination, passing rapidly inferior; eyes narrow and acute below.

1. Third tarsal joint broadly bilobed, and much wider than second, pubescent beneath.
  - a*<sup>1</sup>. Rostral striæ deep, the lateral ones strongly angulate at base of beak, meeting scrobes beneath eyes; second ventral segment nearly as long as third and fourth combined.....*Sapotes* Casey.
  - a*<sup>2</sup>. Rostral striæ not so sharply outlined, straight; second ventral segment much shorter than third and fourth combined.
    - b*<sup>1</sup>. Mentum concealing palpi entirely.....*Eupagoderes* Horn.
    - b*<sup>2</sup>. Palpi projecting beyond apex of mentum.....*Caccophryastes* Sharp.
2. Third tarsal joint not broadly bilobed, hardly wider than second, emarginate at apex, not pubescent beneath; rostral striæ straight.
  - a*<sup>1</sup>. Prothorax more or less tuberculate at sides and very little narrower than elytra, if at all; corbels of posterior tibiæ more or less imperfectly cavernous.....*Ophryastes* Schönherr.
  - a*<sup>2</sup>. Prothorax not tuberculate at sides, very much narrower than elytra; corbels of posterior tibiæ with laminate tip.....*Tosastes* Sharp.

## Genus SAPOTES Casey.

Specimens of this genus are at hand, and invariably show a well defined fimbriation of the ocular lobes, although the fimbriæ are short.

## SAPOTES PUNCTICOLLIS Casey.

Winslow, Arizona (Hubbard and Schwarz).

This species is very variable in color, so that the color characterization given by Colonel Casey should not be considered.

Specimens are at hand from Albuquerque, New Mexico, January 28 (H. Soltau), uniformly larger, but can not be distinguished by any valid character.

## Genus EUPAGODERES Horn.

## EUPAGODERES SPECIOSUS LeConte.

Yuma, Arizona, April 17 (Robert Brown), Phoenix, Arizona (J. S. Tait).

## EUPAGODERES DECIPIENS LeConte.

Del Rio, Texas, July 13; El Paso, Texas (Wickham); Brewster County, Texas (Chisos Mountains), June 10 (Mitchell and Cushman); Tucson, Arizona, December 17; Catalina Springs, Arizona, May 1 (Hub-

bard and Schwarz); Colorado Canyon, July 31 (Barber and Schwarz); Palm Springs, California, February 14 (Hubbard and Schwarz):

This series very possibly contains more than one species.

EUPAGODERES LUCANUS Horn.

This species not represented.

EUPAGODERES DUNNIANUS Casey.

This species not represented.

EUPAGODERES SORDIDUS LeConte.

El Paso, Texas, July 8; Deming, New Mexico, July 11 (Wickham); Mesilla, New Mexico on *Larrea* (Cockerell); Albuquerque, New Mexico, January 28 (Soltau); Santa Rita Mountains, Arizona (Wickham); Winslow, Arizona (Soltau, Wickham); Los Angeles County, California; San Bernardino County, California (Coquillett).

EUPAGODERES WICKHAMI Sharp.

Tucson, Arizona (Wickham, Soltau); Utah (Soltau).

This species belongs near *speciosus*, but has thorax coarsely punctate, and markings like leopard spots.

EUPAGODERES ARGENTATUS LeConte.

Yuma, Arizona, April 2 (Robert Browne).

EUPAGODERES DESERTUS Horn.

Yuma, Arizona, April 2 (Robert Browne); Winslow, Arizona (Wickham); Death Valley, California, April (Koebele).

As far as I can make out these two species are synonymous. In a large series they vary considerably in size, color, and even the form of the corbels.

EUPAGODERES VARIUS LeConte.

Kern County, California (Hubbard and Schwarz); San Diego County, California (Coquillett); Indio, California.

EUPAGODERES GEMINATUS Horn.

Hawthorne, Nevada, July 27; Independence, California, July 17; Lancaster, California; Keeler, California, July 6 (Wickham); Los Angeles County, California (Coquillett); Panamint Valley, April (Koebele).

EUPAGODERES PLUMBEUS Horn.

Death Valley, California, April (Koebele); Independence, California, July 17 (Wickham).

## Genus OPHRYASTES Schonherr.

## OPHRYASTES VITTATUS Say.

Buffalo Gap, S. Dakota; New Castle, Wyoming; Wallace County, Kansas (Snow); Berkeley, Colorado, May 8 (E. J. Oslar); Greeley, Colorado; Colorado Springs, Colorado (Soltau); Holly, Colorado; Canyon City, Colorado (Wickham); Big Springs, Texas; Alpine, Texas (Wickham); Las Cruces, New Mexico (Cockerell); Deming, New Mexico, July 11; Gallup, New Mexico (Wickham); Albuquerque, New Mexico, March 14 (Soltau); Santa Fe, New Mexico; Winslow, Arizona; Globe, Arizona (Wickham).

## OPHRYASTES TUBEROSUS LeConte.

Pocatello, Idaho; Canyon City, Colorado; Del Rio, Texas, June 22; Alpine, Texas, June 28; Deming, New Mexico, July 11 (Wickham).

## OPHRYASTES SHUFELDTI Casey.

This species is not represented.

## OPHRYASTES SULCIPENNIS Casey.

This species is not represented.

## OPHRYASTES LATIROSTRIS LeConte.

Alpine, Texas, June 28 (Wickham); Albuquerque, New Mexico (Soltau); Gallup, New Mexico; Chiricahua Mountains, Arizona (Hubbard and Schwarz); Peach Springs, Arizona (Wickham); Winslow, Arizona, September 10; Holbrook, Arizona.

## OPHRYASTES SULCIROSTRIS Say.

Bismarck, North Dakota (Wickham); Wyoming; Assiniboine, Montana, August 29 (Hubbard and Schwarz); Helena, Montana (Hubbard and Schwarz, Wickham); American Fork, Utah, June 24 (Hubbard and Schwarz); Cheyenne, Wyoming, April 21 (Soltau); Nebraska; Denver, Colorado, August 11; Greeley, Colorado, June 11; Colorado Springs, Colorado, April 4 (Soltau); Fort Collins, Colorado, May 22; Marfa, Texas, July 3; Alpine, Texas, July 20; Luna, New Mexico (Wickham); Albuquerque, New Mexico, January 28 (Soltau); Peach Springs, Arizona; Winslow, Arizona (Wickham); California (Hubbard and Schwarz).

## OPHRYASTES POROSUS LeConte.

This species is not represented.

## OPHRYASTES SYMMETRICUS Fall.

This species is not represented.

## OPHRYASTES BITUBEROSUS Sharp.

San Diego, Texas, April 24 (Hubbard and Schwarz); Goliad, Texas; Beeville, Texas, October 22 (Schwarz); Deming, New Mexico, July 11 (Wickham).

## Genus TOSTASTES Sharp.

This genus can not be defined by the single row of spinules on the posterior tibial corbels, but may be distinguished by the characters given in the table and by the practically non-striate beak.

The Cimbochera group of the next tribe resembles this genus in the form of the antennæ and tarsi, and is mainly separated by the form of the scrobes.

## KEY TO SPECIES OF TOSTASTES.

- Elytra with acute humeral angle.....*humeralis* Sharp.  
[Chihuahua City, Mexico.]
- Elytra with rounded humeri.  
Corbels of posterior tibiæ with a single row of spines; elytra globular; thorax feebly sculptured.  
Elytra with very obsolete sculpture, consisting of vague large pits, arranged serially.....*globipennis* Sharp.  
[Guaajuco, Nuevo Leon, Mexico.]
- Elytra with striæ very fine, consisting of long, fine punctures; median line of thorax distinct.....*globularis*, new species.  
[Albuquerque, New Mexico.]
- Corbels of posterior tibiæ with a double row of spines; elytra globular with striæ consisting of large ill-defined punctures; thorax distinctly and coarsely punctate.....*ovalis*, new species.  
[Del Rio, and Marathon, Texas.]

## TOSTASTES GLOBULARIS, new species.

Described from a series of twenty-two specimens collected by H. Soltau at Albuquerque, New Mexico, March 12.

This species resembles *T. globipennis* Sharp and *T. ovalis*, but differs in sculpture from both.

Length 4.5-6.2 mm. Black; elytra very convex, inflated; humeri rounded; clothed with pale gray or violaceous scales below, and above more or less longitudinally vittate, pale scales alternating with vittæ of dark-brown and black spots.

Eyes narrow, acute beneath; rostrum longer than head, not impressed at base, front flat, rostral striæ almost obsolete, very fine when present; scrobes deep, strongly arcuate, rapidly inferior; scape and first six funicular joints clad with broad flat scales, scape dark except at tip, funicular joints light; last funicular without scales, dark like club, and so closely applied as to appear a part of the club. Thorax strongly transverse; ocular lobes with very short fimbriæ; convex on sides with rather deep emargination in front of base and a lighter one before apex; surface smooth, not deeply or strongly

punctate, punctures very minute, median longitudinal impression sharp and distinct. Elytral striæ extremely fine, feebly impressed, punctures longitudinal and very fine, intervals feebly convex, with two series of setæ; elytra twice as wide as prothorax, only one-half longer than wide, evenly rounded from base almost to apex, apex slightly obtusely produced, elytra conjointly rounded. Second ventral segment short, first suture almost straight, third and fourth segments very short, but together greater than second. Hind tibiæ with a single row of spinules on apex of corbels, articular surface cavernous. Tarsi without pubescence on third joint, which is not broader than the second.

*Type*.—Cat. No. 12594, U.S.N.M.

TOSASTES OVALIS, new species.

Described from one specimen collected by F. C. Bishopp at Devil's River, Texas, May 3, 1907. Four specimens which are rather rubbed are at hand, collected by J. D. Mitchell and R. A. Cushman at Marathon, Texas, June 7, 1908.

This species resembles *T. globipennis* Sharp of Mexico in form, size, and coloration, but differs by the sculpture of the thorax and elytra, and by the double row of spines on the posterior corbels.

Length 6 mm. Black; elytra very convex, inflated; humeri rounded; clothed with thin grayish scales, polygonally crowded, and on the prothorax fused into a continuous indument, bearing numerous setæ, scales not overlapping.

Eyes narrow and acute beneath. Rostrum short, lightly transversely impressed at base, with very faint impressions at sides, but with no median groove; scrobes deep, strongly arcuate, rapidly inferior; scape and first six funicular joints clad with white scales, seventh dark like club without scales, and so closely applied thereto as to appear a part of it. Thorax strongly transverse; ocular lobes distinctly fimbriate; convex on sides with rather deep emargination in front of base and a lighter one before apex; sparsely but deeply and coarsely punctate, median impression vague. Elytral striæ fine, punctures rather large and shallow. Elytra twice as wide as prothorax, and only one-half longer than wide. Second ventral segment short, first suture almost straight, third and fourth segments very short, but together greater than second. Hind tibiæ with a double row of spinules on corbels, but apex hardly truncate. Tarsi without pubescence on third joint, which is not broader than the second.

This species has a very different appearance from *Ophryastes*, because of the greatly inflated elytra, but differs from *Tosastes* as defined by Sharp in the double row of spinules on the corbels of the posterior tibiæ. This last character is not of generic value.

*Type*.—Cat. No. 12595, U.S.N.M.

## Group RHIGOPSES.

Genus RHIGOPSIS LeConte.

RHIGOPSIS EFFRACTA LeConte.

California (Wickham); Southern California.

RHIGOPSIS SCUTELLATA Casey.

Los Angeles County, California, May (Coquillett); San Diego, California (Hubbard and Schwarz, Coquillett); Southern California.

## Group STRANGALIODES.

KEY TO GENERA OF GROUP STRANGALIODES.

Rostrum with scrobes feebly inferior, usually directed toward eyes, or visible from above and badly defined.

I. Seventh joint of funicle contiguous to club.

1. Third joint of tarsi feebly emarginate, scarcely broader than the preceding; tarsi sparsely setose beneath; beak distinctly separated from head by transverse depression..... *Cimbochera* Horn.
2. Third joint of tarsi bilobed, distinctly wider than second; tarsi spinose beneath; beak not separated from head by deep depression... *Miloderes* Casey.

II. Seventh joint of funicle distant from club; third joint of tarsi broader than second, tarsi densely pubescent beneath.

1. Scrobes deep, well defined, at least moderately arcuate, passing inferiorly.

*a*<sup>1</sup>. Scrobes strongly arcuate, passing beneath at a distance from the eyes.*b*<sup>1</sup>. First suture of abdomen straight; second segment never longer than the two following united; hind tibiæ mutic..... *Dichoxenus* Horn.*b*<sup>2</sup>. First suture of abdomen arcuate; second segment as long as and frequently longer than the two following united; hind tibiæ mutic.*c*<sup>1</sup>. Support of deciduous piece of mandible not prominent.*d*<sup>1</sup>. Anterior tibiæ denticulate within; surface of body scaly without hairs; corbels of hind tibiæ open..... *Orimodema* Horn.*d*<sup>2</sup>. Anterior tibiæ not denticulate, or indistinctly so; surface scaly or hairy.*e*<sup>1</sup>. Corbels subcavernous..... *Mimetes* Schönherr.*e*<sup>2</sup>. Corbels cavernous; alternate elytral intervals slightly more convex; ventral scales plumose..... *Amotus* Casey.*c*<sup>2</sup>. Support of deciduous piece prominent; anterior tibiæ not denticulate; surface scaly, and with erect hairs.*f*<sup>1</sup>. Corbels of hind tibiæ cavernous; humeri entirely obliterated, *Diamimus* Horn.*f*<sup>2</sup>. Corbels of hind tibiæ open; humeri rectangular... *Peritaxia* Horn.*a*<sup>2</sup>. Scrobes moderately arcuate, passing immediately beneath the eyes,*Anametus* Horn.*a*<sup>3</sup>. Scrobes narrow, deep and well defined throughout, obliquely descending to lower angle of eye, beak not depressed at base..... *Melbonus* Casey.

2. Scrobes evanescent posteriorly, badly defined, nearly straight or flexed gradually downward, directed toward lower angle of eye.

*a*<sup>1</sup>. Metasternal side pieces rather wide, suture distinct.*b*<sup>1</sup>. First ventral suture very deep and widely impressed, generally straight or only slightly arcuate in the middle; second segment not longer than the next two combined.

- c*<sup>1</sup>. Scutellum very short and broad, not entering the elytral disk.
- d*<sup>1</sup>. Elytral intervals alternating in convexity throughout the length; serial punctures on elytra seldom squamigerous, usually setigerous; first ventral suture slightly arcuate at middle; hind tibiæ mucronate. . . . . *Amnesia* Horn.
- d*<sup>2</sup>. Elytral intervals not alternating in convexity; serial punctures on elytra each bearing a flat scale; first ventral suture straight or but slightly arcuate at middle; hind tibiæ more or less feebly mucronate; corbels open. . . . . *Dyslobus* LeConte.
- c*<sup>2</sup>. Scutellum small, triangular; first ventral suture straight; hind tibiæ distinctly mucronate; corbels cavernous. . . . . *Melamomphus* Horn.
- b*<sup>2</sup>. First ventral suture fine, not broadly impressed, broadly arcuate; body squamose and pubescent; scutellum distinct; second ventral segment much longer than the next two combined,  
*Thricomigus* Horn; *Adaleres* Casey.
- a*<sup>2</sup>. Metasternal side pieces indistinct, suture obliterated.
- e*<sup>1</sup>. First suture of abdomen deep and widely impressed, straight; second segment not longer than the two following united; hind tibiæ not mucronate; corbels open. . . . . *Panscopus* Schönherr.
- e*<sup>2</sup>. First ventral suture fine, not broadly impressed, broadly arcuate; second segment as long as and frequently longer than the two following united; rostrum rather elongate.
- f*<sup>1</sup>. Rostrum separated from head by transverse depression; body squamose, the elytra without erect hairs, the intervals alternating strongly in convexity and vestiture; scutellum extremely small, acute; second ventral segment not longer than the next two combined, metepisternal suture completely obliterated. . . . . *Nomidus* Casey.
- f*<sup>2</sup>. Front flat, rostrum continuous on the same plane and usually flattened above; metepisternal suture in great part obliterated.
- g*<sup>1</sup>. Body above finely tuberculate, scales large,  
*Phymatinus* LeConte.
- g*<sup>2</sup>. Body not tuberculate, scales small and denser. . . *Nocheles* Horn.

## Genus CIMBOCERA Horn.

## CIMBOCERA PAUPER Horn.

Laramie, Wyoming, March 18, May 20 (Soltau); Helena, Montana (Hubbard and Schwarz).

This species, like *Amotus*, has striate plumose scales beneath.

## CIMBOCERA CONSPERSA Fall.

American Fork Canyon, Utah, June 25; Garland, Colorado, June 23 (Hubbard and Schwarz); Canyon City, Colorado, May 14; Gallup, New Mexico; Albuquerque, New Mexico (Soltau); Winslow, Arizona (Wickham); Holbrook, Arizona; Bright Angel, Arizona, July 10 (Barber and Schwarz).

The upper scales are striate, subplumose.

## Genus MILODERES Casey.

## MILODERES SETOSUS Casey.

Panamint Valley, California, April (Koebele).

## MILODERES VIRIDIS, new species.

Described from a series of twelve specimens collected by A. W. Barber at the Keams Copper Mine, Navajo Indian Reservation, Arizona, April 23.

Length 4.5–6 mm. Black, covered with an indument of brilliant golden green scales; oblong-oval, much more slender than *setosus* Casey, convex; entire surface bristling with long erect golden setæ, not regularly arranged, more erect, longer and finer than in *setosus*.

This beautiful species may further be distinguished from *setosus* by the following characters: Beak slightly depressed at base. Elytra not greatly inflated, widest at basal fourth; sides thence very feebly convergent, abruptly and broadly rounded behind; posterior declivity perpendicular; humeri obsolete; disk convex, hardly one-quarter wider than the prothorax, at least one-half longer than wide, without a trace of serial punctuation, punctures very fine and inconspicuous.

*Type*.—Cat. No. 12596, U.S.N.M.

## Genus DICHOXENUS Horn.

## DICHOXENUS SETIGER Horn.

Columbus, Texas, May 22 (Schwarz); Tyler, Texas, June 9 and 28.

## Genus ORIMODEMA Horn.

## ORIMODEMA PROTRACTA Horn.

Veta Pass, Colorado, June 27 (Hubbard and Schwarz); Las Vegas Hot Springs, New Mexico, August 5–14; Flagstaff, Arizona, July 7; Williams, Arizona, July 24 (Barber and Schwarz).

## Genus MIMETES Schönherr.

## MIMETES SENICULUS Horn.

Scotia, California, May 20 (H. S. Barber).

## Genus AMOTUS Casey.

## AMOTUS LONGISTERNUS Casey.

Ventura County, California, April (Coquillett).

AMOTUS SETULOSUS LeConte (MIMETES SETULOSUS LeConte; AMOTUS GRACILIOR Casey).

Los Angeles County, California, March, April; Ventura County, California, April (Coquillett).

## AMOTUS LONGIPENNIS, new species.

Described from two specimens in the Hubbard and Schwarz collection from Kern County, California.

This species differs from *longisternus* in the following particulars: Length 8 mm. Elongate oblong-oval, rather depressed above, densely clothed above with æneus, white and dark scales which are polygonally crowded and present a tessellate appearance. Head closely squamose; beak strongly medianly impressed in over apical half. Ocular lobes absent, vibrissæ long and conspicuous. Prothorax a little longer than wide, subcylindrical. Elytra about twice as long as wide, and three times as long as the prothorax.

Like the other two species in the genus, this species is clad with polygonal flat scales above, and with ogival, striate, plumose scales below. The alternate intervals of the elytra are slightly more prominent. The genus is also characterized in all three species by the short prosternum in front of the coxæ, and by the absence of ocular lobes, but presence of ocular vibrissæ.

*Type*.—Cat. No. 12597, U.S.N.M.

Genus DIAMIMUS Horn.

DIAMIMUS SUBSERICEUS Horn.

Probably several species are now included in the museum material which is from Laramie, Wyoming, April 25 (Soltau); Cheyenne, Wyoming; Helena, Montana; American Fork Canyon, Utah, June 25; Glenwood, Colorado, May 15 (Hubbard and Schwarz); Berkeley, Colorado, May 8 (E. J. Osler); Winslow, Arizona, July 18 (Wickham).

Genus PERITAXIA Horn.

PERITAXIA RUGICOLLIS Horn.

Garland, Colorado, June 19 (Hubbard and Schwarz); Leadville, Colorado, July 7 (Wickham); Durango, Colorado, July 23; Tercio, New Mexico, May 9 (Hopkins); Dripping Springs, Organ Mountains, New Mexico, (Cockerell); Magdalena, New Mexico (Wickham); Arizona (Morrison).

PERITAXIA HISPIDA Horn.

Northern Colorado (Wickham); Colorado (Hubbard and Schwarz).

PERITAXIA PERFORATA Casey.

Big Springs, Texas (Wickham); Ranger, Texas, July 25.

Genus ANAMETIS Horn.

The species in this genus are clad beneath with broad, fan-shaped striate, plumose scales.

ANAMETIS GRISEA Horn.

Detroit, Michigan, June 25 (Hubbard and Schwarz); Independence, Iowa; Iowa City, Iowa, April 17, May 5 (Wickham); West Point, Nebraska, June (Bruner); Rock Bluff, Nebraska (Elliott); Kansas Laramie, Wyoming (Wickham); Montana.

## ANAMETIS SUBFUSCA Fall.

Las Vegas Hot Springs, New Mexico, August 10-12 (Barber and Schwarz).

Genus MELBONUS Casey.

MELBONUS SCAPALIS Casey.

This species is not represented.

MELBONUS DENTICULATUS, new species.

One specimen collected in the Chiricahua Mountains, Arizona, May 10, by Hubbard and Schwarz.

This species is essentially a member of the genus *Melbonus* because of the distinct scrobes reaching the lower edge of the eyes, the non-constricted beak, and all other important characters, except that very minute fimbriæ are visible, and the anterior tibiæ are strongly denticulate.

The following specific characters will serve to distinguish it from *scapalis* Casey. Head at least half as wide as prothorax, eyes prominent, separated by one and one-half times their own width; beak over one-fourth longer than wide, but hardly more than one-half as long as the prothorax; broadly depressed along middle from base, and more narrowly so on the sides. Elytra two and one-quarter times as long as wide, three times as long as prothorax; sides almost parallel, evenly and broadly arcuate; base straight, humeri rectangular, minute. Length 10 mm.; width 3.5 mm.

*Type*.—Cat. No. 12598, U.S.N.M.

Genus AMNESIA Horn.

AMNESIA SQUAMIPUNCTATA, new species.

Described from two specimens collected by H. S. Barber at Eureka, California, June 7.

Length 7 mm; width 2.7-3 mm. Elongate, ovoidal, widest at apical third of elytra, convex above, reddish or piceous throughout, undersides darkest; vestiture consisting of small rounded, striate scales densely covering the upper surface and disposed among the shining tubercles of the thorax, golden, brown or black in color, and intermingled with stiff suberect curved bristles especially on the elevated alternate intervals; scales on head both round and linear; elytral punctures each provided with oblong striate scales, almost as wide as, but longer than the interspace scales; scales mixed oval and oblong on the sides, but becoming long and very fine setæ along the middle of the venter.

The species is further separable from *tumida* Casey, the only other species with very elevated alternate intervals, by the following characters: Head two-thirds as wide as prothorax, the entire surface of

head and beak coarsely and densely punctate; beak tricarinate above; eyes separated by much less than twice their own width; antennal scape not reaching posterior margin of eyes, first funicular slightly longer than second, second not as long as the two following. Prothorax as wide as long, sides strongly and evenly arcuate; ocular lobes not nearly as densely fimbriate as in *tumida*; disk broadly and rather deeply impressed along median line, also with three large round impressions on each side of the middle, the central pair closer together than the others, disk rather closely covered with strong polished tubercles. Elytra with sides subparallel, slightly the widest at apical third; disk with alternate intervals strongly elevated, tuberculose, bristling with curved spines, most prominent at apical declivity, which is almost vertical in profile; striæ unimpressed, punctures moderate in size, each with a large scale, surface not conspicuously tuberculose.

In all other respects the phraseology used in the description of *tumida* will fit this species. It differs from all other *Amnesia* by the squamigerous serial punctures, thus resembling *Dyslobus*. It is arranged with *Amnesia* because of the alternate elevated intervals.

*Type*.—Cat. No. 12599, U.S.N.M.

AMNESIA TUMIDA Casey.

Santa Cruz Mountains, California.

AMNESIA GRANICOLLIS LeConte.

Victoria, Vancouver, June 1; Tenino, Washington (Hubbard and Schwarz); Washington (Morrison); Astoria, Oregon, May 25; Portland, Oregon, May 22 (Hubbard and Schwarz); Oregon (Koebele); Eureka, California, June 2; Fieldbrook, California, May 27 (Barber).

AMNESIA DISCORS Casey.

This is not represented.

AMNESIA SCULPTILIS Casey.

Washington.

AMNESIA DEBILIS Casey.

Oregon (Hubbard and Schwarz).

AMNESIA DECORATA LeConte.

Astoria, Oregon, May 25 (Hubbard and Schwarz).

AMNESIA GRANULATA Casey.

This species is not represented.

The following species referred to *Amnesia* do not have the alternate interspaces elevated:

## AMNESIA SORDIDA Horn.

California (Hubbard and Schwarz); Alameda County, California (Coquillett).

## AMNESIA URSINA Horn.

Victoria, Vancouver, June 1 (Hubbard and Schwarz); Cœur d'Alene, Idaho (Wickham); Portland, Oregon, May 22 (Hubbard and Schwarz).

## AMNESIA RAUCA Horn.

Alameda County, California, March (Coquillett). San Francisco County, California, June.

## AMNESIA DECIDUA Horn.

This species is not represented.

## AMNESIA ALTERNATA Horn.

Montana (Hubbard and Schwarz).

## AMNESIA TESSELLATA Casey.

This species is not represented.

## AMNESIA ELONGATA Horn.

California.

## Genus DYSLOBUS LeConte.

## DYSLOBUS SEGNIS LeConte.

Sisson, California (Hubbard and Schwarz); Siskiyou County, California (Koebele).

## DYSLOBUS LECONTEI Casey.

Tenino, Washington (Hubbard and Schwarz); Easton, Washington (Koebele); Hood River, Oregon, May 20 (Hubbard and Schwarz); Oregon (Koebele); Humboldt County, California (Barber).

## DYSLOBUS VERRUCIGER Casey.

Victoria, Vancouver, June 2 (Hubbard and Schwarz); Kaslo, British Columbia, June 10 (Currie).

## Genus MELAMOMPHUS Horn.

## MELAMOMPHUS NIGER Horn.

This species is not represented.

## Genus ADALERES Casey.

## ADALERES OVIPENNIS Casey.

This species is not represented.

## ADALERES HUMERALIS Casey.

Los Angeles, California (Coquillett); San Diego, California; Rainbow, California.

## Genus THRICOMIGUS Horn.

## THRICOMIGUS LUTEUS Horn.

Helena, Montana, April 26 (Hubbard and Schwarz).

## Genus PANSCOPUS Schönherr.

## PANSCOPUS ERINACEUS Say.

Buffalo, New York; Washington, District of Columbia; Berkeley, West Virginia; Lee County, Virginia; Round Knob, North Carolina; Detroit, Michigan, June (Hubbard and Schwarz).

## PANSCOPUS ALTERNATUS Schaeffer.

This species is not represented.

## Genus NOMIDUS Casey.

## NOMIDUS ABRUPTUS Casey.

This species is not represented.

## Genus PHYMATINUS LeConte.

## PHYMATINUS GEMMATUS LeConte.

Astoria, Oregon, May 25; Portland, Oregon, May 22 (Hubbard and Schwarz).

## Genus NOCHELES Horn.

## NOCHELES TORPIDUS LeConte.

Portland, Oregon, May 22; Alta, Utah, June 29.

## NOCHELES ÆQUALIS Horn.

Montana; Green River, Wyoming; National Park, Wyoming, August 1 (Hubbard and Schwarz); Nevada.

## NOCHELES VESTITUS Casey.

Not represented.

## Group PHYXELES.

## Genus PHYXELIS Schönherr.

## PHYXELIS RIGIDUS Say.

Marion, Massachusetts, July; Deer Park, Maryland, July 4; Washington, District of Columbia; Fort Pendleton, West Virginia, July 8 (Hubbard and Schwarz); Round Knob, North Carolina, June 28; Toronto, Ontario (R. J. Crew); Detroit, Michigan (Hubbard and Schwarz); Chicago, Illinois; Bloomington, Illinois, April 4; Iowa (Wickham).

## Tribe OTIORHYNCHINI.

## Genus AGRAPHUS Schönherr.

## AGRAPHUS BELLICUS Say.

Creseent City, Florida; Capron, Florida, April 11; Tampa, Florida, April 29; Cedar Keys, Florida, June 29.

## Genus OTIORHYNCHUS Germar.

## OTIORHYNCHUS SULCATUS Fabricius.

Isle au Haut, Maine, August (Wickham); Cambridge, Massachusetts, March, April; Peekskill, New York, April 20 (Hubbard and Schwarz); Toronto, Canada, August 25 (R. J. Crew); Departure Bay, Vancouver (Wickham).

## OTIORHYNCHUS OVATUS Linnæus.

Hampton, New Hampshire, February 28 (S. A. Shaw); Hanover, New Hampshire (C. M. Weed); Fitchburg, Massachusetts, June; Cambridge, Massachusetts (Hubbard and Schwarz); Boston, Massachusetts, June 5 (Ormonde); Marion, Massachusetts, July; Hartford, Connecticut; Buffalo, New York; Flatbush, New York, July 10 (J. L. Zabriskie); Long Island, New York; Illion, New York (A. H. Weeks); New Jersey; Toronto, Ontario (R. J. Crew); Port Hope, Ontario (Bethune); Detroit, Michigan, May 28, June 4 (Hubbard and Schwarz); Bloomington, Illinois, April 20; Independenece, Iowa, August; Iowa City, Iowa, April 29 (Wickham); Laramie, Wyoming, June 14; Santa Fe, New Mexico, July (Cockerell).

## OTIORHYNCHUS RUGIFRONS Gyllenhal.

New Jersey; Fredericksburg, Virginia, July 19 (Richardson); Toronto, Ontario (Wickham); Bethlehem, Pennsylvania.

## OTIORHYNCHUS MAURUS Gyllenhal.

This species is not represented from North America.

## OTIORHYNCHUS MONTICOLA Germar.

This species is not represented from North America.

## Genus SCIOPITHES Horn.

## SCIOPITHES OBSCURUS Horn.

I regard Colonel Casey's species *significans*,<sup>1</sup> *brumalis*,<sup>2</sup> *arcuatus*,<sup>3</sup> and *angustulus*<sup>4</sup> as one species, synonymous with *obscurus* Horn. They can not be separated by distribution, as is shown by the following records: Victoria,<sup>1,2</sup> Vancouver (Wickham); Tenino,<sup>1,3,4</sup> Washington; Ilwaco,<sup>3</sup> Washington, May 26, (Hubbard and Schwarz); Seattle,<sup>3</sup> Washington (S. Bethel); Astoria,<sup>1,2,3</sup> Oregon, May 24 (Hub-

bard and Schwarz); Corvallis,<sup>1</sup> Oregon (Wickham); Portland,<sup>4</sup> Oregon, May 23 (Hubbard and Schwarz); Eureka,<sup>1,3</sup> California, June 4 (H. S. Barber); Marin County,<sup>1</sup> California, August; Sacramento County,<sup>1</sup> California, February 12, on strawberry (M. Cook); San Mateo County,<sup>1</sup> California, August; Little River,<sup>2,3</sup> California, May 31 (Barber); Fieldbrook,<sup>3</sup> California, May 26 (Barber); Humboldt County,<sup>4</sup> California, June 19 (Barber). Those collected in the same series seem to be all one species with but slight color variation, but differing sufficiently in the relative lengths of the antennal joints to run to the different species in Colonel Casey's table.

SCIOPITHES SETOSUS Casey.

I also doubt the wisdom of separating this form from the preceding species: Humboldt County, California, June 19; Eureka, California, May 24, June 7 (H. S. Barber).

Genus AGRONUS Horn.

AGRONUS CINERARIUS Horn.

Lake Tahoe, California, July 8 (Hubbard and Schwarz); Siskiyou County, California, July; Tallac, California, July 11 (A. Fenyés).

AGRONUS DECIDUUS Horn.

Mount Shasta, California (Hubbard and Schwarz).

Genus NEOPTOCHUS Horn.

NEOPTOCHUS ADSPERSUS Boheman.

Lake Harney, Florida, May 7; Cedar Keys, Florida, June 5; Citrus County, Florida, July 25; Crescent City, Florida; Tampa, Florida, April 1 (Hubbard and Schwarz).

Genus PARAPTOCHUS Seidlitz.

PARAPTOCHUS SELLATUS Boheman.

North Bend, British Columbia, June 6; Hood River, Oregon, May 21 (Hubbard and Schwarz).

Genus STENOPTOCHUS Casey.

STENOPTOCHUS INCONSTANS Casey.

This species is not represented.

Genus ORTHOPTOCHUS Casey.

ORTHOPTOCHUS SQUAMIGER Casey.

This species is not represented.

Genus MYLACUS Schönherr.

MYLACUS SACCATUS LeConte.

Spokane Falls, Washington (Hubbard and Schwarz); Easton, Washington (Koebele).

Genus *THRICOLEPIS* Horn.*THRICOLEPIS INORNATA* Horn.

Mill Creek, Utah, June 16; Salt Lake, Utah, June 13-15; American Fork Canyon, Utah, June 21; Alta, Utah, June 28 (Hubbard and Schwarz); Wasatch Mountains, Utah, June 20; Provo, Utah (Wickham); Ojai Valley, Colorado; Veta Pass, Colorado, June 27 (Hubbard and Schwarz); Ouray, Colorado, July 1 (Wickham); Pagosa Springs, Colorado (E. J. Osler); Tenino, Washington; Los Gatos, California (Hubbard and Schwarz); Santa Clara County, California, May; Los Angeles County, California; Arizona (Morrison); Williams, Arizona, May 31, June 9; Flagstaff, Arizona, July 5; Prescott, Arizona, June 20 (Barber and Schwarz); Chiricahua Mountains, Arizona, June 24 (Hubbard and Schwarz).

*THRICOLEPIS SIMULATOR* Horn.

California; Arizona.

Genus *PERITELOPSIS* Horn.*PERITELOPSIS GLOBIVENTRIS* LeConte.

This species is not represented.

Genus *PERITELODES* Casey.*PERITELODES OBTECTUS* Casey.

This species is not represented.

Genus *PERITELINUS* Casey.*PERITELINUS VARIEGATUS* Casey.

This species is not represented.

Genus *GEODERCES* Horn.*GEODERCES MELANOTHRIX* Kirby.

Michipicoten Island, Lake Superior, July; Gargantua, Lake Superior, August; White Fish Point, Lake Superior; Marquette, Michigan, July 10 (Hubbard and Schwarz); Bayfield, Wisconsin (Wickham); Departure Bay, Vancouver; Massett, Queen Charlotte Islands, British Columbia (J. H. Keen).

*GEODERCES INCOMPTUS* Horn.

North Bend, British Columbia, June; Victoria, Vancouver, June 2; Tenino, Washington; Iwaco, Washington, May 26; Astoria, Oregon, May 25 (Hubbard and Schwarz); Alameda County, California, January, April, October.

*GEODERCES PUNCTICOLLIS* Casey.

This species is not represented.

Genus *GEODERCODES* Casey.*GEODERCODES LATIPENNIS* Casey.

This species is not represented.

Genus *ARAGNOMUS* Horn.*ARAGNOMUS GRISEUS* Horn.

Montana; Garland, Colorado, June 25; Salem, Oregon, on pear, May 19; Placer County, California, June, September, October; Sacramento County, California, February; Los Angeles County, California, April; Siskiyou County, California; Bright Angel, Arizona, July 10 (Barber and Schwarz).

*ARAGNOMUS HISPIDULUS* Casey.

Los Angeles County, California, April, July.

Genus *DYSTICHEUS* Horn.*DYSTICHEUS INSIGNIS* Horn.

This species is not represented.

Genus *EUCYLLUS* Horn.*EUCYLLUS VAGANS* Horn.

Riverside, Arizona; Gila Bend, Arizona; Lancaster, California, August 10 (Wickham); Mojave, California (Soltau); Barstow, California.

Genus *THINOXENUS* Horn.*THINOXENUS SQUALENS* Horn.

This species is not represented.

*THINOXENUS NEVADENSIS* Casey.

Laramie, Wyoming, February 28 (Soltau).

Genus *RHYPODES* Horn.*RHYPODES DILATATUS* Horn.

Los Angeles County, California; Alameda County, California.

*RHYPODES BREVICOLLIS* Horn.

Garland, Colorado.

Genus *CERCOPEUS* Schönherr.*CERCOPEUS CHRYSORRHŒUS* Say.

New York; Washington, District of Columbia, April 10; Afton, Virginia; Ann Arbor, Michigan; Detroit, Michigan (Hubbard and Schwarz); Cadet, Missouri, April 13 (J. G. Barlow).

Genus *CHÆTECHUS* Horn.*CHÆTECHUS SETIGER* Horn.

Brookline, Massachusetts.

Genus *TRACHYPHLÆUS* Germar.*TRACHYPHLÆUS ASPERATUS* Boheman.

Cadet, Missouri, June 9 (Barlow); St. Louis, Missouri, May 16 (Soltan); Onaga, Kansas, April 17 (Crevecoeur); Lincoln, Nebraska (Bruner).

Genus *PANORMUS* Casey.*PANORMUS SETOSUS* Casey.

This species is not represented.

Tribe *DIROTOGNATHINI*.Genus *DIROTOGNATHUS* Horn.*DIROTOGNATHUS SORDIDUS* Horn.

Tucson, Arizona, January 13 (Hubbard and Schwarz).

Tribe *TANYMECINI*.Genus *PACHNÆUS* Schönherr.*PACHNÆUS OPALUS* Olivier.

Key West, Florida, April 6 (Schwarz) (Hubbard and Schwarz); June 17–July 1 (Wickham); Biscayne, Florida, May 11 (Hubbard and Schwarz); Florida (Ashmead).

*PACHNÆUS DISTANS* Horn.

Southern Pines, North Carolina (R. W. Collett); Wilmington, North Carolina (W. F. Wenzel); Crescent City, Florida; Lake Poinsett, Florida, May 1; Cedar Keys, Florida, June 6; Enterprise, Florida, June 9; Tampa, Florida, April 25; Bartow, Florida, July 16 (Hubbard and Schwarz).

Genus *TANYMECUS* Schönherr.*TANYMECUS LACÆNA* Herbst.

Biscayne, Florida, May 8; Indian River, Florida; Jupiter, Florida, April 24 (Hubbard and Schwarz); Enterprise, Florida, May 26 (Hubbard and Schwarz, and Wickham); Miami, Florida; Capron, Florida.

*TANYMECUS CONFERTUS* Gyllenhal.

Washington, District of Columbia, June 6; Fort Monroe, Virginia, April 19 (Hubbard and Schwarz); Pennsylvania; Tennessee; Kentucky (Sanborn); southern Illinois; Iowa City, Iowa (Wickham);

Cadet, Missouri, June 9 (Barlow); Nebraska; Winnipeg, Manitoba; Williston, North Dakota, June 8; Glendive, Montana (Wickham); Eddyville, Idaho; South McAlester, Oklahoma, June 11 (Wickham); Bayou Sara, Louisiana (Hubbard and Schwarz); Columbus, Texas, May 22 (Hubbard and Schwarz, Wickham); Gainesville, Texas, April 11 on *Enothera*; Brownsville, Texas, July, September 16 (Wickham, Townsend); Cameron County, Texas, September.

Genus HADROMERUS Schönherr.

HADROMERUS OPALINUS Horn.

Arizona.

Genus MINYOMERUS Horn (PSEUDELISSA Casey).

MINYOMERUS INNOCUUS Horn.

This species is not represented.

MINYOMERUS LANGUIDUS Horn (PSEUDELISSA CINEREA Casey).

El Paso, Texas, July 8; Deming, New Mexico, July 11; Gallup, New Mexico; Peach Springs, Arizona, August 25 (Wickham); Winslow, Arizona (Hubbard and Schwarz, Wickham).

Genus ELISSA Casey.

ELISSA LATICEPS Casey.

El Paso, Texas, July 8 (Wickham); Tucson, Arizona, January 13 (Hubbard and Schwarz).

Genus PANDELETEIUS Schönherr.

PANDELETEIUS CAVIROSTRIS Schaeffer.

Brownsville, Texas, May 10, 29, June 9 (Barber, Schwarz, Townsend).

PANDELETEIUS OVIPENNIS Schaeffer.

Brownsville, Texas, May 24 on *Celtis* (Barber).

PANDELETEIUS ROTUNDICOLLIS Fall.

Chiricahua Mountains, Arizona, June 30 (Hubbard and Schwarz).

PANDELETEIUS SIMPLARIUS Fall.

Fort Grant, Arizona, July 13; Oracle, Arizona, July 9-14 (Hubbard and Schwarz); Prescott, Arizona, June 19 (Barber and Schwarz).

PANDELETEIUS HILARIS Herbst.

Toronto, Ontario (Wickham); Boston, Massachusetts, June 4 (Ormonde); Cambridge, Massachusetts (Hubbard and Schwarz); Staten Island, New York; Buffalo, New York; Pennsylvania (Riley); Washington, District of Columbia, June 27; Pennington Gap,

Virginia; Ross County, Ohio (Hubbard and Schwarz); Heyworth, Illinois, September 2 (Wolcott); Iowa City, Iowa, June 18 (Wickham); Missouri (Riley); Houston, Texas (Wickham); Enterprise, Florida, June 8, 11, 12, 15 (Hubbard and Schwarz).

**PANDELETEIUS ROBUSTUS** Schaeffer.

Santa Rita Mountains, Arizona, May 27, June 5; Chiricahua Mountains, Arizona, June 2 (Hubbard and Schwarz); Las Vegas Hot Springs, Arizona, August 12; Williams, Arizona, May 31, June 2, 11, July 19 on *Quercus gambelii*; Colorado Springs, Colorado, June 15-30, June 15-30 (Wickham); American Fork Canyon, Utah, June 5 (Hubbard and Schwarz).

**PANDELETEIUS CINEREUS** Horn.

Dallas, Texas (Boll); New Mexico (J. B. Smith); Arizona (Morrison).

**PANDELETEIUS SUBTROPICUS** Fall.

Key West, Florida, April 2 (Hubbard and Schwarz).

**PANDELETEIUS SUBMETALLICUS** Schaeffer.

Chiricahua Mountains, Arizona, July 4 (Hubbard and Schwarz); Walnut, Arizona (Wickham); Bright Angel, Arizona, July 12 (Barber and Schwarz); Los Angeles County, California, July (Coquillett).

Tribe **CYPHINI**.

Genus **COMPSUS** Schönherr.

**COMPSUS AURICEPHALUS** Say.

Natchez, Mississippi (Wickham); Arkansas; Brownsville, Texas, June 7 (Hubbard and Schwarz, Townsend); Columbus, Texas, July 22; San Diego, Texas, April 3 (Hubbard and Schwarz, Schwarz); Uvalde, Texas, June 18; New Braunfels, Texas, July 25; Cameron County, Texas, August (Wickham).

Genus **CYPHUS** Germar.

**CYPHUS LAUTUS** LeConte.

This species varies considerably in color, but I can find no other differences. Specimens with bluish hue are from New Mexico (Snow); Catalina Mountains, Arizona; Santa Rita Mountains, Arizona (Soltau). Specimens with a purplish hue come from Fort Grant, Arizona, July 20 (Hubbard and Schwarz); Bright Angel, Arizona, July 12 (Barber and Schwarz). Those with brownish hue are from Peach Springs, Arizona (Wickham). Grayish specimens come from Yuma, Arizona, March (H. Brown); Arizona (Morrison). Some yellowish specimens are labeled Arizona (through C. V. Riley). Specimens from the same locality seem to be consistently colored.

## CYPHUS PLACIDUS Horn.

Yuma, Arizona (H. Brown).

Genus PSEUDOCYPHUS Schaeffer.

PSEUDOCYPHUS FLEXICAULIS Schaeffer.

Brownsville, Texas (Wickham).

Genus BRACHYSTYLUS Schönherr.

BRACHYSTYLUS ACUTUS Say.

New York; Washington, District of Columbia, May 22; Kentucky; Cadet, Missouri, June 11 on persimmon (J. G. Barlow).

Genus ARTIPUS Schönherr.

ARTIPUS FLORIDANUS Horn.

St. Lucie, Florida, April 20; Jupiter, Florida, April 24; Indian River, Florida; Haulover, Florida, March 17; Lake Worth, Florida, June 4 (Hubbard and Schwarz); Key West, Florida, January 3, 4 (Knab), June 17–July 1 (Wickham); Biscayne, Florida; Dry Tortugas, Florida, June 7 (Wickham); Florida (Ashmead); Palm Beach, Florida (Dyar).

Genus ARAMIGUS Horn.

ARAMIGUS TESSELATUS Say.

Palm Beach, Florida; Texas (Hubbard and Schwarz); Atoka, Oklahoma, June 13 (Wickham); Albuquerque, New Mexico (Wickham); Clay County, Kansas; Gove County, Kansas (Snow); West Point, Nebraska, July (Bruner).

ARAMIGUS FULLERI Horn.

Worcester, Massachusetts, April 11 on *Azalea* and *Cissus* (C. W. Minot); Jersey City Heights, New Jersey, December 26, bad on roses (P. Henderson); Mount Airy, Georgia, September 2 (Hubbard and Schwarz); Iowa City, Iowa, December 22 (Wickham); Pasadena, California, July 21 (Fall); San Diego, California (Hubbard and Schwarz).

Genus PHACEPHOLIS Horn.

PHACEPHOLIS ELEGANS Horn.

This is another variable species in color which apparently can not be divided on a structural basis. *Ph. viridis* Chittenden is the most brilliant green form, (cotypes) San Antonio, Texas, May 21, on fruit trees (Hunter). Other green forms are from Onaga, Kansas, June 27 (Crevecoeur); Lavaca County, Texas, June 21 (Hubbard and Schwarz); San Diego, Texas, May 5 (Schwarz). Forms varying from gray to brown are from Corpus Christi, Texas, May 12; San Diego, Texas,

May 9 (Schwarz); Brownsville, Texas, April 12 (Townsend); Beeville, Texas, April 30 (Marlatt).

PHACEPHOLIS OBSCURUS Horn.

Kansas; Fort Collins, Colorado, April 24 (Soltau).

PHACEPHOLIS CANDIDA Horn.

West Kansas (Popenoe); Pueblo, Colorado (Hubbard and Schwarz).

Genus ACHRASTENUS Horn.

ACHRASTENUS GRISEUS Horn.

Houston, Texas, March 29.

Genus APHRASTUS Schönherr.

APHRASTUS TÆNIATUS Gyllenhal.

Fitchburg, Massachusetts, June (Hubbard and Schwarz); Marion, Massachusetts, July (Wickham); Lawrence, Massachusetts (King); New York; New Jersey; Washington, District of Columbia, June 27 (Hubbard and Schwarz); Pennington Gap, Virginia, July 2 (Hubbard and Schwarz); Heyworth, Illinois, June 14 (Wolcott).

APHRASTUS UNICOLOR Horn.

Laredo, Texas, May 28; San Diego, Texas, May 31.

Tribe EVOTINI.

Genus LACHNOPUS Schönherr.

LACHNOPUS FLORIDANUS Horn.

Key West, Florida, April (Hubbard and Schwarz), June 17 (Wickham).

Genus OMILEUS Horn.

OMILEUS EPICÆROIDES Horn.

Columbus, Texas, June 17; Jacksonville, Texas, April 9.

Genus EVOTUS LeConte.

EVOTUS NASO LeConte.

Dakota; Kalispell, Montana, June 13; Priest River, Idaho, June 21 (Wickham); Washington (Morrison); Easton, Washington; Oregon (Koebele); Hood River, Oregon, May 20 (Hubbard and Schwarz).

Tribe PHYLLOBIINI.

Genus PHYLLOBIUS Germar.

PHYLLOBIUS GLAUCUS Scopoli (CALCARATUS Fabricius).

This is not represented from North America.

Genus STROPHOSOMUS Stephens.

STROPHOSOMUS CORYLI Fabricius.

Montreal, Canada, August 10.

Genus *SCIAPHILUS* Stephens.*SCIAPHILUS MURICATUS* Fabricius.

Bangor, Maine (Hubbard and Schwarz); Brattleboro, Vermont; Hanover, New Hampshire (Weed); West Roxbury, Massachusetts, June 17.

Genus *POLYDROSUS* Germar (*CYPHOMIMUS* Horn).*POLYDROSUS AMERICANUS* Gyllenhal (*CYPHOMIMUS DORSALIS* Horn).

Toronto, Ontario (R. J. Crew); Otsego County, New York; Buffalo, New York (Hubbard and Schwarz); Fort Pendleton, West Virginia, July 10; Oakland, Maryland, July 11; Cincinnati, Ohio; Ann Arbor, Michigan; Grand Ledge, Michigan, July 11 (Hubbard and Schwarz); Onaga, Kansas (Crevecoeur).

*POLYDROSUS OCHREUS* Fall (*CYPHOMIMUS*).

This species is not represented.

*POLYDROSUS DELICATULUS* Horn (*SCYTHROPUS*).

Cotypes, San José del Cabo, Lower California.

*POLYDROSUS PENINSULARIS* Horn.

This species is not represented.

*POLYDROSUS IMPRESSIFRONS* Gyllenhal.

Geneva, New York, June 18 (W. J. Schoene).

Apparently accidentally introduced from Europe.

Genus *SCYTHROPUS* Schönherr.*SCYTHROPUS CALIFORNICUS* Horn.

Sacramento County, California, February (Koebele); Placer County, California, April (Van Dyke); Contra Costa County, California (Coquillett).

*SCYTHROPUS FERRUGINEUS* Casey.

Los Gatos, California (Hubbard and Schwarz); Humboldt County, California, June 13; Eureka, California (H. S. Barber); Oregon (Koebele).

*SCYTHROPUS CRASSICORNIS* Casey.

This species is not represented.

*SCYTHROPUS LATERALIS* Casey.

This species is not represented.

*SCYTHROPUS ELEGANS* Couper.

Lawrence, Massachusetts; Charlemont, Massachusetts, April; Durham, New Hampshire (Weed and Fiske); Trenton, Ontario (Evans); Canada (Pettit); Helena, Montana, April 26 (Hubbard and Schwarz); Tenino, Washington; Banff Springs, Alberta, June 10 (Hubbard and Schwarz).

## SCYTHROPUS CINEREUS Casey.

This species is not represented.

## SCYTHROPUS ALBIDUS Fall.

Portland, Oregon; Beaver Canyon, Idaho; Humboldt County, California, June 19; Eureka, California, June 4 (H. S. Barber).

## SCYTHROPUS MISCIX Fall.

Cotype, Sacramento County, California; Easton, Washington (Koebele); Helena, Montana, May 5 (Hubbard and Schwarz).

## Genus MITOSTYLUS Horn.

## MITOSTYLUS TENUIS Horn.

Dallas, Texas; Wades, Texas, May 22; San Diego, Texas, June 13 (Hubbard and Schwarz); Beeville, Texas, April 30 (Marlatt), April 22 (Schwarz).

## MITOSTYLUS GRACILIS Horn.

Cotypes, San Jose del Cabo, Lower California.

## Tribe PROMECOPINI.

## Genus COLEOCERUS Schönherr.

## COLEOCERUS DISPAR LeConte.

Tucson, Arizona, July 21 (Hubbard and Schwarz, Wickham).

## COLEOCERUS MARMORATUS Horn.

Dallas; San Diego; New Braunfels, June 16; Beeville; San Antonio; Brownsville; Uvalde, June 18; Point Isabel; and Sharpsburg, Texas.

## Genus ARACANTHUS Schönherr.

## ARACANTHUS PALLIDUS Say.

Illinois (Wickham); Louisville, Kentucky, July 17; Memphis, Tennessee, March 12 (Soltau); St. Louis, Missouri (Schuster).

## Genus EUDIAGOGUS Schönherr.

## EUDIAGOGUS PULCHER Fabricius.

Orange County; Enterprise; Green Cove Springs and Crescent City, Florida; Columbus, May 19; Cuero and Brownsville, Texas.

## EUDIAGOGUS ROSENSCHÆLDI Fahræus.

Mobile, Alabama; Pascagorda and Natchez, Mississippi; Bayou Sara, Louisiana; Columbus and Houston, Texas.

## Genus PROMECOPS Schönherr.

## PROMECOPS ARCUATA Fabricius (NUBIFERA Gyllenhal).

This species is not represented.