

## THE COLEOPTERA OF BAJA CALIFORNIA.

BY GEORGE H. HORN.

Our earliest knowledge of the Coleoptera of the Peninsula of California was obtained from a collection made by John Xantus de Vesey during 1859 and 1860, which, after its deposit in the Smithsonian Institution, was divided between Mr. H. Ulke and Dr. J. L. LeConte. The series was said to contain about 500 species, of which Dr. LeConte admits having seen 114. It is highly probable that Xantus greatly overestimated the species collected as the accompanying list is less than 700, many of which are new.

A few years later a small collection was made by the late W. M. Gabb, who, with some associates of the Geological Survey of California, visited parts of the peninsula. Unfortunately the localities from which this collection was obtained were not specified, although many are now ascertained through the collection under consideration.

No definite localities are known for the Xantus collections and all the species heretofore described are stated to be from Cape St. Lucas. It is now determinable that this material was obtained in the region between San José del Cabo and La Paz.

The collection submitted to me by the California Academy of Sciences is by far the largest aggregate of material from Baja California submitted for scientific study and includes within five per cent. all the species known to have occurred in that region, together with a good number of new forms and some hitherto known only from the adjacent mainland of Mexico. To the expeditions from the Academy in the last five years we are indebted for this increase of our knowledge of the coleopterous fauna

of the region, the most important series being that collected in 1893 in the region around San José del Cabo by Dr. Gustav Eisen.

The present study enabled me to confirm the views expressed by Messrs. Baird, Cope and LeConte, and, at the same time, to correlate details of distribution so that we come more nearly in accord with the botanical indications.

It seems to me unnecessary to repeat the geographical details of the peninsula, as they have been so clearly demonstrated by Mr. Brandegee in vol. ii of these Proceedings. In order that remarks to be made in this paper may be understood without reference to those of Mr. Brandegee, it may be stated that the peninsula is a narrow strip of land about 700 miles long, running in a south-southeasterly direction from the southern boundary of California, varying greatly in width, although in a general way narrowing from north to south. Through the axis runs a chain of mountains of a general elevation of 3,000 to 4,000 feet. The western slope is bordered by the Pacific Ocean, the eastern by the Gulf of California.

I have had occasion to note in speaking of the fauna of Guadalupe Island that the cold arctic current, which skirts the western shore of the North American continent, tends to render the insect fauna of the coast region very nearly uniform as far south as Point Conception, where the bluff coast and the rather abrupt eastern trend of the coast line deflect the current, or rather the coast recedes from the current, the climate becomes warmer and many interior species reach the coast. The western coast of the peninsula continues the general trend of the coast line from Santa Barbara, so that no portion of it seems to come within the influence of the Arctic current. On the eastern or gulf coast, the mountains and foothills

approach the water and the entire region is comparatively barren with but few springs or water holes and is not unlike many parts of Arizona.

The most interesting and characteristic part of the peninsula is that called appropriately the Cape Region and which Mr. Brandegee defines as follows: "By the 'Cape Region' is meant that part of the peninsula south [east] of a line drawn along the northern [western] base of the mountains from Todos Santos to La Paz." The brackets in the above quotation are my own, as the maps show that the line from Todos Santos to La Paz is a north and south line.

As might be inferred, the coleopterous fauna of the San Diego region extends southward along the ocean side of the peninsula, with no striking admixture of species new or foreign to it. There are, however, long reaches of the coast region not yet visited.

From the northern end of the peninsula, nearly midway between the gulf and sea coasts and about 100 miles south of the political boundary line of California, an interesting series of 65 species has been sent me from the region of the San Pedro Martir Mountains, showing a very decided relationship with the fauna of the regions of Los Angeles and Santa Barbara.

The fauna of the gulf coast region indicates a decided relationship with and in fact is a continuation of the fauna of Arizona and the Colorado Desert, quite a number of the species extending to the lower Rio Grande of Texas, and a few species have been recognized as identical with those of the northern states of Mexico.

The Cape Region is by far the most interesting and peculiar, from the fact that we have the greatest number of new forms with a decidedly tropical aspect and relationship. This region could be excluded from the Boreal

American fauna and be considered as belonging to that of Central America.

Although politically a portion of the Republic of Mexico, the editors of *Biologia Centrali-Americana* have not considered the region as properly within their province by reason of the strong claims made for it as a part of the faunal region of our southwest.

The following pages consist of two distinct parts—a catalogue of all the species known to me as having been collected in Baja California, followed by descriptions of new species or comments on new occurrences.

The catalogue is a systematic one, following the order of the families of our most recent lists. Following each species is a list of localities, giving the general distribution as far as known to me, and in each case the special localities as given by the collectors. A certain number of species are from unknown localities; those of the Xantus series are quoted as from "Cabo San Lucas." In the case of a few in Mr. Ulke's cabinet, and not elsewhere represented, they are quoted "Baja California (Ulke)." The greater part of the latter are doubtless from the Cape Region, but species are among them collected south of San Diego.

The descriptive part contains descriptions of new species. The names appear in their proper places in the list, but the descriptions have been separated, so that the catalogue will not be broken up irregularly.

By the kind permission of the Publication Committee of the Academy, I have added descriptions of a number of new species either from adjacent regions or by reason of their relationship to those included by right in the paper.

I must at this time acknowledge the assistance rendered by Mr. H. Ulke of Washington, in completing the

enumeration of the species collected by Xantus and not otherwise recorded.

Of the localities referred to the following are in the Cape Region of Baja California: San José del Cabo, Cabo San Lucas, La Paz, Pescadero, Todos Santos, Santa Anita, Miraflores, La Joya, La Chuparosa, Coral de Piedras, Sierra Laguna, Sierra El Chinche, Sierra El Taste, San Francisquito, Santo Domingo del Taste.

The following places are in Baja California north of the Cape Region: Magdalena Bay, Patrocinio, El Rosario, Comondu, Calmalli Mines, Calamajuet, San Estaban, Baja Purisima, San Julio, El Paraiso, San Quintin, San Luis, San Raymundo, San Borja, San Fernando, Santa Maria, San Ignacio, Guadalupe Island, San Jorge, San Pedro Martir, San José de Gracia, Santa Margarita Island, El Rancho Viejo.

#### CICINDELIDÆ.

*TETRACHA CAROLINA* Linn. Atlantic and Gulf coasts of United States and Mexico, west coast of Mexico; Baja California, from Fort Yuma to San José del Cabo.

*CICINDELA LATESIGNATA* Lec. San Diego, Cal., south to San Quintin.

*CICINDELA TRIFASCIATA* Fab. (*sigmoidea* Lec.) Florida to Texas and Arizona, southern California. Baja California (LeConte).

*CICINDELA PUSILLA* Say. Montana and Dakota westward to Owens Valley, Cal., and southward. San Pedro Martir Mountains.

*CICINDELA HÆMORRHAGICA* Lec. San Diego, Cal., extending in a general northerly direction to the headwaters of the Yellowstone, and along the Pacific coast of the peninsula to El Rosario. Very variable.

*CICINDELA HENTZII* Dej. This with *16-punctata*, *rufiventris* and *cumatilis* apparently constitute one species with variation similar to the preceding. It occurs from Massachusetts in a general southwesterly direction to Utah, Texas and Arizona; in the peninsula at San José del Cabo.

*CICINDELA PRÆTEXTATA* Lec. New Mexico, Texas, Arizona; in peninsula at San José del Cabo.

*CICINDELA LEMNISCATA* Lec. Texas, Arizona; in the peninsula at San José del Cabo and La Paz.

CARABIDÆ.

*CALOSOMA PROMINENS* Lec. Western Arizona, southern Mojave region, northern Sonora. El Taste.

*CALOSOMA PEREGRINATOR* Guer. (*carbonatum* Lec.) New Mexico, Arizona, southern California, northern and middle Mexico. El Taste.

*SCARITES SUBTERRANEUS* Fab. var. *CALIFORNICUS* Lec. From Texas, whence Chaudoir has called it *texanus*, through Arizona, southern California. Comondu.

*SCHIZOGENIUS PLURIPUNCTATUS* Lec. Fort Yuma and vicinity. San Julio and Patrocinio. This species is remarkable in the large number of lateral thoracic setæ, two being the usual number.

*SCHIZOGENIUS DEPRESSUS* Lec. Riverside, Ariz.; Fort Yuma, Cal. San Esteban.

*CLIVINA FERREA* Lec. Illinois, Texas, Arizona. San José del Cabo, El Taste.

*PANAGÆUS SALLEI* Chd. Camp Grant, Ariz., southward to Jalapa, Mex. El Taste, Sierra El Chinche. These specimens have the black transverse band of elytra darker than the Arizona specimens.

PACHYTELES TESTACEUS Horn. Camp Grant, Ariz. El Chinche 2,000 feet.

PACHYTELES PARCA Lec. Arizona. Sierra El Chinche and San José del Cabo.

MORIO GEORGIÆ Beauv. Gulf States, Arizona, extending through Mexico to South America and Antilles. Pescadero and Sierra El Chinche 2,000 feet.

BEMBIDIUM MEXICANUM Dej. *nevadense* Ulke. Oregon, Nevada, California, Utah, Arizona, southward to Guatemala. La Paz, El Taste.

BEMBIDIUM LUGUBRE Lec. *stabile* Lec. This species is probably merely a concolorous form of *erosum* Motsch. (*Mannerheimii* Lec.). Colorado, Utah, Arizona, southern California. Patrocínio.

BEMBIDIUM FLAVOPICTUM Motsch. (*pictum*). Region west of Mississippi River from Alaska to Arizona. Comondu.

BEMBIDIUM NUBICULOSUM Chd. *laticolle* Lec. Arizona, Fort Yuma, Cal. Comondu and Baja Purísima.

BEMBIDIUM DUBITANS Lec. Owens Valley and southward. Cabo San Lucas.

TACHYS CORAX Lec. Utah, Texas, Arizona. San José del Cabo.

TACHYS VORAX Lec. New Mexico, Texas, Owens Valley and southward, California, Arizona. San José del Cabo.

TACHYS AUDAX Lec. Owens Valley and southward, California. San José del Cabo.

PTEROSTICHUS PROTRACTUS Lec. Colorado, Utah, Nevada, middle California. San Pedro Martir.

*PTEROSTICHUS HORNII* Lec. Fort Yuma, Cal. San José del Cabo.

*PTEROSTICHUS SUBCORDATUS* Lec. New Mexico, Arizona, Fort Yuma, Cal. La Paz.

*PTEROSTICHUS SPLENDIDULUS* Lec. Fort Yuma, Cal. Pescadero.

*AMARA JACOBINÆ* Lec. Provo, Utah, Arizona, San Diego, Cal. San Pedro Martir.

*AMARA CALIFORNICA* Dej. Oregon southward to Arizona. San Pedro Martir.

*CALATHUS QUADRICOLLIS* Lec. Vancouver Island, through California to Arizona. San Pedro Martir.

*PLATYNUS BRUNNEOMARGINATUS* Mann. Vancouver southward to Arizona. La Joya.

*PLATYNUS EXTENSICOLLIS* Say. Widely distributed east of Rocky Mountains, Arizona, California. San José del Cabo.

*PLATYNUS CALIFORNICUS* Dej. Oregon and Washington, southward through Nevada and Arizona. San José del Cabo.

*PLATYNUS CYANOPIS* Bates. Arizona below Tubac, extending southward to Mexico City. San Julio.

*PLATYNUS FUNEBRIS* Lec. California, principally southern. El Paraiso.

*PLATYNUS MACULICOLLIS* Lec. Widely distributed in California. San Pedro Martir.

*PLATYNUS FOSSIGER* Dej. Oregon southward. San Pedro Martir.

*ANCHONODERUS APICALIS* n. sp. El Taste and Sierra Laguna.



CASNONIA PENNSYLVANICA Linn. Widely distributed over the entire United States. Coral de Piedra, La Paz and San José del Cabo.

TETRAGONODERUS FASCIATUS Hald. Atlantic States to Texas, Arizona and southern California. Cabo San Lucas. The specimens from the last three regions have the thorax slightly opaque and have been described under the name *undulatus* Lec.

CALLIDA RUGICOLLIS n. sp. Coral de Piedra, Sierra El Taste, Pescadero and San José del Cabo.

CALLIDA DECORA Fab. Florida to Texas. San José del Cabo.

LEBIA GRANDIS Hentz. Widely distributed over the Atlantic States, from Massachusetts southward to Texas and west to Colorado, Arizona. Sierra El Chinche.

LEBIA MAJUSCULA Chd. Western Texas, Arizona. San José del Cabo and El Taste.

LEBIA TESTACEA Lec. Texas. San José del Cabo.

LEBIA ANALIS Dej. Middle States to Texas. Coral de Piedra, Sierra El Taste, Pescadero.

APRISTUS LATICOLLIS Lec. Oregon, California, Utah. San José del Cabo.

APRISTUS SUBCYANEUS n. sp. Baja California, locality unknown.

PLOCHIONUS TIMIDUS Hald. Pennsylvania, Texas, California. San José del Cabo.

PINACODERA SULCIPENNIS Horn. La Paz.

PINACODERA SEMISULCATA Horn. With the preceding.

APENES NEBULOSA Lec. Camp Grant and Tucson, Ariz. San José del Cabo.

*PENTAGONICA PICTICORNIS* Bates. Differs from *pallipes* in its more oval elytra and by the pale elytral border being less sharply defined and becoming gradually broader toward the humeri. The under side of the body may be entirely piceous as in *pallipes* or the abdomen alone. In both species joints 2-3-4 of the antennæ are conspicuously pale, the first joint partly piceous. Camp Grant, Ariz. El Taste. Guatemala (Bates).

*BRACHYNUS LATERALIS* Dej. Missouri southward, Texas, Arizona, Fort Yuma, Cal. San José del Cabo.

*BRACHYNUS FIDELIS* Lec. Texas, Arizona. El Taste and La Chuparosa.

*BRACHYNUS TSCHERNIKHII* Mann. Widely distributed in California. San José del Cabo.

*BRACHYNUS CARINULATUS* Muls. Utah, California, Arizona. El Paraiso.

*CHLÆNIUS CURSOR* Chev. Southern California. Pescadero.

*CHLÆNIUS CUMATILIS* Lec. Yuma, Cal. San Esteban and San Julio.

*CHLÆNIUS LEUCOSCELIS* Chev. Utah, Arizona. El Taste.

*CHLÆNIUS OBSOLETUS* Lec. Southern California, Arizona. El Paraiso and San José del Cabo.

*CHLÆNIUS VARIABILIPES* Esch. Southern California. Baja California (Ulke).

*CHLÆNIUS TRICOLOR* Dej. Widely distributed in Atlantic region to Texas, Arizona. La Chuparosa.

*SELENOPHORUS PEDICULARIUS* Dej. Illinois to Texas, Colorado, Arizona. El Taste.

SELENOPHORUS PALLIATUS Fab. Florida to Texas and Arizona. San José del Cabo.

STENOLOPHUS OCHROPEZUS Say. Widely distributed in the Atlantic region, Arizona and southern California. San José del Cabo.

TACHYCELLUS NEBULOSUS Lec. Texas, Baja California (Ulke).

TACHYCELLUS NITIDUS Dej. British Columbia southward to Arizona. San José del Cabo and La Chuparosa. This species occurs also in Mexico from Orizaba southward, whence it is called *obsoletus* Say.

BRADYCELLUS RUPESTRIS Say. Variable in color and slightly in form. Known to me from every portion of Boreal America, except Alaska and the Hudson Bay region. La Chuparosa.

BRADYCELLUS RIVALIS Lec. Texas, Arizona, southern California. San Esteban.

BRADYCELLUS COGNATUS Gyll. Oregon, Washington, Utah, Colorado. San Pedro Martir.

ANISOTARSUS FLEBILIS Lec. Cabo San Lucas and San José del Cabo.

ANISOTARSUS BREVICOLLIS Chd. Southern Arizona. Mexico from Coahuila to Jalapa. La Chuparosa.

ANISOTARSUS MEXICANUS Dej. (*Anisodactylus arizonæ* Casey) extends from southern Arizona to Panama. El Taste and San Francisquito.

ANISODACTYLUS CONSOBRINUS Lec. Widely distributed in California, especially southward. San Pedro Martir.

ANISODACTYLUS POROSUS Mols. var. *RUDIS* Lec. From northern California southward, Nevada, New Mexico. San Pedro Martir.

## HALIPLIDÆ.

CNEMIDOTUS SIMPLEX Lec. Southern California. San José del Cabo.

## DYTISCIDÆ.

HYDROCANTHUS IRICOLOR Say. Illinois to Texas, Mexico. Santa Anita.

HYDROVATUS MAJOR Shp. Guatemala. Santa Anita. The identification is not certain. The description is so very brief as to make comparison necessary.

CANTHYDRUS LINEATUS Horn. Collected by Mr. Gabb in Baja California. Special locality unknown.

LACCOPHILUS DECIPIENS Lec. Vancouver southward. Baja California (Gabb).

LACCOPHILUS PICTUS Lap. Mexico from Puebla to Guatemala. Baja California (Gabb).

LACCOPHILUS TERMINALIS Shp. Texas, Fort Yuma, Guanajuato, Mexico. Baja California (Gabb).

DESMOPACHRIA DISPERSA Cr. Texas, Arizona. Baja California.

BIDESSUS CINCTELLUS Lec. Southern California, Riverside, Ariz. Baja California (Gabb).

BIDESSUS AFFINIS Say. Widely distributed. Vermont to Oregon, California, Arizona. Baja California (Gabb).

BIDESSUS AMANDUS Lec. Southern California and Arizona. San Esteban.

HYDROPORUS FUNEREUS Cr. Baja California.

HYDROPORUS ADDENDUS Cr. Arizona. Baja California.

HYDROPORUS VILIS Lec. Washington, Oregon, California, Arizona. La Joya.

*CÆLAMBUS MEDIALIS* Lec. Texas, Arizona, southern California. San Ignacio, Comondu and La Joya.

*DERONECTES STRIATELLUS* Lec. Colorado, Oregon, California. San Francisquito.

*COPELATUS CHEVROLATHI* Aubé. Oklahoma, Texas. Baja California.

*ILYBIOSOMA REGULARIS* Lec. Southern California. La Chuparosa.

*ERETES STICTICUS* Linn. Almost cosmopolitan in distribution. Texas, Coahuila, Mexico, southern California. Cabo San Lucas.

*RHANTUS ATRICOLOR* Aubé. Texas, Arizona, Upper Mexico. El Taste and San Francisquito.

*RHANTUS FLAVOGRISEUS* Crotch. Idaho, California, Arizona. Comondu and Guadalupe Island.

*RHANTUS BINOTATUS* Harris. Widely distributed from H. B. T. southward. San Esteban.

*HYDATICUS STAGNALIS* Fab. Very variable in coloration. Illinois westward to Vancouver, thence southward through California. San José del Cabo.

*THERMONECTES MARMORATUS* Hope. Texas, Arizona, Mexico, Jalapa to Honduras. Cabo San Lucas and San José del Cabo.

*THERMONECTES PENINSULARIS* n. sp. San José del Cabo.

*MEGADYTES FRATERNUS* Sharp. I have very little doubt of the correctness of the reference of the peninsular specimens to this species. The males have the anterior tarsi broadly dilated and without any large cupules; the smaller cupules are arranged in two transverse series. The female elytra are ornamented with closely-placed

elongate or scratchy punctures, except at apex and along the lateral margin.

In its facies this species superficially resembles our *Dytiscus fasciventris*, but beneath is entirely dark chestnut brown. Occurs in the Antilles, San Domingo, Demerara, South America, Guatemala. Cabo San Lucas and San José del Cabo.

CYBISTER ELLIPTICUS Lec. Southern California, Yuma and vicinity. Cabo San Lucas (fide Ulke.)

#### GYRINIDÆ.

DINEUTES SUBLINEATUS Aubé. Texas, Arizona, Mexico from Coahuila to Nicaragua. Cabo San Lucas.

GYRINUS PLICIFER Lec. Middle California, southward to Arizona. La Chuparosa.

GYRINUS PARCUS Lec. Oklahoma, Texas, Mexico to Nicaragua. La Chuparosa.

#### HYDROPHILIDÆ.

HELOPHORUS OBSCURUS Lec. Oregon and California southward. San Pedro Martir.

EPIMETOPUS COSTATUS Lec. Texas. San José del Cabo.

OCHTHEBIUS INTERRUPTUS Lec. Vancouver, Colorado, Arizona. Comondu.

HYDROPHILUS INSULARIS Cast. Texas, southern California, Mexico, Guatemala, Yucatan, Antilles.

It is possible that *triangularis* Say and *ater* Fab. may occur in the peninsula.

TROPISTERNUS LIMBALIS Lec. Oregon, California, Utah, Arizona. Cabo San Lucas.

**TROPISTERNUS LATERALIS** Fab. (*nimbatus* Say). Widely distributed in the Atlantic region to Texas, through the Antilles and Mexico to South America. San José del Cabo. The synonymy is on the authority of Dr. Sharp, who states that the species is very variable in the extent of the yellow border, as shown by specimens from the southern regions.

**TROPISTERNUS ELLIPTICUS** Lec. Utah, Texas, California, Arizona. San José del Cabo.

**TROPISTERNUS CALIFORNICUS** Lec. Oregon, Colorado, Utah, California. Cabo San Lucas.

**TROPISTERNUS NITENS** Cast. Mexico from Oaxaca south to Brazil. San Pedro Martir.

**TROPISTERNUS APICIPALPIS** Chev. Mexico from Jalapa to Costa Rica. Cabo San Lucas.

**HYDROCHARIS GLAUCUS** Lec. Southern California to Arizona. San Luis.

**BEROSUS RUGULOSUS** Horn. Arizona. San José del Cabo.

**BEROSUS MILES** Lec. Texas. Cabo San Lucas.

**LACCOBIUS ELLIPTICUS** Lec. Oregon, California, Arizona. San Pedro Martir and Cabo San Lucas.

**PHILHYDRUS NEBULOSUS** Say, var. **CRISTATUS** Lec. This species is distributed from Canada to Texas, Arizona and California. La Joya, San Ignacio.

**HELOCHARES NORMATUS** Lec. Southern California and Arizona. Baja Purisima and Cabo San Lucas.

**CYMBIODYTA DORSALIS** Mots. Southern California. San Pedro Martir.

*CRENIPHILUS INFUSCATUS* Mots. Lake Superior region westward to Oregon and south to San Diego. San Pedro Martir.

*CRENIPHILUS SUTURALIS* Lec. Maryland to Texas. San José del Cabo, San Esteban and Comondú.

*PHÆNONOTUM EXTRIATUM* Say. Illinois, Florida, Louisiana, Texas. Comondú.

SILPHIDÆ.

*SILPHA RAMOSA* Say. Oregon, California, Utah, Nebraska, New Mexico. San Pedro Martir.

STAPHYLINIDÆ.

*MASEOCHARA VALIDA* Lec. Southern California and Arizona. San José del Cabo.

*ALÆOCHARA NITIDA* Grav. Common in Europe and widely distributed in North America. Calmalli Mines.

*ALÆOCHARA SULCICOLLIS* Mann. California. Cabo San Lucas.

*GYROPHÆNA* sp. indet. Santo Domingo del Tase.

*HOMALOTA* sp. indet. San José del Cabo.

*STAPHYLINUS SAPHYRINUS* Lec. California, from north to Fort Yuma. San José del Cabo.

*STAPHYLINUS LUCANUS* n. sp. La Chuparosa.

*XANTHOPYGUS CACTI* Horn. Camp Grant, Ariz. La Chuparosa.

*BELONUCHUS EPHIPIATUS* Say. Texas, Arizona. Cabo San Lucas.

*BELONUCHUS XANTHOMELAS* Solsky. Dr. Sharp (Biol. Cent. Am., vol. i, pt. 2, p. 417) places this species in *Philonthus*, from the absence of spines on the hind fem-



ora. My specimens vary in this respect: the spines may be present or not, or there may be one or two on one femur and none on the other. The difference between *Belonuchus* and *Philonthus* is at most very slight. Occurs in Arizona and northern Mexico. Cabo San Lucas and San Francisquito.

*PHILONTHUS FLAVOLIMBATUS* Erichs. Gulf States, Arizona. Cabo San Lucas.

*PHILONTHUS POLITUS* Linn. (*æneus* Rossi). Abundant in Europe and Boreal America. San José del Cabo.

*PHILONTHUS INSTABILIS* Horn. Wyoming, Colorado, Utah, Mojave, Cal. La Chuparosa.

*PHILONTHUS ALUMNUS* Erichs. In its different varieties distributed on the Atlantic and Gulf regions, Antilles, Mexico, Texas, Arizona. San José del Cabo.

*PHILONTHUS QUADRULUS* Horn. Arizona. Cabo San Lucas.

*ACTOBIUS PÆDEROIDES* Lec. Utah, Texas, California, Arizona. San José del Cabo.

*ACTOBIUS ELEGANTULUS* Horn. Southern California, Arizona. Cabo San Lucas.

*CAFIUS SULCICOLLIS* Lec. Southern California, near San Diego. Magdalena Island.

*CAFIUS OPACUS* Lec. Southern California, sea coast. Baja California (LeConte.)

*XANTHOLINUS CEPHALUS* Say. Canada to Washington, Nevada, Colorado, Utah, California. San Julio.

*STENUS LUCULENTUS* Cas. Stockton, Cal. La Chuparosa.

*CRYPTOBIUM ARIZONENSE* Horn. Tucson, Ariz. San Esteban.

LATHROBIUM LITUARIUM Lec. Arizona. San José del Cabo.

LITHOCHARIS sp. indet. San José del Cabo.

STILICUS TRISTIS Mels. Middle States to Arizona. Pescadero.

PÆDERUS FEMORALIS Lec. Southern California, Arizona. Cabo San Lucas.

PÆDERUS GRANDIS Aust. Cabo San Lucas. Mr. Austin is in error in his localities.

PLATYSTETHUS AMERICANUS Erichs. Widely distributed in the Atlantic region, Texas, Arizona, southern California. San José del Cabo.

BLEDIUS sp. indet. Belongs to the *annularis* group. San José del Cabo.

#### SCAPHIDIIDÆ.

SCAPHISOMA APICALE n. sp. La Chuparosa.

SCAPHISOMA PENINSULARE n. sp. Sierra Laguna.

#### PHALACRIDÆ.

PHALACRUS OVALIS Lec. Nevada, California to Fort Yuma. San Jorge.

STILBUS OBTUSUS? Lec. Los Angeles, southward. Comondu.

#### CORYLOPHIDÆ.

SACIUM AMABILE Lec. Arizona. Coral de Piedra, Sierra El Taste.

#### COCCINELLIDÆ.

MEGILLA MACULATA DeGeer. Widely distributed in Boreal America. San José del Cabo.

HIPPODAMIA CONVERGENS Guér. Widely distributed in the west, Canada, Colorado, New Mexico, Utah, California. El Paraiso.

CYCLONEDA SANGUINEA Linn. Europe and North America. Comondu.

CYCLONEDA ABDOMINALIS Say. Kansas, Nebraska, Texas, California. Calmalli Mines and El Paraiso.

CYCLONEDA OCULATA Fab. Kansas, Texas, Oregon, California. El Paraiso.

THALASSA MONTEZUMÆ Muls. Mexico. San José del Cabo. *Thalassa* is not considered distinct from *Menoscelis* by recent authors.

HYPERASPIS UNDULATA Say. Eastern United States, Montana to Texas, California. El Taste.

PSYLLOBORA TÆDATA Lec. Oregon, southward through California and Arizona. The *P. vigintimaculata*, of which *tædata* is probably merely a variety, is widely distributed in the Eastern States. La Chuparosa and Baja Purisima.

EPILACHNA CORRUPTA Muls. Colorado, New Mexico, Texas, Arizona, extending into Mexico. San José del Cabo.

SCYMNUS sp. indet. Resembling *collaris* and *caudalis*. Calmalli Mines and El Paraiso.

#### EROTYLIDÆ.

LANGURITES LINEATUS Lap. Arizona, Mexico. Pescadero.

#### COLYDIIDÆ.

DITOMA SULCATA Lec. Camp Grant, Ariz. San Ignacio.

SOSYLUS DENTIGER Horn. El Taste. Santo Domingo, West Indies.

## CUCUJIDÆ.

SILVANUS SURINAMENSIS Linn. Distributed by commerce almost everywhere.

CATHARTUS ADVENA Walbl. Also widely spread.

SCALIDIA LINEARIS Lec. Texas, Arizona. San José del Cabo.

LÆMOPHLÆUS CEPHALOTES Lec. Southern California. San José del Cabo.

## MYCETOPHAGIDÆ.

TYPHCEA FUMATA Linn. Widely spread by commerce. San José del Cabo.

LITARGUS BALTEATUS Lec. Colorado, Texas, Arizona, southern California. Comodu, San Luis and San José del Cabo.

BERGINUS PUMILUS Lec. Fort Yuma, Cal. Margarita Island.

## DERMESTIDÆ.

DERMESTES VULPINUS Fab. Cosmopolitan.

DERMESTES FRISCHII Kug. Europe; coast of New Jersey. San José del Cabo and Comodu.

DEMESTES MANNERHEIMII Lec. California. San Ignacio.

ATTAGENUS HORNII Jayne. Utah, Texas, Arizona, California. Comodu.

TROGODERMA STERNALE Jayne. New Mexico, Texas, Arizona, California. Calmalli Mines.

TROGODERMA ORNATUM Say. Canada to California. Calmalli Mines.

CRYPTORHOPALUM HÆMORRHOIDALE Lec. Colorado, Texas, Arizona. El Paraiso and Comodu.

ANTHRENUS SCROPHULARIÆ Linn. var. LEPIDUS Lec.  
Widely distributed in Europe and North America, and  
very variable. San Julio.

HISTERIDÆ.

HOLEPTA YUCATECA Mars. Yucatan and northward  
in Mexico, Texas, Arizona, southern California. Sierra  
El Chinche (2,000 feet). The male has recently been  
redescribed as *pervalida* by Blaisdell (Zoe, iii, p. 337).

HISTER LUCANUS Horn. Southern California. San  
José del Cabo.

PAROMALUS CONSORS Lec. Southern California to  
Mexico. Sierra El Chinche (2,000 feet).

SAPRINUS BEHRENSII Horn. San Diego, Cal. San  
Pedro Martir.

SAPRINUS PLACIDUS Erichs. Georgia, Missouri, Ari-  
zona. San José del Cabo.

SAPRINUS FIMBRIATUS Lec. Utah, California, Ari-  
zona. San José del Cabo.

SAPRINUS LUBRICUS Lec. Southern California. San  
Pedro Martir.

SAPRINUS OPACUS n. sp. San José del Cabo.

SAPRINUS VITIOSUS Lec.

SAPRINUS BIGEMMEUS Lec. These two occur in south-  
ern and southeastern California. Cabo San Lucas.

SAPRINUS LUGENS Erichs. Oregon through California  
and Arizona to Mexico; Sandwich Islands. Cabo San  
Lucas.

TERETRIUS LEVATUS n. sp. San José del Cabo.

NITIDULIDÆ.

*CERCUS SERICANS* Lec. California, Nevada. Cabo San Lucas.

*CONOTELUS MEXICANUS* Murr. Southern California and Arizona, also in Mexico. La Joya.

*CARPOPHILUS PALLIPENNIS* Say. Kansas, Colorado, Nebraska, Texas, Utah, Arizona, California. San Raymundo, San José del Cabo and El Taste. The dark variety *floralis* Er. also occurs.

*STELIDOTA GEMINATA* Say. Middle and southern States. San José del Cabo.

*STELIDOTA STRIGOSA* Sch. Pennsylvania southward. Sierra Laguna.

*PROMETOPIA SIXMACULATA* Say. The only specimen is of an entirely pale yellow color, but not exhibiting any structural differences from the specimens collected in the Atlantic States. Notwithstanding its pale color, faint traces of the usual markings of the species may be seen by careful examination. Atlantic and Gulf regions, Oklahoma. San José del Cabo.

*LOBIOPA UNDULATA* Say. Massachusetts to Arizona. Sierra Laguna. The specimens from Arizona and Baja California are much larger than those from the Atlantic States.

LATHRIDIIDÆ.

*CORTICARIA MOROSA* Lec. Fort Yuma, Cal. Margarita Island.

TROGOSITIDÆ.

*TROGOSITA VIRESCENS* Fab. var. *CHLORODIA* Mann. Oregon, California and Arizona. San José del Cabo.

*TROGOSITA BARBATA* Lec. Sierra El Chinche, Cabo San Lucas.

*TENEBRIOIDES MAURITANICA* Linn. Cosmopolitan. Diffused by commerce.

*ALINDRIA TERES* Mels. Atlantic region, Arizona, California. Sierra El Chinche (2,000 feet).

BYRRHIDÆ.

*LIMNICHUS NEBULOSUS* Lec. Los Angeles and southward, California. Comondu.

PARNIDÆ.

*PSEPHENUS HALDEMANNI* Horn. Baja California.

*DRYOPS PRODUCTUS* Lec. California, Arizona. El Paraiso, Comondu, Santa Maria, San Ignacio.

*ELMIS ABNORMIS* Horn. Arizona. Baja California.

*ELMIS SIMILIS* Horn. New Mexico and Arizona. Comondu.

DASYLLIDÆ.

*ANORUS PICEUS* Lec. Owens Valley and southern California. San Pedro Martir.

RHIPICERIDÆ.

*VESPEROCTENUS FLOHRI* Bates. Plate 8, figs. 1, 2, 3. For the identification of this insect I am indebted to Mr. Julius Flohr, whose timely visit alone saved me from a synonym as I never would have suspected that Mr. H. W. Bates, with whom the *Cerambycidæ* were a special study, would have placed this insect in that family.

The facies of this insect, less the antennæ, is somewhat that of a *Toxotus* and to my eye that of *Callirhipis*, although the elytra are more narrowed behind, due to some extent to the shrinking from drying.

As remarked by Lacordaire in his characteristics of the family, the anterior and middle coxæ are conico-

cylindrical, the former contiguous and with distinct trochantin. The last joint of the tarsus with a setose onychium, not at all prominent however in the present genus. The tarsi are not lobed beneath, the third joint acutely notched, the fourth small and not visible beyond the emargination of the third. The first and fifth joints are equal, the second and third nearly so, but shorter than the other two.

The head is transversely oval, slightly prolonged behind the eyes and abruptly forming a neck. The eyes large, rounded, slightly truncate in front, rather coarsely granulated. Antennal tubercles spiniform. Antennæ twelve-jointed and flabellate (in the males) joints 3 to 11 with a slender branch which is slightly longer than the length of the preceding part of the antennæ, that is to say the branch from the third joint is longer than joints 1 to 3 of the antennæ and so continuously. The terminal joint and the branch from the preceding are equal in length. The mandibles are falciform, prominent and strongly bidentate at middle. The maxillary palpi are long, slender and four-jointed, the second joint longest, third joint two-thirds as long, fourth a little shorter than second and slightly fusiform. Labial palpi slender and long, the last two joints about equal in length. The mouth-parts otherwise are feebly developed. Thorax conical with slightly arcuate sides, the lateral border not very distinct. Elytra broader at base than the thorax, sides convergent to apices, these separately rounded, substance coriaceous.

The comments above apply to the male; the other sex is unknown to me, but Mr. Bates describes the antennæ as half the length of the body, filiform and simple. While I greatly regret to differ so radically from my lamented friend H. W. Bates in the systematic position of this insect, the aggregate of its organization points to the



family in which it is here placed. The fact that the tarsi are five-jointed removes it from association with any but the most aberrant Cerambycidae in the earlier groups of Prionides, with which no one would pretend to associate this insect. That the fourth tarsal joint is small might seem an objection to its association with the Rhipiceridae, but this is by no means insuperable, as in an adjacent family, Dascyllidae, we have an entire group, the Ptilodactylini, so constituted. In view of the fact that the family Rhipiceridae contains but few genera not requiring tribal subdivision for their elucidation, I would suggest that *Vesperoctenus* be placed near *Callirhipis*, from which it differs in its twelve-jointed antennae and the small fourth tarsal joint.

Occurs at San Francisquito in the Cape Region and in Mexico.

#### ELATERIDÆ.

*MERISTHUS CRISTATUS* Horn. Texas. Cabo San Lucas.

*CHALCOLEPIDIUS RUBRIPENNIS* Lec. San José del Cabo.

*CARDIOPHORUS EDWARDSII* Horn. Nevada, California. San Pedro Martir.

*CARDIOPHORUS TENEBROSUS* Lec. Washington, California, Nevada. San Pedro Martir.

*HOORISTONOTUS SIMPLEX* Lec. California, Utah, Arizona. El Taste and San José del Cabo.

*ESTHESOPUS DISPERSUS* Horn. Texas, Arizona, California. San José del Cabo, Coral de Piedra, Sierra El Taste.

*APTOPUS PEREGRINUS* Horn. Texas. El Taste.

CRYPTOHYPNUS ORNATUS Lec. California, Utah. San Pedro Martir.

CRYPTOHYPNUS PECTORALIS Say. Texas, Arizona, California. San Luis and San Esteban.

MONOCREPIDIUS SORDIDUS Lec. Utah, California, Arizona. La Chuparosa.

DICREPIDIUS CORVINUS Cand. Southern California, Arizona. El Taste and vicinity, San José del Cabo.

ANCHASTUS BICOLOR Lec. (var. *desertus* Horn.) Fort Yuma, Cal., Arizona. Cabo San Lucas.

ISCHIODONTUS FERREUS Lec. Texas, Arizona. El Taste.

ISCHIODONTUS SOLEATUS Say. Middle Atlantic region to Texas. San José del Cabo.

LUDIUS TEXANUS Lec. Texas, Arizona. San José del Cabo.

MELANOTUS CRIBRICOLLIS Cand. Southern California, Arizona. Comondu.

DOLOPIUS LATERALIS Esch. Widely distributed in the Pacific region, Arizona. San Pedro Martir.

ENICONYX PULLATUS Horn. Arizona. San José del Cabo.

PLASTOCERUS SCHAUUMII Lec. Southern California. Calmalli Mines and El Paraiso.

#### BUPRESTIDÆ.

GYASCUTUS OBLITERATUS Lec. Owens Valley southward in California, Arizona. El Chinche and Cabo San Lucas.

ANTHAXIA ÆNEOGASTER Lap. (var. *strigata* Lec.). Widely distributed in Pacific region. Cabo San Lucas.

*CHRYSOBOTHRIS EDWARDSII* Horn. Tucson, Ariz.  
San José del Cabo.

*CHRYSOBOTHRIS ACUTIPENNIS* Chev. Texas, Arizona.  
San José del Cabo.

*CHRYSOBOTHRIS PURPUREOVITTATA* Horn. Texas,  
Arizona. San José del Cabo.

*CHRYSOBOTHRIS LIXA* Horn. Texas, Arizona. Cal-  
amajuet.

*CHRYSOBOTHRIS LUCANA* n. sp. Sierra El Chinche and  
San José del Cabo.

*CHRYSOBOTHRIS BICOLOR* n. sp. San José del Cabo.

*POLYCESTA VELASCO* Lap. et Gory. Texas, Arizona.  
El Chinche (2,000 feet).

*ACMÆODERA FLAVOMARGINATA* Gray. Texas, Mexico,  
Arizona. San José del Cabo.

*ACMÆODERA FLAVOSTICTA* Horn. Southern Califor-  
nia. Magdalena Island, Comondu and Cabo San Lucas.

*ACMÆODERA SUBBALTEATA* Lec. Cabo San Lucas.

*ACMÆODERA SCAPULARIS* n. sp. Sierra El Chinche.

*ACMÆODERA STIGMATA* n. sp. Tucson, Ariz. San  
José del Cabo.

*ACMÆODERA CLAUSA* n. sp. San José del Cabo, Coral  
de Piedra, Sierra El Taste.

*ACMÆODERA INSIGNIS* n. sp. San Raymundo.

*AGRILUS INEPTUS* n. sp. Coral de Piedra, Sierra El  
Taste and Pescadero.

*AGRILUS NIVEIVENTRIS* Horn. Nevada, Los Angeles  
southward in California. San Pedro Martir.

*AGRILUS FELIX* Horn. Arizona. San Julio.

AGRILUS LACUSTRIS Lec. (var. *cuneus* Lec.). Lake Superior region southwestward to Texas and Arizona. San José del Cabo.

AGRILUS ADDENDUS Crotch. Texas, Arizona. Coral de Piedra, Sierra El Taste.

## LAMPYRIDÆ.

LYCUS CRUENTUS Lec. Texas, Arizona. San Francisco and La Paz.

PLATEROS SANGUINICOLLIS n. sp. San José del Cabo and Sierra El Chinche.

PYROPYGA FENESTRALIS Mels. Entire Atlantic region, Colorado, Utah, Arizona, California. Comondu.

MICROPHOTUS DILATATUS Lec. Arizona, northwestern Mexico. Coral de Piedra, Sierra El Taste.

CENOPHENGUS DEBILIS Lec. Los Angeles, Cal. Arizona. San José del Cabo, Coral de Piedra, Sierra El Taste.

TELEPHORUS DECIPIENS n. sp. San Pedro Martir Mountains.

## MALACHIIDÆ.

COLLOPS VALIDUS Horn. Sonora, Mexico. Baja Purisima.

COLLOPS VITTATUS Lec. Colorado, New Mexico. Texas, Arizona. El Paraiso.

COLLOPS MARGINICOLLIS Lec. Utah, Arizona, southern California. San Pedro Martir.

ATTALUS CINCTUS Lec. Nevada, Colorado. Calmalli Mines.

ATTALUS BASALIS Lec. Colorado, New Mexico, Texas. El Paraiso.

*ATTALUS DIFFICILIS* Lec. California, Arizona, San Borja.

*ATTALUS SETOSUS* n. sp. San José del Cabo.

*ATTALUS UNICOLOR* n. sp. La Chuparosa.

*PRISTOSCELIS SORDIDUS* Lec. Southern California. San Esteban and Magdalena Island.

*PRISTOSCELIS TEJONICUS* Lec. Fort Tejon southward. San Julio.

*PRISTOSCELIS ANTENNATUS* Motsch. Colorado, Arizona. El Paraiso.

*PRISTOSCELIS CONVERGENS* Lec. Utah, Arizona, Margarita Island.

*PRISTOSCELIS BREVICORNIS* Lec. Southern California. Calamajuet.

*PRISTOSCELIS FULVOTARSIS* Bld. Oregon, Yuma, Cal. Calmalli Mines.

In addition to the above are nearly as many more species represented by material insufficient for study.

*DOLICHOSOMA NIGRICORNE* Bland. Dakota to Arizona. San Julio.

*DASYTES PUSILLUS* Lec. California. San Julio.

*ESCHATOCREPIS CONSTRICTUS* Lec. Southern California. San Pedro Martir Mountains.

#### CLERIDÆ.

*TILLUS OCCIDENTALIS* Ghm. Texas, Arizona, Mexico to Nicaragua. Baja California (Ulke.)

*CYMATODERA PUNCTATA* Lec. Texas, Arizona, southern California. El Chinche 2,000 feet, San José del Cabo.

CYMATODERA OBLITA Horn. Nevada, Arizona. Cabo San Lucas.

CYMATODERA PUNCTICOLLIS Bland. California, Arizona. Baja California (Ulke.)

CYMATODERA XANTI Horn. Cabo San Lucas (Lec.)

CYMATODERA FASCIFERA Lec. Cabo San Lucas (Lec.)

CYMATODERA PURPURICOLLIS n. sp. Sierra El Chinche.

AULICUS NERO Spin. New Mexico, Southern California. El Chinche. This species was described by Spinola as from Mexico, but has not been recognized by the author of the Biologia. The coloration is variable, but specimens in my cabinet reproduce Spinola's figure accurately.

TROGODENDRON EDWARDSII Horn. Tucson, Ariz. El Chinche 2,000 feet. While this insect possesses all the structural characters of the genus as far as given in the books the species is very unlike the typical form in coloration.

TRICHODES PENINSULARIS n. sp. El Chinche.

CLERUS QUADRISIGNATUS Say. Arizona, San José del Cabo.

HYDROCERA OMOGERA n. sp. San José del Cabo.

ORTHOPLEURA DAMICORNIS Fab. Texas. San José del Cabo.

LEBASIELLA JANTHINA Lec. Cabo San Lucas.

CORYNETES RUFIPES Fab. Cosmopolitan.

PTINIDÆ.

PTINUS INTERRUPTUS Lec. California. San José del Cabo.

*PTINUS PYGMÆUS* Gorham. California, Guatemala. Baja California (Ulke).

*SITODREPA PANICEA* Linn. Cosmopolitan. Cabo San Lucas.

*TRICHODESMA SELLATA* n. sp. El Taste.

*HADROBREGMUS PUMILIO?* Lec. Canada to Texas. San José del Cabo.

*EUPACTUS PUDICUS* Boh. Cabo San Lucas (LeConte).

*XYLETINUS PALLIDUS* Lec. Cabo San Lucas (LeConte).

*LASIODERMA DERMESTINUM* Lec. Cabo San Lucas (LeConte).

*HEMIPTYCHUS OBSOLETUS* Lec. San José del Cabo.

*HEMIPTYCHUS ESTRIATUS* n. sp. San Fernando.

*AMPHICERUS PUNCTIPENNIS* Lec. Utah, Texas, Arizona, California, extending through Mexico to Panama, Hawaiian Islands. San José del Cabo.

*AMPHICERUS FORTIS* Lec. Utah, Arizona, California. San José del Cabo.

Mr. Gorham states (Biol. Cent. Am., vol. iii, pt. 2, p. 213) that *Apate* is the proper generic name for the two species above.

*SINOXYLON QUADRISPINOSUM* Lec. Arizona. San José del Cabo.

*SINOXYLON DINODEROIDES* Horn. District of Columbia, Arizona. Comundu.

*SINOXYLON SERICANS* Lec. Southern California, Arizona, extending through Mexico to Panama. Cabo San Lucas.

Mr. Gorham places this species in *Xylopertha*, and

asserts that our other species of *Sinoxylon* must be referred to some other genus.

*DINODERUS TRUNCATUS* Horn. California. Cabo San Lucas.

*POLYCAON PUNCTATUS* Lec.

*POLYCAON EXESUS* Lec. Collected by Xantus probably near Cabo San Lucas.

*LYCTUS PLANICOLLIS* Lec. Colorado, Texas, California. Baja California.

*LYCTUS CALIFORNICUS* Casey. Fort Yuma, Cal. San San José del Cabo.

#### CIOIDÆ.

*CERACIS SIMILIS* n. sp. Coral de Piedra.

*RHIPIDANDRUS PENINSULARIS* n. sp. Coral de Piedra, Sierra El Taste.

#### SPHINDIDÆ.

*EURYSPHINDUS HIRTUS* Lec. Detroit and vicinity. El Taste. A remarkable distribution, but the specimens are absolutely identical.

#### PASSALIDÆ.

*PASSALUS* sp. One species is known to me from the Cape Region. I have not yet been able to place it in any of the genera into which *Passalus* has been divided, and await the occurrence of more material that specimens may be sent abroad for comparison.

#### SCARABÆIDÆ.

*CANTHON PUNCTICOLLIS* Lec. Arizona. San José del Cabo.

*CANTHON SIMPLEX* Lec. California, Arizona. San Pedro Martir.



CANTHON OBLIQUUS n. sp. Pescadero, Sierra El Chinche.

APHODIUS GRANARIUS Linn. A species of European origin becoming cosmopolitan through commerce. San Pedro Martir.

ATÆNIUS LUCANUS Horn. San José del Cabo.

ATÆNIUS STRIGATUS Say. United States east of Rocky Mountains. San José del Cabo.

ATÆNIUS DESERTUS Horn. Utah, Arizona, southern California. San José del Cabo.

ATÆNIUS GRACILIS Mels. Eastern United States. Comodu.

ATÆNIUS LOBATUS Horn. El Taste, Cabo San Lucas.

ATÆNIUS TEXANUS Harold. Texas, Arizona. San José del Cabo.

PSAMMODIUS NANUS DeGeer. Cuba, Central America, Massachusetts, Michigan, Texas, Arizona, California. San José del Cabo.

OCHODÆUS sp. Two specimens, female, indicating a species between *biarmatus* and *frontalis*. Coral de Piedra, Sierra El Taste.

BRADYCINETUS SERRATUS Lec. Arizona. San José del Cabo.

TROX FOVEICOLLIS Harold. Pennsylvania to Arizona. San Francisco.

TROX SUBEROSUS Fab. United States generally, Mexico. San José del Cabo.

TROX PUNCTATUS Germ. Dakota, Kansas, Texas, Arizona. San José del Cabo.

*GLARENIS MENDICA* Horn. Arizona. Baja California (Ulke.)

*CHNAUNANTHUS DISCOLOR* Burm. Occurs throughout Mexico. San Luis, Comondu, Calmalli Mines, San Jorge.

This species varies in color. It may be entirely black, or with the head and thorax dark and elytra testaceous, the latter often darker along the suture and sides.

It seems to have escaped observation that the sexes are very readily separable. The males have no anterior tibial spur and the pygidium as long as wide and regularly convex. The female has an anterior tibial spur, the pygidium broader than long and slightly concave near the apex.

*ONCERUS CONVERGENS* n. sp. Calmalli Mines.

*DICHELONYCHA PICEA* n. sp. San José del Cabo and El Chinche 2,000 feet.

*DICHELONYCHA PUSILLA* Lec. Southern California. San Pedro Martir.

*SERICA MIXTA* Lec. California, Nevada. San Pedro Martir.

*SERICA PILIFERA* n. sp. Santa Maria.

*DILOTAXIS PUNCTULATA* n. sp. San José del Cabo and Coral de Piedra.

*DILOTAXIS MÆRENS* Lec. Southern California. Calmalli Mines, Santa Maria.

*DILOTAXIS TRISTIS* Kby. Lake Superior, Middle States to Colorado and Texas. San José del Cabo.

*DILOTAXIS ANGULARIS* Lec. Arizona. Cabo San Lucas, San José del Cabo.

*DIPLOTAXIS TENUIS* Lec. Southern California. Cabo San Lucas, Baja California (Ulke.)

*LACHNOSTERNA MACULICOLLIS* Lec. San José del Cabo.

*LACHNOSTERNA NITIDULA* Lec. San José del Cabo.

*LISTROCHELUS PUBERULUS* Lec. Coral de Piedra, Sierra El Chinche, Cabo San Lucas.

*LISTROCHELUS DENSICOLLIS* Lec. With the preceding.

*LISTROCHELUS MUCOREUS* Lec. Texas, Arizona, southern California. Cabo San Lucas.

*LISTROCHELUS OBTUSUS* Lec. Texas, Arizona. San José del Cabo.

*LISTROCHELUS CARMINATOR* n. sp. San José del Cabo.

*ANOMALA CENTRALIS* Lec. Arizona, Sonora. San José del Cabo.

*PELIDNOTA LUCÆ* Lec. San José del Cabo.

*COTALPA URSINA* Horn. Southern California. San Pedro Martir.

*CYCLOCEPHALA DIMIDIATA* Burm. Oklahoma, Arizona, southern California, Mexico. San José del Cabo.

*CYCLOCEPHALA LONGULA* Lec. Southern California. San José del Cabo.

*CYCLOCEPHALA IMMACULATA* Burm. Texas, Arizona, southern California. San Pedro Martir.

*LIGYRUS GIBBOSUS* De Geer. Widely distributed in United States. San Pedro Martir, San José del Cabo.

*LIGYRUS RUGINASUS* Lec. Texas, Sonora, Arizona. San José del Cabo.

*LIGYRUS BRYANTI* Rivers. San José del Cabo.

MEGASOMA THERSITES Lec. Cabo San Lucas, San José del Cabo.

PHILEURUS ILLATUS Lec. Arizona. San Francisquito.

EUPHORIA FASCIFERA Lec. San José del Cabo.

CREMASTOCHILUS WHEELERI Lec. Nebraska, El Dorado County, Cal.

CREMASTOCHILUS PILOSICOLLIS Horn. California, Nevada.

CREMASTOCHILUS CRINITUS Lec. California.

The three species above were collected below San Diego within the peninsula.

CREMASTOCHILUS OPACULUS n. sp. Pescadero.

CERAMBYCIDÆ.

MALLODON MOLARIUM Bates. Mexico, Panama, Nicaragua. San José del Cabo.

MALLODON MANDIBULARE Gemm. *gnatho*|| Lec. Texas, Arizona, Sonora, southern California. San José del Cabo. This species has been incorrectly referred to *Nothopleurus* by Bates.

DEROBRACHUS GEMINATUS Lec. Texas, Arizona, Mexico. San José del Cabo.

ACHRYSON SURINAMUM Linn. Widely distributed from middle Atlantic States to Paraguay. San José del Cabo.

OSMIDUS GUTTATUS Lec. Arizona. San José del Cabo.

GNAPHALODES TRACHYDEROIDES Thoms. Texas, Mexico. San José del Cabo.

HAMMATICHERUS MEXICANUS Thoms. Mexico. Cabo San Lucas (LeConte).

EBURIA ULKEI Bland. Cabo San Lucas.

EBURIA CONSPERSA n. sp. San José del Cabo.

ELAPHIDION PUNCTATUM Lec. Arizona. Cabo San Lucas.

ANEFLUS PROLIXUS Lec. Cabo San Lucas.

ANEFLUS PROTENSUS Lec. Arizona. El Chinche.

ANEFLUS VOLITANS Lec. San José del Cabo.

EUSTROMA VALIDUM Lec. Arizona, southern California. San José del Cabo.

COMPSA PUNCTICOLLIS Lec. San José del Cabo.

COMPSA QUADRIPLAGIATA Lec. Cabo San Lucas, El Taste. It is more than probable that this species is one of the numerous varieties of *Ibidion textile* Thoms.

PHYTON DISCOIDEUM Lec. Cabo San Lucas.

RHOPALOPHORA RUGICOLLIS Lec. Texas. San José del Cabo.

ACYPHODERES DELICATUS n. sp. El Taste.

CALlichROMA COBALTINUM Lec. Cabo San Lucas.

DENDROBIAS MANDIBULARIS Serv. Texas, Arizona, Mexico. San José del Cabo.

LISSENOTUS MULTIFASCIATUS Dup. Throughout Mexico. San José del Cabo.

STENASPIS SOLITARIA Say. Texas, Arizona. San José del Cabo.

TRAGIDION ANNULATUM Lec. San José del Cabo.

OXOPLUS MARGINATUS Lec. San José del Cabo.

OXOPLUS CRUENTATUS Lec. San José del Cabo.

SPHENOTHECUS BASALIS n. sp. San José del Cabo.

STENOSPHECUS NOVATUS Horn. San José del Cabo.

CYLLENE ANTENNATUS White. Arizona. Cabo San Lucas, Baja California (Ulke).

RHOPALOPACHYS IRRORATUS Lec. Texas, Arizona, Mexico. El Taste.

EUDERCES PARALLELUS Lec. San José del Cabo.

ATIMIA DORSALIS Lec. Southern California. Baja California, south of San Diego.

ACMÆOPS FALSA Lec. Southern California. Calmalli Mines.

OPHISTOMIS VENTRALIS n. sp. Southern California. El Taste.

LEPTURA SEXSPILOTA Lec. California. San Pedro Martir.

MONILEMA SEMIPUNCTATUM Lec. Near Cabo San Lucas.

MONILEMA SPOLIATUM Horn. San Borgia.

MONILEMA SUBRUGOSUM Bland. San José del Cabo. It is very likely that *longipes* White, described as from China, is the same species.

PTYCHODES TRILINEATUS Linn., *vittatus* Fab. Gulf States, Mexico, West Indies, South America. San José del Cabo.

ACANTHODERES PENINSULARIS Horn. San José del Cabo.

LIOPUS CRASSULUS Lec. Cabo San Lucas.

LAGOCHIRUS OBSOLETUS Thoms. Mexico. Cabo San Lucas.

CENOPÆUS NIGER n. sp. El Chinche 2,000 feet.

MECOTETARTUS ANTENNATUS Bates. Mexico. Cabo San Lucas, Sierra El Chinche.

LOPHOPÆUM VOLITANS Lec. Cabo San Lucas.

ESTOLA SORDIDA Lec. San José del Cabo.

TAPEINA NUDICORNIS Bates. This species has been placed doubtfully in Tapeina by Mr. Bates. He seems not to have recognized the sexes in his material, but I can now assert that the males do not have the head broadened as in *transversifrons*. The females in both species have a slight fovea in the last ventral segment, while the male segment is plain. This with an Arizona species will constitute a new genus in the second part of this essay.

Occurs in Mexico, Oaxaca. Sierra El Chinche 2,000 feet.

TETRAOPES ELEGANS n. sp. San José del Cabo.

CHRYSOMELIDÆ.

LEMA PENINSULÆ Crotch. Cabo San Lucas.

LEMA FLAVIDA n. sp. San José del Cabo.

LEMA OMOGERA n. sp. El Taste.

LEMA TEXANA Cr. Illinois, Texas. Coral de Piedra, El Taste. In the specimens from this region the elytra are more decidedly green.

LEMA ÆMULA n. sp. Sierra Laguna, El Taste.

BABIA COSTALIS Lac. Mexico. Pescadero.

COSCINOPTERA ÆNEIPENNIS Lec. Texas, Arizona. San José del Cabo.

COSCINOPTERA SEMINUDA Horn. Utah, Arizona. Sierra El Chinche.

COSCINOPTERA MUCOREA Lec. Arizona, southern California. Baja California (Ulke).

EURYSCOPA LECONTEI Crotch (*parvula* Jacoby). Arizona, southern California. El Taste.

EXEMA CONSPERSA Mann. Colorado, Utah, Texas, Arizona, California. San José del Cabo.

MEGALOSTOMIS MAJOR Cr. Texas, Arizona. Sierra El Chinche. This is represented by one specimen with the red basal region less extended than in typical specimens. It may represent a distinct species, but this cannot be asserted until more specimens show the extent of variation.

BASSAREUS CONGESTUS Fab. Florida, Georgia, Texas. San José del Cabo.

PACHYBRACHYS DONNERI Crotch. Utah, California. Coral de Piedra, El Taste.

PACHYBRACHYS XANTI Crotch. San José del Cabo.

PACHYBRACHYS TURBIDUS Lec. Texas. Coral de Piedra, Sierra El Chinche, El Taste, San José del Cabo.

PACHYBRACHYS ATOMARIUS Mels. Illinois, Missouri, Texas, Arizona. San José del Cabo.

DIACHUS AURATUS Mann. Oregon, California, Arizona. Baja Purisima.

MONACHUS GUERINII Perbosc. Sonora, Mex. Baja Purisima.

MYOCHROUS LONGULUS Lec. Arizona, southern California. Baja California (Ulke).

CHRYSOCHUS COBALTINUS Lec. California. Baja California (Ulke.)

METACHROMA PENINSULARE Crotch. Cabo San Lucas.

MYOCORYNA PENINSULARIS n. sp. Coral de Piedra, Sierra El Taste.



*TRIRHABDA FLAVOLIMBATA* Mann. California, Utah.

*TRIRHABDA LUTEOCINCTA* Lec. California.

*TRIRHABDA NITIDICOLLIS* Lec. Colorado, New Mexico, Utah. The above were found at San Pedro Martir.

*TRIRHABDA CADUCA* Horn. Owens Valley, Cal. San Luis.

*MONOXIA CONSPUTA* Lec. Entire region west of Mississippi River. Baja California (Ulke).

*DIABROTICA SOROR* Lec. California. San Pedro Martir.

*DIABROTICA BALTEATA* Lec. Texas, Arizona, Sonora. Sierra El Chinche 2,000 feet, and San José del Cabo.

*DIABROTICA VARIEGATA* Jacoby. Mexico. San José del Cabo. There may be some doubt as to the correctness of this determination, but I prefer the doubt rather than a possible synonym, as there are quite a number of species similarly marked, so that comparison will be necessary to correctly determine the names. The species is related to *picticornis*, but may be separated from that by the general color, greenish-yellow, and the posterior band not crossing the suture.

*SCELOLYPERUS MACULICOLLIS* Lec. Southern California. San Quintin.

*LUPERODES VARICORNIS* Lec. Kansas, Texas, Arizona. El Taste.

*MALACORHINUS MACULATUS* Lec. Southern California. San Borja. San Esteban.

*METACYCLA INSOLITA* Lec. San José del Cabo.

*MALACOSOMA BREVICORNE* Jacoby. Utah, Arizona, Mexico. El Paraiso, Calmalli Mines, San Esteban, San Luis.

*HOMOPHOETA LUSTRANS* Cr. Texas. El Chinche 2,000 feet.

*DISONYCHA QUINQUEVITTATA* Say. Widely scattered in distribution. San José del Cabo.

*HALTICA IGNITA* Illig. Widely distributed. San José del Cabo. The variety seen is that of deep blue color.

*HALTICA PUNCTIPENNIS* Lec. Kansas, Colorado, Texas, California. Baja California (Fuchs).

*HALTICA FOLIACEA* Lec. Texas, Arizona. La Chuparosa.

*HALTICA TINCTA* Lec. Oregon, California, Nevada. San Francisco.

*EPITRIX CUCUMERIS* Harris. Atlantic region to Arizona, California. El Taste.

*EPITRIX FLAVOTESTACEA* n. sp. El Taste.

*EUPLECTROSCELIS XANTI* Crotch. San José del Cabo.

*SYSTEMA TÆNIATA* Say. var. *OCHRACEA* Lec. Yuma, Cal. Baja Purisima (Fuchs).

*DYSPHENGES* n. g. *ELONGATULUS* n. sp. El Taste.

*LONGITARSUS REPANDUS* Lec. San Diego and Yuma, Cal. Baja California (Ulke).

*LONGITARSUS LIVENS* Lec. California, Arizona. San Quintin (Fuchs).

*LONGITARSUS BICOLOR* n. sp. Margarita Island.

*PHYLLOTRETA PUSILLA* Horn. Colorado, Texas, Arizona. San Luis and San Julio.

*MICRORHOPALA RUBROLINEATA* Mann. var. *SIGNATICOLLIS* Lec. Southern California, Arizona. Sierra El Chinche and Coral de Piedra, Sierra El Taste.

MICRORHOPALA MELSHEIMERI Crotch. California, Arizona. Coral de Piedra, Sierra El Taste.

CHARISTENA PERSPICUA Horn. New Mexico, Arizona. San José del Cabo.

CHARISTENA ARIADNE Newm. Florida, Texas. San José del Cabo.

PHYSONOTA ALUTACEA Boh. Mexico. El Taste. The forms examined belong to the variety *cyrtodes* Boh.

MESOMPHALIA EXCLAMATIONIS Fab. Mexico. El Chinche.

CASSIDA BIVITTATA Say. Middle States to Arizona. Pescadero.

COPTOCYCLA AURICHALCEA Fab. Middle States to Arizona and California. Coral de Piedra and San José del Cabo.

COPTOCYCLA SIGNIFER Herbst (*guttata* ‡ auct.). Atlantic region to Texas. Pescadero. Mr. Champion writes that *guttata* Oliv., has not been correctly determined by Boheman and subsequent authors, being an Asiatic species.

COPTOCYCLA LECONTEI Cr. Kansas, New Mexico, Arizona. El Taste. Mr. Champion thinks this hardly distinct from the preceding species.

COPTOCYCLA BONVOULOIRI Boh. Mexico. Coral de Piedra, Sierra El Taste.

#### BRUCHIDÆ.

BRUCHUS SORDIDUS Horn. Southern California, Arizona. Santa Anita.

BRUCHUS LIMBATUS Horn. Cabo San Lucas.

BRUCHUS IMPIGER Horn. Southern California, Arizona. Santo Domingo del Taste and El Taste.

**BRUCHUS AMICUS** Horn. Texas, Arizona, New Mexico. El Chinche and San Julio.

**BRUCHUS PROTRACTUS** Horn (*longiventris* Sharp). Texas, Arizona. San Julio, San José de Gracia and Calmalli Mines.

**BRUCHUS PLACIDUS** Horn. Arizona. San José del Cabo and El Taste.

**BRUCHUS DESERTORUM** Lec. Arizona. Cabo San Lucas, Baja California (Ulke).

**BRUCHUS AUREOLUS** Horn. Desert regions of southern California. San Julio, San José del Cabo and Margarita Island.

**BRUCHUS PROSOPIS** Lec. Southern California and Arizona. El Taste and Santo Domingo del Taste.

**BRUCHUS LEUCOSOMUS** Sharp. Mexico, Guatemala, Panama. Sierra Laguna. This species belongs in the group with *discoideus*, *coryphæ* and *impiger*. The hind femora are without tooth, the male antennæ flabellate, the elytra reddish with cinereous pubescence. The pygidium has a transverse black line curved slightly forward at each end.

**BRUCHUS JULIANUS** n. sp. Texas. San Julio and San Ignacio.

**CARYOBORUS VESEYI** Horn. Cabo San Lucas.

**SPERMOPHAGUS (ZABROTES) SEMICINCTUS** n. sp. San José del Cabo.

TENEBRIONIDÆ.

**EDROTES VENTRICOSUS** Lec. This species is very variable, and has recently been divided into forms which have received new names. I have already called attention to the fact that the same species developing at differ-

ent seasons will have a very different aspect. Those developing in the hot and dry season will be shining, and if pubescent or hairy, will remain so but a short time, while the specimens of the colder or wet seasons will be opaque and retain their pubescence or hair a longer time. Some localities, owing to their climate, will retain one of these variations, as shown in *Iphthimus serratus*, in the damp and cooler climate of the coast and mountain regions of Oregon and Washington. This species becomes gradually smoother as it goes south, until near San Bernardino and the hot regions bordering the Mojave Desert it is quite smooth. Unfortunately, some of the varieties of this have won new names undeservedly. One of the specimens of *Edrotes* before me has the surface dull and coated with a dirty white efflorescence. In species of other genera observed in nature by myself this seems dependent on seasonal influences also.

*Edrotes ventricosus* occurs probably along the entire eastern side of the peninsula, but specimens have been sent from San José del Cabo only.

*STIBIA PUNCTICOLLIS* Horn. San José del Cabo. The only specimen in the present collection is somewhat aberrant, having the thorax less narrowed behind and the striæ better marked with coarser punctures.

*STIBIA OVIPENNIS* Horn. San Diego, Cal., and in the peninsula southward of that region.

*TRIPHALUS PERFORATUS* Lec. Cabo San Lucas.

*TRIMYTIS OBTUSA* n. sp. Sierra Laguna.

*EPITRAGUS PRUINOSUS* Horn. Texas, Arizona, southern California. San José del Cabo.

*EURYMETOPON RUFIPES* Esch. California, Arizona. Cabo San Lucas.

EURYMETOPON PUNCTULATUM Lec. San José del Cabo.

EURYMETOPON SODALIS Horn. Arizona. San José del Cabo.

EURYMETOPON BICOLOR Horn. Southern California. San Pedro Martir.

EURYMETOPON CONVEXICOLLE Lec. Southern California. Cabo San Lucas (Ulke).

EURYMETOPON PUNCTULATUM Lec. Cabo San Lucas, Santa Maria.

EMMENASTUS PUNCTATUS Lec. Texas, Arizona. San José del Cabo. From a specimen labeled for me by Mr. Champion *lentus* Ch., scarcely differs.

EMMENASTUS PINGUIS Lec. Arizona. San José del Cabo.

EMMENASTUS LONGULUS Lec. Arizona. San Pedro Martir.

EMMENASTUS OBESUS Lec. California. San Pedro Martir and Cabo San Lucas.

EMMENASTUS MARGINATUS Casey. Baja California (Casey).

EMMENASTRICHUS n. g. CRIBRATUS n. sp.

EMMENASTRICHUS EROSUS n. sp. These two species are from San José del Cabo.

BATULIUS ROTUNDICOLLIS Lec. Baja California (Ulke).

ZOPHERUS GRANICOLLIS Horn. Arizona, south of the northern boundary line, west of Yuma.

ZOPHERUS TRISTIS Lec. Arizona, California near Yuma. Baja California, locality unknown.

PHLÆODES DIABOLICUS Lec. California. San Pedro Martir.

CENTRIOPTERA SPECULIFERA Lec. San José del Cabo.

CENTRIOPTERA MURICATA Lec. San José del Cabo.

CENTRIOPTERA ASPERATA Horn. Cabo San Lucas.

CENTRIOPTERA VARIOLOSA Horn. Arizona. San Francisquito.

CENTRIOPTERA SERIATA Lec. Nevada, Arizona, southern California. San José del Cabo.

CENTRIOPTERA ANGULARIS n. sp. El Paraiso.

CRYPTOGLOSSA VERRUCOSA Lec. Southern California, Arizona. San José del Cabo (Fuchs).

MICROSCHATIA CHAMPIONI Horn (*punctata* † Horn). San José del Cabo.

MICROSCHATIA INÆQUALIS Lec. San Pedro Martir.

ASIDA MORBILLOSA Lec. Arizona. San José del Cabo.

ASIDA ÆGROTA Lec. San José del Cabo.

ASIDA BIFURCA Lec. El Taste, San José del Cabo.

ASIDA CONNIVENS Lec. Cabo San Lucas, El Taste.

ASIDA SEXCOSTATA Lec. Cabo San Lucas, Magdalena Island.

ASIDA GABBII Horn (*gibbicollis* || Horn). Cabo San Lucas.

ASIDA PLANATA n. sp. San Francisquito.

ASIDA SUBVITTATA n. sp. Pescadero, west side.

ASIDA EMBAPHIONIDES n. sp. San José del Cabo.

ASIDA CONVEXA Lec. Arizona, also in Mexico. Sierra El Chinche 2,000 feet.

EUSATTUS COSTATUS Horn. Magdalena Island and near Cabo San Lucas.

*EUSATTUS EROSUS* Horn. Patrocinio and Lower Purisima.

*EUSATTUS PRODUCTUS* Lec. Arizona. Cabo San Lucas.

*EUSATTUS SCULPTUS* Champion. Chihuahua, Mexico. San Pedro Martir and Cabo San Lucas. This species greatly resembles *reticulatus*, but the elytra have not the acute lateral margin as seen in that species.

*EUSATTUS LÆVIS* Lec. Southern California. San José del Cabo.

*EUSATTUS CILIATUS* n. sp. Tantilles Mountains, Big Cañon, Baja California, lat.  $32\frac{2}{3}$ , long. 116.

*EUSATTUS SECUTUS* n. sp. El Taste and San José del Cabo.

*CÆLOMORPHA MARITIMA* Casey. San Diego and San Quintin, 250 miles below San Diego.

*CONIONTIS PALLIDICORNIS* Casey. Baja California (Ulke).

*ELEODES MILITARIS* Horn. Comondu and near Cabo San Lucas.

*ELEODES LUCÆ* Lec. San José del Cabo.

*ELEODES GRANDICOLLIS* Lec. Arizona, California. Lower Paraiso, San Pedro Martir.

*ELEODES INNOCENS* Lec. Cabo San Lucas (LeConte).

*ELEODES GRACILIS* Lec. New Mexico, Arizona. La Chuparosa.

*ELEODES GENTILIS* Lec. Arizona. San Pedro Martir and San Francisquito.

*ELEODES GIGANTEA* Lec. California. San Pedro Martir.



*ELEODES ACUTICAUDA* Lec. California. San Pedro Martir.

*ELEODES QUADRICOLLIS* Esch. California. San Quintin and San Fernando.

*ELEODES HUMERALIS* Lec. California, Nevada, New Mexico, Arizona. Sierra Laguna, San Francisquito, La Chuparosa and San José del Cabo.

*ELEODES CONSOBRINA* Lec. Southern California. San Pedro Martir.

*EULABIS PUBESCENS* Lec. San Pedro Martir and Cabo San Lucas.

*ARGOPORIS EBENINA* n. sp. Sierra El Chinche, Pescadero and El Taste.

*ARGOPORIS INCONSTANS* n. sp. San Diego, Cal. San Esteban, San Francisquito and San José del Cabo.

*CERENOPUS CONCOLOR* Lec. Nevada, California. San José del Cabo.

*CERENOPUS ATERRIMUS* n. sp. Santo Domingo del Taste and San José del Cabo.

*CERENOPUS CRIBRATUS* Lec. San José del Cabo.

*CERENOPUS COSTULATUS* Horn. Near the center of the Peninsula of California.

*CERENOPUS ANGUSTATUS* n. sp. San José del Cabo.

*CRATIDUS ROTUNDICOLLIS* Horn. Baja California, probably near Cabo San Lucas.

*AMPHIDORA TENEBROSA* Horn. San Quintin.

*CÆLOCNEMIS CALIFORNICA* Mann. San Pedro Martir.

*CENTRONOPUS PARALLELUS* Lec. California. Baja California (Ulke).

RHINANDRUS GRACILIS Lec. San José del Cabo and El Taste.

DOLIEMA PLANA Fab. (*Lecontei* Horn). Widely distributed in Arizona and California, extending into Mexico and Cuba. San José del Cabo. The generic name replaces Sitophagus and Adelina, formerly used in our fauna.

DOLIOFINES n. g. CUCUJINUS n. sp. San José del Cabo.

EUPSOPHUS CASTANEUS Horn. Baja California (Ulke).

CYNÆUS ANGUSTUS Lec. Southern California, Arizona. San Quintin (Fuchs). *C. opacus* Champion does not differ from this.

CYNÆUS DEPRESSUS Horn. San Diego, Fort Yuma. San Quintin (Fuchs).

BLAPSTINUS DISCOLOR Horn. *elongatus* Casey. California, Nevada. San José del Cabo. My type of this species is one of those accidental varieties in which the head, thorax and legs are dull red.

BLAPSTINUS LECONTEI Muls. Texas, Arizona, southern California. San Pedro Martir.

ULUS CRASSUS Lec. California, Arizona, Utah. San José del Cabo.

ULUS OBLIQUUS Lec. Cabo San Lucas (Le Conte).

TRICHOTON SORDIDUM Lec. Utah, Arizona. San Quintin (Fuchs).

NOTIBIUS GRANULATUS Lec. Southern California, Arizona. Comondu and San José del Cabo.

NOTIBIUS OPACUS Lec. San Francisquito and San José del Cabo.

NOTIBIUS SULCATUS Lec. Southern California, San Diego. San Pedro Martir, Calmalli Mines. *Conibius alternatus* Casey is an accidental variation not rare in females of this species.

NOTIBIUS COSTIPENNIS n. sp. Magdalena Island and Baja Purisima.

NOTIBIUS REFLEXUS n. sp. San José del Cabo.

ECHOCERUS MAXILLOSUS Fab. Atlantic States, Cuba, Mexico. Sierra El Chinche.

TRIBOLIUM FERRUGINEUM Fab. Widely distributed, almost cosmopolitan. San José del Cabo.

ULOSONIA MARGINATA Lec. Texas, Arizona. San José del Cabo.

MEROTEMNUS ELONGATUS Horn. Sierra El Chinche 2,000 feet.

ALPHITOBIUS PICEUS Oliv. Widely distributed by commerce. San José del Cabo.

ANÆDUS ROTUNDICOLLIS Lec. Arizona. El Taste.

PHALERIA PILIFERA Lec. Cabo San Lucas, also at Fort Yuma. Varies, like many other species, from black to pale.

PHALERIA ROTUNDATA Lec. Sea coast near San Diego. San Quintin.

PHALERIA DEBILIS Lec. Fort Yuma, Cal. Cabo San Lucas.

DIAPERIS RUFIPES Horn. Arizona. La Chuparosa. The specimens from the peninsula are less ornate with red bands—in fact, one is almost entirely without them. The legs are more completely piceous and the anterior femora alone reddish-yellow.

*PLATYDEMA SUBQUADRATUM* Motsch. This is the species now in our lists as *janus* Fab. Mr. Champion has recently given some attention to the Central American species and adopts the above name for our form, although it has not been determined to what species *janus* should be applied. Florida, Texas, New Mexico, Arizona, Mexico or Nicaragua. San José del Cabo and Pescadero.

*HELOPS PINGUIS* n.sp. Coral de Piedra, Sierra El Taste.

CISTELIDÆ.

*PHEDIUS OPACULUS* n. sp. Sierra Laguna, El Taste and Pescadero.

*ALLECULA SORDIDA* n. sp. Coral de Piedra, Sierra El Taste.

*HYMENORUS RUFICOLLIS* Champion. Arizona, Northern Mexico. San José del Cabo and San Quintin.

*HYMENORUS CONFERTUS* Lec. San José del Cabo and Comondu.

*HYMENORUS PLANULUS* n. sp. El Taste.

OTHNIIDÆ.

*OTHNIUS MEXICANUS* Horn. San Julio, Baja California (Ulke).

LAGRIIDÆ.

*STATIRA SUBNITIDA* Lec. Cabo San Lucas (Le Conte).

MONOMMIDÆ.

*HYPORHAGUS OPACULUS* Lec. El Taste.

MELANDRYIDÆ.

*EUSTROPHUS ARIZONENSIS* Horn. Arizona. La Chuparosa.

## CEDEMERIDÆ.

CALOPUS ASPERSUS Lec. Baja California (Ulke).

NACERDES MELANURA Linn. Widely diffused by commerce. San José del Cabo.

OXACIS FULIGINOSA Lec. Cabo San Lucas (LeConte).

OXACIS LUCANA Lec. (*Probosca* †). San José del Cabo.

## MORDELLIDÆ.

MORDELLA SCUTELLARIS Fab. Canada to California. Santo Domingo del Taste, Comondu.

MORDELLISTENA VILIS Lec. Oregon to southern California. San Jorge and El Chinche.

MORDELLISTENA TOSTA Lec. Canada to Texas, Fort Yuma, Cal. El Taste.

ANASPIS RUFA Say. Canada to Alaska and Texas, southern California. San Borja.

ANASPIS PUSIO Lec. Arizona, southern California. San Esteban and San José del Cabo.

## ANTHICIDÆ.

BACTROCERUS CONCOLOR Lec. This species was described as having the terminal point of the antennæ as long as the four preceding joints, probably from female specimens. The two before me—both certainly males, as shown by the genital armature—have the last joint as long as the seven preceding joints. Coral de Piedra, Sierra El Taste and San José del Cabo.

NOTOXUS CALCARATUS Horn. Texas, Arizona, southern California. Margarita Island, Comondu and San José del Cabo.

*NOTOXUS MONODON* Fab. Widely distributed in the United States. Texas, Utah, Arizona, California. San José del Cabo.

*ANTHICUS ELEGANS* Laf. Colorado, Texas. Calmalli Mines.

*ANTHICUS CONFINIS* Lec. Utah, Arizona, southern California. San Francisquito.

*ANTHICUS ICTERICUS* Laf. Middle Atlantic States. San José del Cabo.

*ANTHICUS NANUS* Lec. Utah, Colorado, Texas, Arizona. Coral de Piedra, Sierra El Taste.

MELOIDÆ.

*MELOE* sp. This is represented by a female of a rather large species, quite smooth but opaque. It is doubtless allied to *cordilleræ* (sublævis *Lec.*). It will not be described, as a male should be at hand to determine its relationships. Sierra El Chinche.

*NEMOGNATHA LURIDA* Lec. Texas, Arizona. San Luis.

*NEMOGNATHA APICALIS* Lec. Texas, California. San Luis.

*NEMOGNATHA PIEZATA* Fab. Florida, Texas, Colorado, Arizona, California. San Luis.

*NEMOGNATHA NIGRIPENNIS* Lec. California. Rancho Viejo. A very variable species in color, from all black to all yellowish. The specimen before me has the head and thorax black, elytra yellow.

*NEMOGNATHA SPARSA* Lec. Colorado, New Mexico, Texas. San Quintin and El Chinche.

*MACROBASIS VIRGULATA* Lec. Texas. Cabo San Lucas (Ulke).

*MACROBASIS TENUILINEATA* n. sp. Sonora, Mexico.  
San José del Cabo.

*EPICAUTA PEDALIS* Lec. Texas, Arizona. Cabo San  
Lucas (LeConte).

*CANTHARIS MUTILATA* Horn. Arizona. San Julio.

*CANTHARIS CHILDII* Lec. Sacramento Valley, San  
Diego. Margarita Island, San Julio.

*CALOSPASTA DECOLORATA* n. sp. Calmalli Mines.

*CALOSPASTA MIRABILIS* Horn. Nevada, Los Angeles  
County, San Diego County, Mexico. San Julio.

*TEGRODERA EROSA* Lec. Owens Valley, Cal., south-  
ward to San Diego. San José de Gracia. The forms  
from the latter region are similar to those from San Di-  
ego, having the median elytral black band indistinct.

*PYROTA TROCHANTERICA* n. sp. Sierra El Chinche  
2,000 feet.

*TETRAONYX DUBIOSUS* n. sp. El Chinche.

#### RHIPIPHORIDÆ.

*RHIPIPHORUS CRUENTUS* Germ. Widely distributed in  
the United States, extending into Mexico. San José del  
Cabo.

Mr. Champion (Biol., iv, pt. 2, p. 353) has adopted  
the name *Emenadia* Cast. for the genus, at the same time  
admitting that *Macrosiagon* Hentz has ten years priority.  
*Rhipiphorus* has been transferred to the species at pres-  
ent called *Myodites*, and the name itself made *Rhipido-*  
*phorus*.

#### RHYNCHITIDÆ.

*RHYNCHITES PLANIFRONS* Lec. San Pedro Martir,  
Margarita Island, San Jorge.

*RHYNCHITES ÆRATUS* Say. Massachusetts to Colo-  
rado and Texas. El Taste.

## OTIORHYNCHIDÆ.

EPIACÆRUS LUCANUS n. sp. Sierra El Chinche, Pescadero and San José del Cabo.

ANOMADUS OBLIQUUS Horn. El Taste and San José del Cabo.

EUPAGODERES LUCANUS Horn. San José del Cabo.

RHIGOPSIS SIMPLEX n. sp. Calmalli Mines.

ORIMODEMA PROTRACTA Horn. Colorado, New Mexico, Mojave, Cal. San Pedro Martir.

EUCYLLUS VAGANS Horn. Utah, Arizona, Owens Valley, Cal. Calamajuet.

GEODERCODES HISPIDUS n. sp. San Jorge.

THRICOLEPIS? SEMINUDA n. sp. San Julio.

PANDELETEJUS CINEREUS Horn. Texas, Arizona. Sierra El Chinche and El Taste.

SCYTHROPUS DELICATULUS n. sp. El Taste.

MITOSTYLUS GRACILIS n. sp. Coral de Piedra, Sierra El Chinche and San José del Cabo.

POLYDROSUS PENINSULARIS n. sp. Coral de Piedra, El Taste, San José del Cabo.

## CURCULIONIDÆ.

SITONES SORDIDUS Lec. Oregon, California. San Pedro Martir.

MACROPS ECHINATUS Dietz. Texas. El Chinche.

CENTROCLEONUS POROSUS Lec. Cabo San Lucas (LeConte).

LIXUS PERFORATUS Lec. Southern California. Coral de Piedra.



*LIXUS PLEURALIS* Lec. Arizona. Cabo San Lucas (LeConte).

*DORYTOMUS INÆQUALIS* Casey. Baja California (Ulke).

*OTIDOCEPHALUS ULKEI* Horn. Pescadero.

*MACRORHOPTUS HISPIDUS* Dietz. San Diego, Cal. Arizona. Baja California (Ulke).

*ANTHONOMUS PENINSULARIS* Dietz. Calmalli Mines.

*ANTHONOMUS PERVILIS* Dietz. San Julio.

*ANTHONOMUS EBENINUS* Dietz. San Esteban.

*ANTHONOMUS OCHREOPILOSUS* Dietz. Baja California (Ulke).

*ANTHONOMUS LIGATUS* Dietz. Arizona. Baja Purisima.

*TYCHIUS SETOSUS* Lec. Southern California, Arizona. San Julio and Calmalli Mines.

*SIBYNES FULVUS* Lec. Arizona. Coral de Piedra and El Taste.

*LÆMOSACCUS PLAGIATUS* Fab. Pennsylvania to Arizona. San José del Cabo.

*ZASCELIS SERRIPES* Lec. Cabo San Lucas (LeConte).

*ZASCELIS SQUAMIGERA* Lec. Cabo San Lucas (LeConte).

*CÆLOSTERNUS HISPIDULUS* Lec. Cabo San Lucas (LeConte).

*COPTURUS QUADRIDENS* n. sp. El Taste.

*TRICHOBARIS TRINOTATA* Say. Pennsylvania to Arizona. Pescadero.

*BARIS PENINSULÆ* n. sp. San José del Cabo.

CALANDRIDÆ.

CACTOPHAGUS VALIDUS Lec. Arizona, southern California. Sierra El Chinche.

SPHENOPHORUS SIMPLEX Lec. Utah, California. San José del Cabo.

SCYPHOPHORUS ACUPUNCTATUS Gyll. Arizona. San José del Cabo.

SCYPHOPHORUS ROBUSTIOR Horn. San Diego County, San José del Cabo.

SCYPHOPHORUS YUCCÆ Horn. San Bernardino County, Arizona, San José del Cabo.

CALANDRA ORYZÆ Fab. Widely diffused by commerce. San José del Cabo.

COSSONIDÆ.

APOTREPES DENSICOLLIS Casey. San Ignacio.

BRENTIDÆ.

BRENTUS LUCANUS Horn. Pescadero and Cabo San Lucas.

BRENTUS PENNINSULARIS Horn. With the preceding.

SCOLYTIDÆ.

PLATYPUS RUGULOSUS Chap. Mexico. Cabo San Lucas (LeConte).

HYPOTHENEMUS STRIATUS Lec. Illinois, California. Cabo San Lucas (LeConte).

ANTHRIBIDÆ.

ANTHRIBUS VAGUS n. sp. El Taste.

BRACHYTARSUS GRISEUS Lec. San José de Gracia. The specimens are so rubbed that the determination is uncertain.

## DESCRIPTIONS OF NEW SPECIES.

The following pages contain the descriptions of all those species believed to be new to science contained in the series sent me for examination. At the same time I have described a number of new species from regions in which the fauna is more or less related to that under consideration. In every instance in which a species is described from the series in the collection of the Academy the type is the specimen or specimens making part of that collection.

*ANCHONODERUS APICALIS* n. sp.

Form of *quadrinotatus* but more depressed, piceous, legs pale, elytra fusco-testaceous the apex irregularly piceous. Antennæ piceous, the basal joint pale. Mouth parts pale. Head piceous smooth. Thorax cordate, broader than long, disc slightly convex, a finely impressed median line, surface alutaceous, very sparsely finely punctate. Elytra finely striate, intervals flat, finely not closely punctate. Prothorax beneath and metapleuræ smooth, abdomen sparsely punctate. Epipleuræ and legs pale. Length, .28 inch; 7 mm.

The entire surface is sparsely clothed with a very fine and short, erect pubescence. While the general form is that of *quadrinotatus* the form is more depressed and the thorax broader. The color of the elytra is not due to immaturity, as two specimens collected at different times agree.

El Taste and Sierra Laguna.

*APRISTUS SUBCYANEUS* n. sp.

Similar in form to *laticollis*, deep cobalt blue, moderately shining, antennæ and legs black. Head smooth. Thorax wider than long, narrowed at base, lateral margin extremely narrow, median impression nearly entire,

surface smooth. Elytra very indistinctly six-striate, striae not punctured, the sutural alone entire. Body beneath black, smooth. Length, .11 inch; 3 mm.

This species more nearly resembles a *Blechnus* by its slender less depressed form and by the very narrow thoracic margin, but it cannot be associated with that genus as the base of the thorax is truncate. It differs from all the known species of *Apristus* by its decidedly blue color and the very feebly impressed striae.

San José del Cabo.

*CALLIDA RUGICOLLIS* n. sp.

Oblong, depressed, piceous black, feebly shining, a slight greenish surface lustre more evident on the head and thorax. Antennae black, first joint testaceous beneath. Head nearly smooth. Thorax wider than long, slightly wider at base than at apex, sides moderately arcuate, feebly sinuate posteriorly, disc convex, slightly depressed along the sides, margin reflexed, median impressed line entire, surface with transverse and slightly undulating rugae. Elytra finely striate, striae entire, finely and closely punctate, intervals flat, very evidently punctate, less distinctly toward the apex, third interval with four dorsal punctures. Body beneath smooth and shining, with evident æneous lustre, a few punctures at sides of metasternum. Length, .40-.44 inch; 10-11 mm.

This species belongs to the group in which the males have two or three and the females two anal setae. It seems to be allied to *obscura* Dej. by the punctate elytral intervals and the transversely wrinkled thorax. *C. planulata* Lec. is also probably related, but that species is not now in hand for comparison.

Coral de Piedra, Sierra El Taste, Pescadero and San José del Cabo.

*THERMONECTES PENINSULARIS* n. sp. Plate viii, fig. 10.

Oval, moderately convex, shining, yellowish testaceous, elytra closely irrorate with small black spots. Head pale, a small vertical transverse piceous spot, occiput narrowly piceous. Thorax almost entirely yellow, the usual apical and antebasal black lines closely approximated and very near the base. Elytra closely irrorate with black spots, the border pale except near the apex, without trace of transverse fascia except a larger black spot one-third from apex, surface of elytra smooth, the rows of coarse punctures nearly obliterated. Body beneath rufescent, prosternum, front and middle legs pale. Length, .41 inch; 10.5 mm.

The single specimen seen is a male. In general appearance it resembles *ornaticollis*, but is smaller and broader. It differs from all the species known to me belonging to the same group, by the absence of the elytral fascia and the peculiar style of thoracic ornamentation.

San José del Cabo.

*STAPHYLINUS LUCANUS* n. sp.

Slender, dull black, opaque, last dorsal in part, last ventral entirely castaneous. Antennæ not long, joints 5-10 transverse, black, the under side of the first joint at apex and the basal half of the second reddish. Head subtriangular, densely punctured, a smooth median line posteriorly, surface with very short erect black pubescence. Eyes not as long as half the sides of head. Thorax a little wider than long, truncate in front, sides parallel, base rounded, surface densely punctate with a narrow smooth median line, surface pubescent similarly to the head. Scutellum velvety black. Elytra more finely and densely punctured than the head and thorax

but similarly pubescent, fimbriate at apex. Abdomen above sub-opaque, finely but not densely punctate, each segment with a double series of oblong velvety spots; beneath more shining and more sparsely punctate. Legs black. Length, .55 inch.; 14 mm.

The male has the last ventral truncate and vaguely emarginate. This species belongs to the division *Platydracus* Thoms., which Dr. Sharp does not admit as of full generic value. In form the above described species resembles *nigrellus*, but differs in the form of the head and the presence of velvety spots on the abdomen. From the arrangement of our native species suggested by me (Trans. Am. Ent. Soc. vii, p. 186) *lucanus* will be found most closely related to *tomentosus*, but the latter is more robust and has no smooth median thoracic line.

Occurs at La Chuparosa.

*SCAPHISOMA PENINSULARE* n. sp.

Form of *terminatum* but smaller, piceous black shining, elytra narrowly paler at apex, legs and two basal joints of antennæ pale. Head and thorax smooth. Elytra relatively coarsely, sparsely punctate, the punctures less distinct at base, sutural striæ curved outward at base, one-third toward humeri. Body beneath smooth. Length, .04 inch; 1 mm.

This species is evidently related to *desertorum* Casey, but is smaller and with more coarsely punctured elytra and a shorter basal extension of the sutural stria.

Sierra Laguna.

*SCAPHISOMA APICALE* n. sp.

Form of *convexum*. Body beneath rufo-testaceous, legs paler, head and thorax slightly darker, elytra piceous broadly tipped with rufo-testaceous. Head smooth, thorax microscopically punctulate. Antennæ pale, the

outer joints darker. Elytra finely and moderately closely punctate. Metasternum and first ventral segment sparsely finely punctulate. Length, .10 inch; 2.5 mm.

This form is related to *punctulatum*, but differs from all our species by its coloration. In the specimens examined there is uniformity except that the thorax may be somewhat darker than at the sides.

La Chuparosa.

*SAPRINUS OPACUS* n. sp.

Broadly oval, convex, black, opaque, punctured. Head densely punctate, front not margined. Thorax densely punctate, very slightly strigose at the sides. Elytra opaque, punctures smaller than those of the thorax and less closely placed, especially in the circum-scutellar region; sutural striæ extremely fine, obliterated at basal third, dorsal striæ four, the outer side of each raised in a fine carina, the first longer, arcuate and nearly entire, second and third shorter, fourth much shorter and with a distinct arch at base; internal subhumeral short, oblique, the outer long and fused with the marginal. Pygidium closely punctate like the thorax. Prosternum nearly flat, the striæ sinuous, but gradually convergent in front without quite uniting. Metasternum at sides coarsely punctate, at middle and the abdomen sparsely finely punctate. Anterior tibiæ 7-denticulate. Length, .14 inch; 3.5 mm.

This peculiar species will be referred to Group ii, as defined by Leconte, but is one of those exhibiting the difficulty attending the Marseul system of subdivision. From all the species known in our fauna with immarginate front this one may at once be known by its opaque and punctate surface, the nearly flat prosternum with convergent striæ.

One specimen. San José del Cabo.

**TERETRIUS LEVATUS** n. sp.

Cylindrical, piceous black, shining, legs brown. Head finely not closely punctate. Thorax sparsely punctate, fine at apex and sides, coarser near the base. Elytra more coarsely punctate, the punctures finer near sides on apex, a smooth umbonal space, a short very oblique stria at base. Pygidium sparsely punctate. Mesosternum distinctly margined in front, sparsely coarsely punctate. Anterior tibiæ 4-denticulate, middle tibiæ 4-spinose, hind tibiæ bispinose near apex, with a smaller spine at middle. Length, .10 inch; 2.5 mm.

A species resembling *obliquulus* in most of its characters, but much smaller and with one less spine on the middle and hind tibiæ, the spines being at the same time more slender.

San José del Cabo.

**ANORUS PARVICOLLIS** n. sp.

Elongate, parallel, yellowish testaceous, head rufescent, under body slightly piceous, surface shining. Head sparsely punctate, with long, sparse hairs. Thorax smaller in bulk than the head, but, excepting the eyes, slightly wider, twice as wide as long, not broader at base, sides obtusely angulate at middle, lateral edge rounded, surface sparsely punctate with long sparse hairs. Elytra broader than the thorax, but scarcely wider than the head across the eyes, surface vaguely striate, slightly wrinkled near the apex, intervals with sparsely placed short erect hairs. Body beneath more or less piceous, very sparsely pubescent, the segments 3-4-5 of abdomen more closely pubescent in their distal half. Legs sparsely pubescent with longer flying hairs. Length, .32 inch; 8 mm.

This insect has not yet occurred in Lower California, but from the fact that it was collected at Fort Yuma may



be expected. Differs from *A. piceus* in the form of the thorax and the scarcely pubescent surface.

Occurs in Arizona near Fort Yuma.

*LACON ILLIMIS* n. sp.

Brown or ferruginous, subopaque, sparsely clothed with yellowish, scale-like hairs, antennæ and legs paler. Head coarsely and closely punctate. Thorax a little longer than wide, sides arcuate in front, from middle to base nearly straight, margin crenulate, hind angles slightly prominent externally, without carina, disc coarsely, closely punctate, a depression in front of the scutellum. Elytra not distinctly striate, the intervals faintly indicated, punctures coarse, closely placed and in feebly indicated rows with closely placed and but little finer punctures in the intervals. Body beneath with coarsely, closely and equally disposed punctures. Propleuræ without groove for the tarsus. Length, .28-.32 inch; 7-8 mm.

By all its structural characters this species should take its place near *Lezeleucii* as given by Candeze, but differs from that by its smaller size and the elytral sculpture. The elytral punctures are so closely placed that it is difficult to distinguish those of the striæ.

Occurs at Tucson (Wickham) and near Yuma, Ariz.

*CHRYSOBOTHRIIS BICOLOR* n. sp.

Form of *texana*, but without trace of costæ or foveæ on the elytra, head and thorax bronze black, elytra green feebly shining. Clypeal emargination broadly oval. Head closely punctate, vertex more finely, sparsely pubescent. Thorax rather more than twice as wide as long, sides slightly divergent posteriorly, hind angles slightly coarctate, anterior angles obliquely truncate, disc regularly convex without depressions, coarsely punctured, less closely at middle, densely at the sides. Elytra slightly

wider at base than the thorax, humeri rounded, sides parallel, arcuately narrowing at apical third with the margin rather coarsely serrate, apex obtuse, disc convex without costæ or foveæ except the usual basal depression, the surface not closely submuricately punctured, the intervals alutaceous. Body beneath coarsely and closely punctate with few hairs, the abdomen smoother and with more cupreous luster at the sides. Last ventral with an entire lateral margin and a well defined supplementary margin serrate near the apex. Length, .27 inch; 7 mm.

*Male*.—Anterior femur with a broad triangular tooth serrate on its distal edge, the tibia slightly arcuate. Last ventral with an acute angle each side, the interval between them bisinuate.

This species belongs with those in which the last ventral segment has an entire edge without serrulation and where the elytra have neither discal foveæ nor costæ. In a general way it resembles *analís*.

One specimen. San José del Cabo.

*CHRYSOBOTHRI* *LUCANA* n. sp.

Form resembling *chrysoela* and but little larger, metallic green or with the elytra blue, moderately shining, elytra with an opaque black band not reaching the suture or side, broadest internally, a similar band in front of apex, behind the base an oval spot, united to the median band by a slight isthmus. Head rather coarsely and closely punctate, a vague transverse ridge in the female; clypeus semicircular each side, an acute incisure at middle. Thorax one-half wider than long, sides somewhat sinuous, anterior angles oblique, surface moderately coarsely, but not closely punctate. Elytra with nearly parallel sides, arcuately narrowing at the apical third

where the margin is rather coarsely serrate; disc not costate nor foveate, a vague basal fovea, surface less coarsely and closely punctate than the thorax. Body beneath green or blue, coarsely punctate, smoother on the prosternal flanks and the anterior portion of each ventral segment. Margin of last ventral acute, not serrate. Length, .32 inch; 8 mm.

*Female*.—Anterior femur broadly toothed, the outer edge serrulate. Last ventral truncate, the angles of the truncation acute and moderately prominent.

*Male*.—Unknown.

Sierra El Chinche (2,000 feet) and San Jose del Cabo.

This species belongs to a small group represented by four forms peculiar to the fauna of western Boreal-America and three to Mexico, one of the latter occurring in Arizona. The essential characters of the group are: last ventral segment not serrulate at the sides, elytra separately rounded at apex without trace of costæ or discal foveæ. With the exception of *prasina* the elytra in all have three purple-black fasciæ more or less broken according to the species.

The forms known may be arranged in the following manner:

Species rather large and of robust form, tip of abdomen exposed, punctuation of surface rather coarse; elytra with three interrupted black fasciæ.

Sides of thorax regularly arcuate.

*atrifasciata.*

Sides of thorax oblique in front.

*Ulkei.*

Smaller and more depressed species, elytra entirely covering the abdomen, punctuation not dense.

Elytra with the usual purple-black fasciæ.

Anterior angles of thorax obliquely truncate.

Sides of thorax nearly straight; elytral bands reaching the suture.

*juncta.*

Sides of thorax sinuous; elytral bands not united across the suture.

*lucana.*

Anterior angles not obliquely truncate; sides slightly arcuate; elytral bands interrupted.

Surface somewhat dull.

*socialis.*

Surface shining.

*trisinata.*

Elytra without darker fasciæ.

Body bright green; anterior angles of thorax not obliquely truncate.

*prasina.*

Body bicolored above; anterior angles of thorax obliquely truncate.

*bicolor.*

From specimens examined by me *socialis* and *trisinata* seem not to be distinct specifically.

ACMÆODERA SCAPULARIS n. sp. Plate viii, fig. 6.

Similar in form to *flavomarginata*, but rather more attenuate posteriorly, piceous black with faint bronze tinge. Head coarsely closely punctate, front sparsely hairy and longitudinally impressed. Thorax more than twice as wide as long, wider slightly behind the middle, sides obliquely arcuate in front, behind the middle slightly sinuate, the hind angles rectangular, lateral margin acute and slightly reflexed, concealed near the hind angles, disc with a moderately deep triangular depression at middle and a deep oblique impression each side, surface coarsely and moderately closely punctate, very sparsely hairy, a yellow spot near the angulation. Elytra as wide as the thorax at base, gradually narrowed with but slight arcuation to apex, the margin from middle to apex serrate, disc slightly depressed, fifth interval finely costiform nearly to apex, punctures coarse and close, larger and closer exterior to the costa, the intervals smooth with a single row of punctures each bearing a short hair, the intervals near apex exterior to the costa muricate, surface muculate with yellow—beginning behind the humeri the marginal interval is yellow nearly to apex with an interruption opposite the last ventral suture, near the middle on each side the marginal line expands in an oblique

plaga of irregular form, sending a small branch nearly to the suture, a yellow spot each side of the scutellum, a smaller one posteriorly, one fourth from apex an irregular arcuate band behind which is a small round spot. Body beneath brown bronze, shining, moderately coarsely not closely punctate, the propleural punctures coarser. Anterior margin of prosternum trisinate and forming each side an obtuse short spine. Surface beneath and legs sparsely clothed with moderately long whitish hairs. Last ventral with single margin. Length, .52 inch; 13 mm.

The markings of this species resemble those of *flavosticta* Horn (nec *flavosticta* || Waterh.) From the characters given this species must be placed in the group *Acmaeoderæ sinuatæ* (Trans. Am. Ent. Soc. vii, 1878, p. 4), and, while related to *flavomarginata* by most of its characters, it seems best placed after *cuprina* which is the only species in our fauna with the sub-costiform elevation, although the character is faintly indicated, also, in *flavomarginata*.

Sierra El Chinche.

ACMÆODERA STIGMATA n. sp. Plate vii, fig. 2.

Subcylindrical, nearly of the form of *Ptosima luctuosa*, dull blue, subopaque, sparsely pubescent, each elytron with a round red spot at the margin one-third from apex. Front feebly convex, not coarsely nor closely punctate, sparsely hairy. Thorax about a half wider than long, sides regularly arcuate from base to apex, side margin narrow and not visible from above, disc convex, a very vague depression at middle of base and a more distinct fovea each side, surface moderately coarsely and closely punctate and sparsely hairy. Elytra nearly parallel, sides narrowed at apical fourth and distinctly serrate, disc convex, the striæ impressed at sides and apex, the punctures moderately coarse and deep, more so at the sides, inter-

vals uniseriately punctulate flat at middle, convex at sides and apex. Body beneath piceous black, slightly bronzed, punctuation rather coarse in the thoracic regions. Abdomen rather finely and closely punctate, less closely on the first two segments, at sides with moderately long, sparse, whitish hair. Prosternum in front trisinate, a mammiliform elevation each side limiting the points of sinuation. Last ventral with a slight ridge within the apical margin. Length, .31 inch; 8 mm.

This species belongs to the group in which the anterior edge of the prothorax beneath is trisinate and with a distinct tubercle each side. It must be associated with those species in which the thorax is not wider than the elytra, having the lateral margin inferior and without yellow spot at the side.

It may be known from any species in the group, and, in fact, from any in our fauna, by the cylindrical and convex form and the red marginal spot one-third from the apex.

San José del Cabo. A specimen from Tucson, Ariz. (Wickham, 231), has a small red spot between the humerus and the larger spot.

*ACMÆODERA BIVULNERA* n. sp.

Closely resembling *stigmata* or *culta* in form, color dark blue beneath, elytra bluish or slightly greenish with a moderately large red spot, one-third from apex, head and thorax piceous slightly bronzed, surface moderately shining. Front convex, moderately closely punctate, sparsely pubescent. Thorax about one-half wider than long, sides gradually, arcuately narrowed to the apex, disc convex without depressions, a slight fovea at base on each side, surface rather sparsely and finely punctate at middle, gradually more coarsely and closely at the side, pubescence short and sparse. Elytra slightly wider

at the umbones than the thorax, sides nearly parallel, narrowing at apical third, surface with striæ of punctures not densely placed, the punctures coarser toward apex and at the sides where the striæ are impressed and the intervals convex, a single row of finer punctures in the intervals, pubescence scarcely evident. Prosternum trisinate in front, forming a short broad lobe at middle, which is broadly emarginate with angles rounded, surface at middle coarsely and closely punctate, the flanks with shallow variolate punctures. Meso-metasternum coarsely punctured at middle, with dense silken white hair at the sides. Abdomen smooth and sparsely punctate at middle, densely punctate at sides, with white silken hair. Length, .25-.30 inch; 6.25-7.50 mm.

This species resembles *stigmata* very closely, and might readily be mistaken for it without an examination of the prosternum. The present species is, however, more shining, the thorax more finely punctate and the pubescence at the sides of the body more dense. One specimen has a small red spot immediately in front of the larger spot.

Occurs near Tucson, Ariz.

ACMÆODERA MACULIFERA n. sp. Plate viii, fig. 5.

Form of *amplicollis*, but more flattened above; head, thorax and body beneath aeneous, sides of thorax and elytra yellow, the latter with three rows of round black spots. Front slightly concave, closely moderately evenly punctate, hairy. Thorax more than twice as wide as long, widest at base, sides narrowing to front, slightly arcuate, hind angles (seen from above) obtuse, lateral margin visible from above, disc with an impressed line behind the apical margin at the sides and parallel with it, a broad but shallow sub-triangular depression at middle, an oblique impression each side, a broad yellow space

each side not reaching the apex or base, surface coarsely and rather closely punctate, becoming cribrate at the sides, sparsely hairy. Elytra narrower at base than the thorax, sides gradually arcuately narrowing to apex, margin serrate, disc with rows of coarse and deep closely placed punctures nearly as wide as the intervals, these latter uniseriately punctate, each puncture with a black hair; color yellow, marked with round black spots arranged in three rows, a sutural row of about seven spots, the largest scutellar, a median row beginning at the umbone, slightly sinuous, of six spots, a marginal row of five spots, the anterior one slightly separated from the margin. Anterior margin of prosternum trisinuate, at middle coarsely and closely punctate, flanks with shallower variolate punctures. Metasternum more coarsely and closely punctate, densely at the sides. Abdomen coarsely not closely punctate, punctures equally placed. Body beneath sparsely hairy, last ventral segment with a double margin at apex, the additional edge forming a plate projecting beyond the true edge. Length, .47 inch; 12 mm.

The specimen before me is a male from Texas, given me by Mr. Ulke.

In addition to the characters given above, it will be observed that along the basal edge of the elytra the surface is more closely punctate. Among our species, *maculifera* should be placed near *amplicollis*, with which it agrees closely in form and structural characters, although a little flatter. The species is unique, as far as known to me, in the style of elytral ornamentation.

Mr. Waterhouse figures a form which he considers a variety of *delectabilis* Waterh., resembling *guttifera*, above described, so closely that they are probably the same, but it is not quite so clear that either is merely a



variety of *delectabilis*. Figures will be found on pl. ix, Biol. Cent. Amer., vol. iii, pt. i.

ACMÆODERA CLAUSA n. sp. Plate vii, fig. 3.

Similar in general form to *ornata*, but with narrower thorax and slightly more convex, color piceous slightly coppery bronze, elytra less distinctly so, elytra and sides of thorax ornate with yellow. Front feebly convex, closely punctate, a small smooth space at middle, sparsely hairy. Thorax fully twice as wide as long, widest at base, sides regularly arcuately narrowed from base to apex, lateral margin not visible from above except near the base, disc rather flat, a vague triangular depression at middle, at sides flattened, a fovea each side near the base and a post-apical impressed line extending from angle to angle, surface coarsely and very closely punctate at sides, becoming finer and sparser at middle, yellow border at sides not reaching the front angles. Elytra gradually narrowed from base to apex, sides serrulate, disc slightly convex, striæ slightly impressed at sides and apex, punctures of striæ rather fine, becoming much coarser from the fifth outward and near the apex, intervals uniseriately punctate and near the apex submuricate; an oblique yellow spot in the scutellar region, outer interval yellow to a varying extent, a very irregular band at middle, an oblique band one-third from apex, not reaching the suture, a sub-apical oblique band. Prosternum in front vaguely trisinate, at middle sparsely at sides variolately punctate. Metasternum nearly smooth at middle, closely punctate and hairy at the sides. Abdomen moderately coarsely punctate, smoother at middle, sparsely pubescent. Last ventral with a distinct double margin at apex. Length, .37-.40 inch; 9.5-10 mm.

This species belongs to the series of the "*sinuatæ*,"

with the thorax not wider than the elytra and margined at the sides with yellow. It is, therefore, systematically related to *tuta* and *Hepburnii*, from both of which it differs, apart from its markings, by the much more prominent double margin of the last ventral segment.

Occurs at San José del Cabo and Coral de Piedra, Sierra el Taste.

ACMÆODERA CRIBRICOLLIS n. sp. Plate viii, fig. 4.

Moderately elongate and convex, piceous, faintly bronzed on head and thorax and beneath, sparsely invested with short erect whitish hairs. Front convex, coarsely and closely punctate, occiput carinate. Thorax unicolored, twice as wide as long, widest behind the middle, sides arcuate and narrowing to the apex, sinuate behind the middle, the hind angles (directly from above) rectangular, lateral margin very narrow not visible from above, disc convex, a vague depression at middle, a faint oblique depression each side, a small fovea each side near the base, surface densely cribrately punctured and opaque. Elytra narrower at base than the thorax at middle, sides parallel to middle then arcuately narrowing to base, margin serrate, striæ with coarse deep, closely placed punctures, the intervals slightly convex and scarcely wider than the striæ, each with a row of setigerous punctures, surface ornate with yellow in a style similar to *variegata*. Prosternum coarsely and closely punctate, anterior margin truncate. Metasternum coarsely and densely punctate. Abdomen moderately coarsely and closely punctate at sides, a little less so at middle. Last ventral with single apical margin. Body beneath sparsely cineropubescent. Length, .40 inch; 10 mm.

This species is the most obtuse in front of any known to me. The thoracic sculpture is of rare occurrence,

densely cribrate and opaque. By the characters used by me in an analytical table of the group its position should be near *culta* et seq., all of which are scarcely more than half the length of this one, while *gemina* alone has similar thoracic sculpture. By facies the species is best placed near *obtusa* and *consors*.

One specimen from Texas; locality unknown.

ACMÆODERA NEBULOSA n. sp.

Form of *culta*, piceous, opaque, a feeble bronze lustre to the head, thorax and under side, elytra reticulate with yellow markings. Antennæ with joints gradually wider, the fifth not abruptly wider than the fourth. Head cribrately punctured, sparsely hairy, front not impressed. Thorax uncolored, a little more than twice as wide as long, scarcely narrower at apex than at base, sides arcuate, lateral margin entirely obliterated, disc convex without median or lateral impressions, a small fovea each side at base, surface densely but not deeply punctate, resembling crowded reticulations, sparsely hairy. Elytra not wider than the thorax, parallel, gradually narrowed at apical third and serrulate, disc moderately convex with striæ of coarse, deep, closely placed, round punctures, nearly as wide as the intervals, these flat, somewhat rugose, each with a row of punctures bearing a short black hair, surface opaque piceous with numerous small yellow spots intricately joined. Prosternum truncate in front, surface cribrately punctured. Mesosternum closely coarsely punctured. Abdomen subopaque with a somewhat rugose aspect, the punctuation relatively coarse and dense. Last ventral with single apical margin. Body beneath sparsely clothed with short whitish hair. Length, .24-.28 inch; 6-7 mm.

The prosternum being squarely truncate beneath places

the species in the "truncatæ," while the structure of the antennæ and the absence of thoracic margin relate it to *gemina*, from which it differs in its larger size, different elytral ornamentation (that species being vittate), and the absence of lateral thoracic spot.

Two specimens from Napa County, Cal.

*ACMÆODERA INSIGNIS* n. sp.

Form of *culta*, dull black, opaque, elytra ornate with yellow spaces. Antennæ as in *gemina*, the fifth joint not abruptly wider than the fourth. Front convex, obsoletely reticulate, sparsely hairy. Thorax unicolored, about a third wider than long, very little narrower at apex, sides arcuate, lateral margin obliterated in apical half, disc convex without impressions, the basal foveæ relatively large and deep, surface reticulately punctured but near the sides somewhat cribrate, surface sparsely hairy. Elytra not wider than the thorax, sides slightly convergent, arcuately narrowing at apical third, margin serrulate, surface striate, striæ with moderately coarse punctures not closely placed nor deep the intervals slightly convex wrinkled and with a row of punctures bearing a short seta as in *culta*, surface ornate with yellow forming a space near the base from the first to fifth striæ extending nearly a third toward apex emitting a branch under the umbone, a narrow band at middle oblique backward from the suture, a spot, single or divided in front of apex, a smaller spot at apex. Prosternum truncate, indistinctly coarsely punctate, the flanks reticulate. Metasternum with shallow reticulations bearing elongate scales. Abdomen indistinctly reticulate, and with elongate scales those at the sides white, at middle yellow. Last ventral with single apical border. Length, .16 inch; 4 mm.

By the prosternum and structure of the antennæ this

species is related to *gemina* and *nebulosa*, and is remarkable in having the vestiture of the under side scale-like and not hairy.

One specimen found on cactus, San Raymundo.

ACMÆODERA DELUMBIS n. sp.

Closely resembling *gibbula* in form and coloration, differing as follows: Thorax more coarsely and closely punctate. Elytra with a row of five yellow spots on each side, centering on the fourth interval, a row of three spots on the ninth or widest interval also yellow, red in *gibbula*, a marginal row of four yellow spots. Prosternum as in *gibbula*. Metasternum at sides coarsely and moderately closely punctate, sparsely hairy. Abdomen rather finely punctate not much more closely at sides than at middle, the pubescence at sides sparse and not conspicuous. Last ventral as in *gibbula*. Length, .47 inch; 12 mm.

The most conspicuous differences are that in this species the sides of the abdomen are not conspicuously pubescent and the sides of the elytra have the spots yellow and not red. The last named character may not be permanent, the first is valid and not sexual.

Two specimens from Arizona; others in the National Museum at Washington.

AGRILUS INEPTUS n. sp.

Similar in form to *acutipennis* or *pulchellus*, bluish green or blue as in the former, scarcely shining. Head closely punctate, front deeply impressed, a pubescent space between the antennæ at base. Thorax a little wider than long, slightly narrower at apex, sides feebly arcuate, hind angles obtusely carinate, a moderate median impressed line, at sides an oblique depression, surface with rather coarse transversely undulating strigæ. Scutel-

lum not carinate. Elytra slightly sinuate behind the humeri, the apices obtuse scarcely visibly serrulate, surface closely submuricately granulate. Body beneath similar in color to the upper surface. Prosternum moderately coarsely punctured, the sides of metasternum more coarsely, abdomen more finely and less closely slightly undulating on the first two segments. Spaces of white pubescence are found along the under margin of prothorax, the mes-epimera, outer side of metasternum and coxæ plate and at the front angle of each ventral segment. The suture between the first two ventrals well marked at both sides. Length, .35 inch; 9 mm.

This species has the antennæ serrate beginning at the fourth joint, the lower portion of the bifid claw not strongly inverted, the pygidium has no projecting carina, thorax slightly impressed at middle, the suture between the first two ventrals plainly visible at the sides. It is therefore closely related to *pulchellus* and *Walsinghami*, and differs from the former by the obtuse pygidium and the uniformly colored elytra and from the latter by the absence of pubescent spots.

Coral de Piedra, Sierra El Taste and Pescadero.

*PLATEROS SANGUINICOLLIS* n. sp.

Black, thorax and scutellum bright red. Disc of thorax irregular showing a tendency to approximate the ornamentation of *Eros*, the hind angles slightly prominent externally. Elytra finely costate as usual in *Plateros*, the intervals feebly reticulate. Body beneath more shining than above. Legs black, anterior femora at base yellow. Length, .20 inch; 5 mm.

In the female the antennæ are shorter than in the male, the joints 4 to 10 as broad as long.

San José del Cabo and Sierra El Chinche 2,000 feet.

*TELEPHORUS DECIPIENS* n. sp.

Black, moderately shining, sparsely pubescent, thorax reddish-yellow with a median triangular space, the base anterior. Thorax wider than long, scarcely perceptibly punctate, a slight median depression near the base, on each side of which the disc is more convex. Elytra scabrous, smoother at base. Body beneath and legs black. Length, .28 inch; 7 mm.

In this species the claws are similar on all the feet and broadly obtusely toothed at base. It belongs to LeConte's division A (Trans. Am. Ent. Soc., ix, 1881, p. 51), and by the broad thorax must be placed near *dentiger*. It, however, has considerable superficial resemblance to *oregonus*, but differs in the form of the claws.

San Pedro Martir Mountains.

*POLEMIUS LANGUIDUS* n. sp.

Oblong, broader behind, yellow slightly reddish antennæ, tibiæ and tarsi with the last two ventral segments piceous. Head smooth, a darker band between the eyes. Thorax one-half wider than at apex, sides arcuate gradually rounding, these from middle to base slightly sinuous, hind angles distinct but obtuse, disc smooth a slight convexity each side of the middle of the base. Elytra scabrous with two fine costæ on each within the umbone. Body beneath yellow, the last ventral entirely piceous the fifth yellow at middle. Length, .47 inch; 12 mm.

The unique before me is a female and it differs from all our species in its color.

From southern California, probably near San Diego. This is the first indication of the genus on the Pacific Coast.

*ATTALUS SETOSUS* n. sp.

Above in great part red, a median thoracic space suddenly constricted at base, the scutellum and space each side piceous. Antennæ slender feebly serrate, piceous, the three basal joints in part paler. Head oval, not rostrate, piceous except at mouth. Thorax transversely oval, sparsely finely punctate and with fine short pubescence. Elytra slightly wider behind, very sparsely finely punctate, with extremely minute pubescence and with short erect black setæ sparsely scattered. Body beneath and legs black, abdomen red. Length, .10 inch; 2.5 mm.

This species bears some resemblance to varieties of *humeralis*, but differs from that and any other species in our fauna by the setæ which are found on the elytra.

San José del Cabo.

*ATTALUS UNICOLOR* n. sp.

Piceous, distinctly bronzed, moderately shining. Antennæ slender, feebly serrate, piceous, four basal joints pale beneath. Head oval, not rostrate. Thorax transversely oval, moderately convex, minutely alutaceous, sparsely punctate. Elytra slightly wider behind, surface slightly scabrous, with sparsely placed short, black, erect hairs. Body beneath black, slightly bronzed. Femora except at knees and the posterior tibiæ black, anterior and middle tibiæ partly, tarsi entirely testaceous. Length, .08 inch; 2 mm.

This species is notable in its uniform color with bronzed surface, resembling in this respect some *Malachius*.

One male. La Chuparosa, near San José del Cabo.

*CYMATODERA PURPURICOLLIS* n. sp.

Brownish, head and thorax metallic blue, the latter more distinctly so. Antennæ slender, joints three to



eleven not differing notably in length, the second very little shorter. Head oval, moderately closely but not deeply punctate, surface sparsely pilose. Thorax one-half longer than wide at base, broader at apex with the usual broad constriction in front of and behind the middle, at base bituberosa, surface nearly smooth with faint traces of transverse wrinkles and sparsely scattered fine punctures bearing erect hairs. Elytra not wider at base than the thorax, body apterous, sides gradually divergent, apices very obtuse, surface with striae of moderately coarse not closely placed nor deeply impressed punctures which become obsolete at the middle near the suture, but extend two-thirds to apex near the sides, intervals with very sparsely placed fine punctures bearing erect hairs, color pale brown with a narrow yellow band with irregular edges extending slightly arcuately outward and backward from the suture. Body beneath brownish. Mesosternum coarsely punctured. Abdomen indistinctly punctured, a yellow spot at the side of each segment. Legs brown, femora at base, tibiae and tarsi paler. Length, .46 inch; 11.5 mm.

*Male*.—Ventral segments three to five broadly emarginate and successively more deeply, sixth ventral semi-circularly emarginate. Last dorsal narrower than the ventral, truncate at tip with an acute notch at middle.

This species must be placed near *ovipennis* and *angustata*, the former of which it resembles in elytral marking and sculpture. It differs from either in the comparatively smooth thorax with distinct metallic surface lustre, a character unknown in any North American species.

Sierra el Chinche.

TRICHODES PENINSULARIS n. sp. Plate viii, fig. 7.

Form slender, beneath bright olive green and shining, above head and thorax violaceous, elytra blue-black with

three transverse narrow yellow bands, the anterior turning down along the suture. Antennæ entirely black. Head oval, not closely punctate, sparsely hairy, palpi pale. Thorax oval, as wide as long, apex truncate, sides arcuately narrowing to the basal constriction, disc convex, a slight median depression at base and a faint post-apical constriction, surface coarsely punctured, the punctures rounded at the sides but less dense at middle. Elytra parallel, the apices truncate, sutural angle distinct, surface with coarse cribrate punctures somewhat in striæ, and short erect black hairs; color dull blue-black with three fasciæ, the anterior beginning with a broad base at the humerus extends inward leaving the base then turning abruptly parallel with the suture, a second fascia at middle, narrow, very slightly arcuate, the third fascia one-fourth from apex, slightly arcuate. Sides of metasternum and the posterior edges of segments 2-3-4 at sides with moderately long white hair. Abdomen quite smooth. Legs black with blue green surface lustre. Length, .38 inch; 9.5 mm.

This insect is allied to *illustris* Horn (Trans. Am. Ent. Soc., v, 1876, p. 231), and might even be an extreme form of that, but the uniform coloration of the specimens of *illustris* make it advisable to name the present form. In *illustris* the antennæ, except the last three joints, are rufo-testaceous, as are also the legs; the basal band keeps close to the margin and extends down the suture, the middle band decidedly arcuate and the posterior very oblique.

One specimen, El Chinche.

HYDROCERA OMOGERA n. sp.

Form of *discoidea*, color black with a humeral yellow white spot (the umbone black), or with the white forming a transverse band immediately behind the umbone.

Antennæ entirely pale. Head moderately closely but not distinctly punctate. Thorax broader than long, sides strongly arcuate with a short apical and longer basal narrowing in the usual manner, surface scabrous. Elytra wider at base than the thorax, slightly narrowing to apex, margin serrate, apex very obtuse, surface shining coarsely punctured the punctures well separated except in a space one-third from apex where the punctures are fine, more crowded and with the pubescence, irregular forming a closer fascia. Body beneath black, feebly shining. Legs slightly variable, but the tendency is to have the anterior and middle legs pale, the posterior piceous. Length, .14 inch; 3.5 mm.

The species of *Hydnocera* are so variable in color and so difficult to describe sufficiently that it seems hardly proper to indicate new species in an isolated manner until the genus has undergone a systematic study. In a faunal list like the present essay there is a slight excuse for description. The species above named has the form and general appearance of *humeralis*, but with elytral punctures of *pallipennis*.

Occurs at San José del Cabo.

It might be here observed that *H. furcata* Ghm. (Biol. Cent. Am., iii, pt. ii, p. 342, pl. xiii, fig. 14) is one of the many varieties of *discoidea* Lec.

*XESTOBIUM ELEGANS* n. sp. Plate viii, fig. 9, antenna.

Cylindrical, parallel, brown, elytra marmorate with a mixture of ochraceous and white pubescence having a broad band at middle and a spot near apex nude. Antennæ pale except the basal joint. Head closely punctate. Thorax wider than long, narrower in front, densely punctate, clothed with recumbent white pubescence, naked on the median and a transverse line, also on a spot

each side of the middle in front and also at base. Elytra densely finely punctulate, the pubescence forming a larger triangular area beginning at the humerus extending beyond the middle, the apex reaching the suture one-third from base, the scutellar area spotted with white, the apical third irregularly marmorate, the space at middle third almost nude. Body beneath black, densely punctulate and cinereo-pubescent. Length, .25 inch; 6.25 mm.

One specimen collected in western Nevada by Morrison; others by Schwarz at Brightons, Utah.

A prettily ornamented species and easily known thereby. Its most striking peculiarity is in the form of the antennæ. The normal form of antennæ in *Xestobium* is to have the last three joints triangular and larger than those which precede, the funicular joints slender. In the present species there are properly but three funicular joints, the third joint of the antennæ longer than the second or fourth, fourth shorter than second, fifth twice as long, narrowly triangular, sixth short, triangular, seventh similar to the fifth, eighth similar to the sixth, ninth and tenth like the seventh, eleventh a little longer. When the genera of *Anobiini* have been released from the confusion in which they appear to be at the present time this species may be separated from *Xestobium*, or, as the genus will then be called, *Anobium*.

*CTENOBIUM CINEREUM* n. sp.

Cylindrical, slightly depressed, piceous black, clothed with fine ashy pubescence nearly concealing the surface color. Head opaque rather coarsely punctured. Thorax one-third broader than long, sides arcuate, angles all rounded, disc convex with scarcely any irregularity, a faintly impressed median line, surface finely densely

punctured. Elytra vaguely quadri-costate, the pubescence abraded from their summits, surface densely finely punctured. Body beneath as above. Length, .36 inch; 9 mm.

The specimen before me is probably a male, the last ventral is very obtuse with a shallow emargination extending from side to side.

Collected in southwestern Texas, near the Rio Grande.

TRICHODESMA SELLATA n. sp,

Cylindrical, rather more oblong than *gibbosa*, piceous black, densely clothed above with a white pubescence, dense, like a spider-web, a large saddle-shaped space common to both elytra of brownish pubescence. Antennæ ferruginous. Head densely pubescent. Thorax broader than long, sides arcuate in front, suddenly sinuately narrowing at the middle, hind angles distinct, disc strongly gibbous, an impressed line from the apical margin to the summit of the gibbosity, surface coarsely punctured, the pubescence forming denser reticulations, the summit of the gibbosity with short, stiff, brown hair. Elytra densely pubescent, concealing the sculpture, in great part ashy white and web-like with a large saddle-shaped space of brown pubescence and with short erect hairs sparsely placed similar in color to the surface from which they arise, also two arcuate series of erect brown-black hairs forming brushes, the one series one-third from base, the second one-third from apex, each series composed of three brushes on each elytra. Body beneath densely pubescent, the pubescence simple and not web-like. Length, .29 inch; 7.5 mm.

This species differs from every other known to me by the form of the thorax. The vestiture is remarkable.

One specimen, El Taste.

*TRICHODESMA SORDIDA* n. sp.

Cylindrical, oblong, more than twice as long as wide, black, head and thorax with dirty yellow pubescence, elytra with a band of same along the base, a very narrow sinuous band at middle and an irregular apical space of same color. Antennæ black. Head black, punctuation concealed. Thorax broader than long, sides arcuate in front, slightly sinuate in front of the hind angles, the latter distinct, disc gibbous behind the middle, a slight sulcus from the apical margin to the summit of the gibbosity, surface distinctly granulate and not densely clothed with dirty yellowish pubescence and with intermixed short, black erect hairs, but without brush at the summit of the gibbosity. Elytra but little wider than the thorax, the surface with irregular striæ of coarse, deep, not closely placed punctures and clothed with velvety black pile arranged in quite small spots, a dirty yellow band composed of spots across the base, a sinuous indistinct band at middle and a space near the apex of similar pubescence. Body beneath black, subopaque, surface granular dashed with recumbent, dirty yellow pubescence. Length, .30 inch; 7.5 mm.

This species is similar in form to *sellata*, being more than twice as long as broad, differing in having the sides of the thorax less sinuate behind the middle. It differs from all our species in having no brush-like tufts at the summit of the gibbosity of the thorax.

One specimen, Texas; special locality unknown.

*TRICHODESMA CRISTATA* Casey, Ann. N. Y. Acad., v, p. 323.

Form of *gibbosa*, but shorter and slightly more robust, piceous black, feebly shining, sides of thorax and base of elytra near the humeri densely clothed with web-like

whitish pubescence. Antennæ brownish. Head piceous, sparsely granulate and clothed with ferruginous pubescence less abundant at middle. Thorax one-half wider than long, sides regularly arcuately narrowing to base without sinuation, the hind angles obliterated, disc gibbous at middle, surface rather closely granulate, densely clothed at sides with whitish web-like pubescence, the middle third nearly naked except the brushes of black hair at the summit of the gibbosity. Elytra wider than the thorax, with coarse punctures irregularly arranged in striæ with small patches of granules irregularly placed, more evident at base, surface indefinitely and sparsely clothed with short brownish pubescence with small whitish patches irregularly placed, small tufts of short erect hair form two series, the first of three patches beginning at the umbone extending obliquely backward to the suture, the second series one-third from apex, strongly arcuate on each elytron of four patches each side. Body beneath not densely granulate, clothed with short yellowish pubescence. Length, .24 inch; 6 mm.

This species is known by its form and the comparatively scanty vestiture of the elytra. The above description was written under the impression that the species was new, as many important points were passed in the description by Capt. Casey.

Oregon, northern California, Santa Cruz and Alameda.

The species of *Trichodesma* of Boreal America may be separated as follows:

Form fully twice as long as wide; sides of thorax sinuate in front of hind angles; last three joints of antennæ together much longer than the preceding joints.

Sides of thorax abruptly and deeply sinuate; vestiture of surface dense.

*sellata.*

Sides of thorax feebly sinuate; vestiture sparse.

*sordida.*

Form less than twice as long as wide; sides of thorax arcuately narrowing to base without sinuation; last three joints of antennæ together not longer than the preceding joints.

Vestiture of surface rather dense and of whitish pubescence in great part. *gibbosa.*

Vestiture of elytra not dense, surface not concealed, a whitish border at base and a small white spot at declivity. *cristata.*

The antennal character is to a certain extent sexual, the males having the last three joints longer than the females, but as used above (in a secondary position) the antennæ are in both sexes longer in the oblong group than in the shorter forms. The tooth of the claw is more acute in the shorter species.

The four species above recorded all belong to different faunal regions—*gibbosa* from the regions east of the Mississippi; *sordida*, Texas; *cristata*, from the California region; and *sellata*, from the Peninsula of California.

TRIPOPITYS TENUILINEATA n. sp.

Cylindrical, brown, subopaque. Antennæ pale, the basal joint piceous. Head moderately closely punctate, sparsely clothed with ochreous pubescence. Thorax broader than long, narrower in front, sides strongly arcuate, margin explanate, disc convex, a faint median impression and a feeble oblique impression each side reaching the base, surface roughly punctate but not densely and somewhat smoother in the impressions, surface sparsely ochreo-pubescent. Elytra moderately closely and irregularly punctate, indistinctly clothed with extremely fine ochreous pubescence which forms fine denser lines extending from the base nearly to the apex, a sutural line, one from the umbone, two between these on the disc, with an oblique scutellar line, a line external to the umbone. Body beneath paler than above, very finely densely punctured and with extremely fine pubescence. Length, .20 inch; 5 mm.



This insect looks far more like an *Oligomerus* than *Tripopitys*, but the serrate antennæ, the depressed mesosternum and the excavate metasternum have induced me to place it in the latter genus. The only characters in which it differs from that genus are the elytral sculpture and the more explanate sides of the thorax, in the latter respect resembling *Ernobius*. The specimen before me is a female, and the antennæ are equally serrate from the third to the tenth joints, eleventh longer. The elytral sculpture and ornamentation make it an easily recognized species.

Occurs in Oregon.

*HEMIPTYCHUS ESTRIATUS* n. sp.

Oblong, oval, piceous black, feebly shining, surface finely clothed with short indistinct pubescence. Head and thorax not visibly punctate. Elytra not visibly punctate except under microscopic power, the lateral striæ entirely obliterated. Body beneath not visibly punctate. Abdomen sparsely punctate, opaque, finely pubescent. Length, .18 inch; 4.5 mm.

This species is remarkable in its large size and almost entire obliteration of sculpture.

San Fernando.

An examination at this time demonstrates that as the genera are now recognized several species formerly placed by Dr. LeConte in *Catorama* must come to *Hemiptychus*. These are *sectans*, *obsoleta* and *punctulata*. These will form a group by themselves, while *obsoletus* with faint striæ is the link with the striate group. The species are closely related among themselves, but the following brief table will enable them to be separated:

Elytra very obviously punctate even with moderate power; color piceous black. *sectans*.

Elytra scarcely punctulate; color brown.

Scarcely longer than broad.  
One-half longer than broad.

*latus*.  
*estriatus*.

With *sectans* I have united *punctulata*. These were originally described from uniques, and the character based on size, which seems to be the only one separating them, has entirely disappeared in a series of twenty. The name *latus* is proposed for *obsoletus*, as there is at present a species with the latter name in Hemiptychus.

HEMIPTYCHUS ROBUSTUS n. sp.

Oblong oval, moderately densely clothed with ochreous pubescence which conceals the piceous color of the surface. Antennæ pale. Head minutely punctulate. Thorax minutely densely punctulate with coarse punctures widely scattered but closely placed near the hind angles. Elytra similarly punctulate, the slightly larger punctures more numerous and more evident near the apex, the marginal striæ deep, extending from the apex nearly to the middle. Body beneath similarly punctured to the upper surface, the coarser punctures of the abdomen more abundant and more evident. Length, .18 inch; 4.5 mm.

A number of specimens of this large species have been seen. At first glance they resemble *estriatus*, although more coarsely pubescent. It is at present the largest species known with the elytra striate at sides near the apex.

Southwestern Texas, near the Rio Grande.

The genus Hemiptychus threatens to be very troublesome. A number of species still exist without names, but it has not been thought advisable to name any but those necessary, in advance of any general revision of them.

CERACIS SIMILIS n. sp.

Cylindrical, castaneous, the elytra slightly darker at base, glabrous, distinctly punctate. Antennæ pale, the

club darker. Thorax as broad at base as long, narrower in front in the ♀, surface finely not closely punctate, a smooth median line posteriorly. Elytra more coarsely punctate than the thorax. Body beneath sparsely punctate. Legs pale. Length, .05 inch; 1.25 mm.

*Male*.—Head smooth, concave, margin of clypeus reflexed and emarginate, apical edge of thorax at middle reflexed in a short lamina which is emarginate.

*Female*.—Front convex, sparsely minutely punctate, minutely alutaceous. Clypeus and margin of thorax not elevated.

This species is probably closely related to *quadricornis* Ghm., but the description is so brief as to render it unsafe to consider the two identical.

Coral de Piedra, Sierra el Taste.

*RHIPIDANDRUS PENINSULARIS* n. sp.

Cylindrical, brown, subopaque. Antennæ pale. Head reticulate, densely punctured between the eyes and pubescent, clypeus smooth. Thorax broader than long, slightly narrower in front, sides feebly arcuate, disc regularly convex, closely reticulate. Elytra not broader than the thorax at base, broadly sulcate, sulci slightly wrinkled, intervals finely subcostiform. Body beneath very coarsely not closely punctate. Length, .13 inch; 3.5 mm.

The most striking difference between this species and *paradoxus* is in the form of the antennæ. In the latter species the joints 5–10 are produced in a long branch, while in the present species the fourth and fifth joints are simply triangular, 6–10 transverse, twice as wide as long, eleventh transversely oval. This structure is the same as that described for *Eutomus*, a genus at present placed in the Scolytidæ.

In *paradoxus* the thorax is rather coarsely and densely punctured and the prosternum finely carinate; in *peninsularis* there is no carina.

Coral de Piedra, Sierra el Taste.

CANTHON OBLIQUUS n. sp.

Black, semi-opaque, oval narrowed behind as in *nigricornis*, surface not punctate nor granulate. Clypeus notched at middle not forming teeth, the sides oblique, scarcely perceptibly arcuate. Thorax smooth, disc convex with an ante-scutellar depression, a median impressed line from middle to base. Elytra arcuately narrowing almost from the humeri, the striae almost entirely obliterated, surface very finely granulate-alutaceous. Pygidium flat, alutaceous. Body beneath extremely finely alutaceous. Length, .32-.38 inch; 8-9.5 mm.

In addition to the above, the following characters may be added that the relationship of the species may be traced in the tabular scheme given by Baron Harold (Berl. Ent. Zeit., 1868, p. 11). Posterior tibiae slightly arcuate, with one spur, the femur not punctate nor with marginal line. Anterior tibiae obliquely truncate. Prosternum beneath without transverse carina and without sub-marginal tooth. From these characters it would seem to be allied to *tristis*, which however has no thoracic depression. Among the Boreal American species it is probably best placed near *lavis*. It differs notably from any of our species in having the sides of the clypeus oblique and not arcuate. The male has the spur of the front tibiae broader at tip, truncate and emarginate.

Occurs at Pescadero and Sierra el Chinche.

CHNAUNANTHUS PALMERI n. sp.

Similar in form to *discolor*, brownish tending to piceous, elytra, abdomen and legs yellowish. Head coarsely

and deeply punctured. Apex of clypeus reflexed, acutely emarginate, the angles acute. Thorax coarsely sparsely punctate, smoother at sides and base. Elytra coarsely sparsely and irregularly punctate. Body beneath sparsely punctate and hairy. Length .14-.16 inch; 3.5-4 mm.

*Male*.—Anterior tibia without spur. Pygidium vertical or slightly inflexed, regularly convex, clothed with whitish hair.

*Female*.—Anterior tibia with spur. Pygidium oblique, rather deeply impressed each side near the apex, surface quite smooth.

Collected by Dr. Edw. Palmer at St. George, Utah.

The three species of *Chnaunanthus* may be separated in the following manner:

Surface quite shining. Clypeal teeth obtuse. Pygidium of female concave near apex. *discolor.*

Surface dull. Clypeal teeth acute. Pygidium of female bi-impressed. *Palmeri.*

Surface moderately shining. Clypeal teeth moderately acute. Pygidium of female with a single impression near the tip. Elytra bright yellow. *flavipennis.*

#### ONCERUS CONVERGENS n. sp.

Facies of *Chnaunanthus*, piceous, elytra dull yellow. Head coarsely, deeply and moderately closely punctured, sides of clypeus convergent. Thorax broader than long, slightly wider at base than apex, sides regularly arcuate, disc moderately convex, coarsely not closely but regularly punctate. Elytra slightly wider than the thorax, irregularly but not closely punctate. Body beneath sparsely punctate. Front and middle legs yellowish, posterior legs piceous. Surface above and beneath sparsely hairy. Length, .14 inch; 3.5 mm.

In the nine specimens examined no sexual peculiarities have been observed.

Calmalli Mines.

The differences between this species and *floralis* are almost generic and are as follows:

Sides of clypeus parallel; upper tooth of anterior tibia small; anterior claws simply cleft. *floralis*.

Sides of clypeus convergent; upper tooth of anterior tibia well developed; anterior tarsal claws dissimilar, the anterior one with a lobe-like tooth at base, both claws cleft at tip. *convergens*.

It is probable that all the specimens seen are males, as none of them have any anterior tibial spur and the pygidium is nearly vertical.

As classifications now stand, *Oncerus* is fairly well placed in the Chasmatopterides as defined by Lacordaire, but the same group as constituted in our fauna (Classification, p. 249) is not a natural one. *Podolasia* and *Acoma* should be separated by their simple claws.

*Chnaunanthus* has a distinct labrum concealed beneath the clypeus, while *Oncerus* has the labrum connate with clypeus, as in *Phyllotocus* and *Cratoscelis* more especially, as well as in *Serica*.

There seems to be a great need at the present time of a revision of the relationships of many genera at present placed vaguely among the Melolonthidæ.

Mr. H. W. Bates remarks (Biol., vol. 2, pt. 2, p. 129), in describing *Aporolaus*: "An interesting generic form \* \* \* demonstrating that the mouth-structure (especially the free bilobed ligula) is more to be relied upon than the position of the abdominal spiracles as indications of natural affinity in this portion of the Lamellicorn series."

In emitting this opinion Mr. Bates seems to have been influenced by a reverence for the classification then existing. From my own studies, made necessary by my defense of the position of *Pleocoma* and by a critical examination of very many obscure genera of Lamellicorns, it seems clear that the free bilobed ligula and laparostict spiracles are concurrent characters.

There are at present a number of genera with a more or less membranous and free ligula associated with various tribes of Melolonthidæ, such as Phyllotocus, the Pachytrichides, Aclopides and Chasmatopterides, which might form groups between the Laparosticti and Pleurosticti, as at present arranged, and thereby render the transition less abrupt. The Pachycnemides occupy just such a position as placed by Lacordaire. The Chasmatopterides and Aclopides are true laparosticts, while Pachytrichia seems far better placed near Glaphyrus, as Hope, Burmeister and Westwood have suggested. Phyllotocus, a laparostict, is about as badly placed among the Sericides.

Some interesting results will follow a study of the Pachypodides. In Pachypus the spiracles are so placed as to make it doubtful whether they are truly laparostict or not. The entire organization of Pachypus seems to relate it to our Pleocoma, an undoubted laparostict, except as to the ligula. The larva of Pachypus is badly needed to settle its true position in the lamellicorn series.

*DICHELONYCHA PICEA* n. sp.

Brownish piceous varying to quite pale, without metallic lustre, sparsely clothed with short semi-erect gray hair. Head rather coarsely, moderately closely punctate. Clypeus nearly smooth, arcuate in front, angles obtuse, sides oblique continuous with the genæ, the eyes not prominent, frontal suture distinct, not impressed. Antennæ 8-jointed. Thorax nearly twice as wide as long, sides rather strongly arcuate, all the angles very obtuse, disc convex without sulcus sparsely punctate especially at middle, a fovea near the middle of each side. Elytra vaguely costate, coarsely and irregularly punctate. Body beneath very sparsely punctate and hairy. Legs somewhat pale. Length, .30 inch; 7.5 mm.

This species does not differ especially in form from the others. The clypeus is, however, more arcuate in front, the antennæ 8-jointed and the tibial teeth feebly indicated.

Two specimens, San José del Cabo and El Chinche 2,000 feet.

*SERICA PILIFERA* n. sp.

Oblong ovate, pale brown, dull, surface with semi-erect fulvous hairs. Head opaque, impunctate, clypeus coarsely punctate, more shining, the apical margin moderately reflexed with rounded angles, broadly but slightly emarginate, a very slight incisure each side. Thorax more than twice as wide as long, slightly narrower at apex, sides feebly arcuate, hind angles rectangular, surface dull, sparsely indistinctly punctate, margin fimbriate, disc with semi-erect fulvous hairs sparsely placed. Elytra very vaguely subsulcate, the intervals slightly convex, the sulci irregularly punctate, the punctures bearing a semi-erect hair. Body beneath dull, sparsely punctate and hairy. Length, .32 inch; 8 mm.

This species may be known by its hairy surface, the hairs of the elytra being vaguely arranged in rows in the sulci.

Santa Maria.

*DIPLOTAXIS PUNCTULATA* n. sp.

Oblong-oval, piceous black, moderately shining. Clypeus hemi-hexagonal, the angles well rounded, feebly emarginate, surface cribrately punctate. Head coarsely and densely punctate, a smooth vertical space. Thorax twice as wide at base as long, slightly narrowed in front, sides feebly arcuate, disc regularly convex, coarsely not closely punctate, intervals with few very minute punctures. Elytra with striæ in pairs of coarse punctures as in *tristis*, the intervals coarsely not closely punctate, the



interspaces between the punctures finely punctulate. Pygidium coarsely closely punctate. Body beneath coarsely punctate, sparsely on the abdomen with a short yellow hair from each puncture. Length, .56-.60 inch; 14-15 mm.

The largest species of the genus known and of more robust facies than *tristis* and the allied forms, with which it should be associated. It differs from all of that group by the presence of the minute punctures of the elytra.

San José del Cabo, Coral de Piedra, Sierra El Taste.

*LISTROCHELUS CARMINATOR* n. sp.

Oblong, nearly parallel, rufo-castaneous, head and thorax darker and more shining, elytra dull faintly pruinose. Antennæ rufescent, club paler. Head coarsely closely punctured, clypeus hemi-hexagonal, feebly emarginate with rounded angles. Thorax less than twice as wide as long, slightly narrower in front, sides feebly arcuate margin crenulate and fimbriate, disc convex coarsely moderately closely punctate, more sparsely along the sides and base. Elytra more finely, less deeply punctured than the thorax, the costæ very indistinct. Body beneath punctate, with long yellow hair. Abdomen very sparsely finely punctate, shining at middle, opaque at the sides. Length, .60 inch; 15 mm.

*Male*.—Antennal club as long as the funiculus. Claws similar on all the feet, pectinate from a single edge without tooth. Pygidium convex sparsely punctate. Sixth ventral large with a broad shallow concavity extending from apex to base.

From the structure of the claws this species is allied to *puberulus*. It differs in that the latter has a very coarsely closely punctate thorax, and the male has quite a short sixth ventral segment.

San José del Cabo.

*CREMASTOCHILUS OPACULUS* n. sp. Plate vii, fig. 1.

Oblong, black, opaque, dorsum very flat. Clypeus strongly carinate at middle. Disc of thorax sharply divided into three regions, anterior angles auriculate, the posterior spiniform, sides arcuate, sinuately narrowing to the hind angles, base sinuate within the angles, disc coarsely punctured, the outer lobes more coarsely and closely, the central portion more sparsely and more opaque. Elytra flat with punctures in the form of elongate scratches on the disc, but decidedly punctiform at the sides. Body beneath shining with coarse sparse punctures. Legs slender. Mentum entire. Length, .44 inch; 11 mm.

Closely allied to *spinifer*, but with the disc of thorax more sharply divided and differently sculptured. The hind angles of the thorax are not everted. It is also allied to *planipes*, but that has broad thin tibiae.

Pescadero.

*EBURIA CONSPERSA* n. sp.

Pale piceo-testaceous, clothed with recumbent fulvous pubescence. Thorax transversely quadrate, sides feebly arcuate, with feeble post-median tuberosity, disc covered with callosities as follows: a median linear from apex to base, a broader one each side from base toward apex, a small oblique one between these in front, one near each front angle. Elytra rugulose, with scattered foveiform punctures, one ivory spot at base, two behind the middle, the outer longer, these spots on the line of nude costae, the outer one nearly entire, the inner abbreviated, elytra at apex rounded, a sutural spine. Body beneath sparsely pubescent. Femora not spinose at apex. Length, .67 inch; 17 mm.

Quite unlike any of our other *Eburia*, more nearly re-

sembling *Elaphidion* in habitus. The foveate punctures resemble a similar sculpture seen in *Brothylus gemmulus*.

San José del Cabo.

*ACYPHODERES DELICATUS* n. sp.

Form slender. Head yellowish, cribrately punctate. Antennæ similar in color, half the length of body, stouter externally, scape coarsely punctate, third joint nearly as long as the next three. Thorax as broad as long, wider at middle, sides regularly arcuate, disc convex, densely punctate, very finely pubescent, a feeble median smoother line and vague oblique umbone either side, color reddish-brown, base and apex bordered with black. Scutellum flavo-pubescent. Elytra pale brownish testaceous, yellow-white along the base, form subulate, sparsely punctate and shining, although somewhat rugose near the base. Prothorax beneath black, densely punctate. Metathorax sparsely punctate and pubescent, with denser hair anteriorly. Mesopleuræ and apex of met-episternum densely flavo-pubescent. Abdomen pale piceo-testaceous, sparsely punctate and with few short hairs. Legs rufo-testaceous, the basal half of the tibiae and femora yellow-white. Length, .45 inch; 11 mm.

The introduction of this genus into our fauna requires that an additional tribe be added to the table as given on page 276 of the Classification, and placed near the Ancylocerini and Rhopalophorini, from both of which tribes the new one will be distinguished by having the anterior coxæ cavities closed behind. The tribe is named *Rhinotrogides* by Lacordaire.

The species above described resembles *suavis* Bates (Biol., v, p. 290, pl. xx, fig. 20), but is smaller and differently colored.

El Taste.

*SPHENOTHECUS BASALIS* n. sp.

Piceous black, moderately shining, a very small hair in each puncture of dorsal surface, the basal region of the elytra and femora red. Vertex coarsely punctate at the sides. Thorax oval, narrower in front, apex and base truncate, sides arcuate, disc convex, a slight transverse depression in front of the base, surface with coarse transverse punctures not closely placed, the median line and depressed basal region smoother. Elytra coarsely irregularly punctate, the punctures becoming fewer and closer near the apex, apices acutely rounded, a small spine at the suture, a larger spine externally. Body beneath sparsely cinereo-pubescent. Legs black, femora red, the condyles of hind femora dentiform. Length, .48-.56 inch; 12-14 mm.

This species is congeneric with *S. suturalis*—in other words, is a *Sphenothecus* as restricted by Le Conte. The genus, as admitted by Mr. Bates, is certainly a composite one. This species differs from *suturalis* in color and vestiture; the scutellum is nude.

San José del Cabo and Sierra El Chinche.

*OPHISTOMIS VENTRALIS* n. sp.

Slender. Head black, closely punctate. Thorax red or black, conical, longer than wide at base, apex constricted, sides compressed behind the middle, disc very convex, very sparsely and finely punctate, hind angles not explanate. Elytra wider at base than the thorax, humeri prominent, sides obliquely narrowing, apex obliquely emarginate-truncate, the angles acute, disc coarsely and deeply not regularly punctate, punctures finer toward apex. Pro- and mesosternum black. Metasternum and abdomen red, very sparsely finely punctate, not pubescent. Legs black, the under side of hind femora at base usually red. Length .42-.47 inch; 11-12 mm.

The vestiture of the upper side consists of very short black hairs arising from the punctures. This species is allied to *rufiventris* Bates from Nicaragua, but differs in its almost smooth thorax.

Ophistomis is barely separable from Leptura, the only character being the prolongation of the head into a beak. Southern California. El Taste.

CÆNOPÆUS NIGER n. sp.

Form of *Palmeri*, black shining, the pubescence excessively fine, short, black. Antennæ black, joints three to seven, annulate with white. Front sparsely punctate. Thorax broader than long, angulate at the middle, sides in front oblique, behind the angulation forming a cylindrical constriction, surface with coarse punctures along the apex and base, very few at middle. Elytra coarsely, closely and deeply punctate, near the apex much smoother. Body beneath extremely finely pubescent. Length, .67-.75 inch; 17-19 mm.

This species differs from *Palmeri* in the coarser and closer elytral punctuation and by the absence of any ornamentation by pubescence either above or beneath. The two specimens before me are females and have the last ventral slightly emarginate, as in *Palmeri*.

El Chinche 2,000 feet.

PERITAPNIA nov. gen.

Middle coxal cavities closed externally, the anterior slightly angulate as in Tapina. Middle tibiæ with a sinus externally near the apex. Claws divaricate. Front vertical, broad, the antennæ widely separated at base. Head similar in the sexes, not alate. Antennæ longer than the body in both sexes, one-half longer in the male, joints not ciliate, first joint conical, rather stout, second small,

third as long as first, fourth joint shorter, those following about equal in length. Eyes coarsely granulate, very deeply emarginate. Thorax strongly angulate at the sides. Scutellum not large, semicircular. Elytra wider at base than the thorax, apices entire, rounded. Mesosternum slightly convex.

This genus contains two species, of which *nudicornis* may be considered the typical form. The type is somewhat depressed, but less so than in *Tapina*, while the second species is slightly more convex. The coxæ are all widely separated, but to a less extent than in *Tapina*, and rather more widely in *nudicornis* than in the other. In the males of both species the anterior femur is slightly angulate on the under side one-third from the base, and with a small brush of short hairs. No such character has been seen in *Tapina*.

The relationships of this genus are as difficult to define as those of *Tapina*. It seems, while strongly related to *Tapina*, to connect that genus with the *Estolides*. Admitting the weight which Lacordaire insists should be allowed for the widely separated coxæ, especially the posterior, there can be no hesitancy in placing the genus near *Tapina*, a view also admitted by Bates by his considering *nudicornis* a possible *Tapina*. From the latter genus it will be separated by the antennæ not ciliate, and the similar form of the head in the two sexes. The two species are as follows:

Piceous black, moderately shining, muricate punctures of elytra irregularly placed. *nudicornis*.

Brown, dull, more convex, muricate punctures regularly and evenly placed. *fabra*.

PERITAPNIA NUDICORNIS Bates. (*Tapeina*?) Biol. Cent. Am., vol. v, p. 421.

*PERITAPNIA FABRA* n. sp.

Dull brown, clothed with short fine brownish pubescence, elytra with short erect black hairs arising from evenly disposed muricate punctures. Head finely and moderately closely punctate. Thorax much broader than long, sides strongly angulate at middle, in front of angulation the sides are oblique, behind sinuate, surface finely punctulate and pubescent with short erect hairs arising from sparsely placed coarser punctures. Elytra very minutely punctulate and finely pubescent with erect hairs arising from muricate punctures equally placed over the surface but not in striæ. Body beneath and legs paler, sparsely finely punctate and pubescent. Length, .37 inch; 9.5 mm.

The general form in outline is that of a *Tapina*, but more convex, approaching *Tetraopes*.

Occurs in Arizona, south of Tucson.

*TETRAOPES ELEGANS* n. sp.

Form of *discoideus*, black, elytra ornate with red, surface finely cinereo-pubescent, decidedly bluish on the thorax, with short black erect hairs intermixed. Antennæ black, the first three joints and the under side of the other joints with bluish-cinereous pubescence. Head red, scarcely pubescent, sparsely punctate the punctures with erect black hairs. Thorax entirely black, very sparsely punctate, the umbone abruptly elevated, smooth at its sides, coarsely sparsely punctate and hairy on its summit. Scutellum black. Elytra coarsely not closely punctate, apical third nearly impunctate, color black with a red basal band, broader at middle and extending narrowly along the sides, behind the middle a triangular red space not reaching the suture, umbone black, on each side of the suture at the posterior edge of the red band a small

very black spot, the posterior edge of the triangular spot bordered with black. Body beneath finely cinereo-pubescent. Legs black. Length, .35-.47 inch; 9-12 mm.

The coloration of the elytra is of a style similar to that of *discoideus*, but the black is more extended. It differs especially from that species in having the umbone more elevated and more sharply limited, and by the absence of the four black spots on the thorax which are so constant in our other species.

San José del Cabo.

LEMA FLAVIDA n. sp.

Form of *trilineata*, entirely yellow except the antennæ, tarsi, sutural interval and met-episterna, which are piceous black. Head with the usual v-shaped impression and small vertical fovea. Thorax constricted behind the middle, the dorsal transverse impression not deep, disc anteriorly with a few coarse punctures. Elytra with striæ of coarse punctures which become finer toward the apex, the intervals wider than the striæ and with a row of distant finer punctures, ninth striæ entire. Body beneath very sparsely punctate and slightly pubescent. Length, .24 inch; 6 mm.

This species resembles *trilineata*, and differs from it in the absence of the lateral elytral stripe and by the sutural stripe narrower.

San José del Cabo.

LEMA OMOGERA n. sp.

Shining black, elytra slightly blue with an orange spot at the middle of the base of each elytron extending narrowly around the humerus and down the side to the first ventral segment. Head with v-shaped impression without vertical puncture, occiput transversely paler. Thorax with but few scattered punctures, constricted behind



the middle, the transverse dorsal impression feeble. Elytra with striæ of punctures becoming much finer toward the apex, the ninth entire, intervals broader than the punctures, smooth. Body beneath and legs black and shining. Length, .20-.24 inch; 5-6 mm.

Similar in form to *conjuncta* or *solani*, but easily known from all our species by the black head and thorax, with the basal orange spot on each elytron.

El Taste.

LEMA *ÆMULA* n. sp.

Form of *sexpunctata*, yellow or slightly orange, each elytron with three black spots and a short common sutural stripe near the base. Antennæ pale. Head with an acutely impressed v-shaped impression. Thorax smooth, constricted at middle, the dorsal transverse groove feeble. Elytra with striæ of coarse and deep, rather distant punctures becoming finer toward apex, the intervals smooth and convex at apex, the ninth striæ not extending more than one-third toward base. Body beneath pale, the sides of metasternum and tarsi darker. Length, .18-.20 inch; 4-5 mm.

This species resembles *sexpunctata* and varies in a similar manner.

*Typical form.*—Elytra with a black spot on umbone, a small oval spot between the fourth and sixth striæ in front of middle, a larger spot in the triangle formed by the third and sixth striæ near the apex, a narrow sutural stripe at base.

*Variety.*—Elytra immaculate.

*Variety.*—A broad sutural piceous stripe expanding abruptly near the apex. In all the specimens seen the antennæ and legs are pale, in *sexpunctata* piceous or black.

Sierra Laguna and El Taste.

**MYOCORYNA PENINSULARIS n. sp.**

Head, thorax, body beneath and legs rufescent, elytra pale yellow, the suture, two discal vittæ and margin piceous. Antennæ pale, the outer five joints darker. Head coarsely irregularly punctate. Thorax sparsely, irregularly punctate, more coarsely and closely at the sides. Elytra with nine entire striæ of moderately coarse punctures not closely placed, a short scutellar striæ, the seventh striæ somewhat irregular, intervals smooth, color pale yellow with a sutural piceous vitta including two intervals which separate near the base, a vitta on the intervals between the third and fourth and between the fifth and sixth striæ, these united near apex, the outer stripe with an appendix at its base, marginal interval from humerus to apex piceous. Body beneath very sparsely punctate. Length, .29 inch; 7.5 mm.

This species is similar in form to *lineolata*, but with markings resembling *Zygogramma continua*. It has fewer discal vittæ than any of our vittate *Myocoryna*, except *Dalbomi*, where, with an almost black thorax, there is but one broad discal vittæ. The thorax is not spotted as in the *decemlineata* series.

Coral de Piedra, Sierra El Taste.

**EPITRIX FLAVOTESTACEA n. sp.**

Ovate, yellowish testaceous, very finely pubescent. Antennæ pale, the outer joints somewhat darker. Head smooth. Thorax moderately coarsely and closely punctate, the basal impression moderate, slightly sinuous. Elytra with striæ of moderate punctures, closely placed, intervals very slightly convex wider than the striæ, finely uniseriately punctate. Body beneath pale, usually with the metasternum and first ventral segment piceous. Length, .06-.08 inch; 1.5-2 mm.

This species resembles the Mexican *subcostata*, which, however, has the intervals subcostate. Its form and sculpture resemble our common *cucumeris*, but the color is different.

El Taste.

DYSPHENGES gen. nov.

Head oval, eyes free, front obtusely carinate between the antennæ without supra-antennal callosities. Labrum moderately large, feebly emarginate in front. Maxillary palpi moderately stout, the last joint slightly longer than the preceding, conical and acute at tip. Antennæ slightly longer than half the body, very slightly thicker toward the tip, first joint claviform, second half as long, third slightly longer than second, joints 4-10 slightly longer, eleventh longer, acute at tip. Thorax without basal or longitudinal impressions, the angles distinct. Scutellum triangular. Elytra a little wider than the thorax, with wide epipleuræ. Prosternum narrow between the coxæ, the cavities closed behind. Met-episterna much narrowed posteriorly. Ventral segments free, the first much longer than the second. Tibiæ grooved on the outer edge, each with a terminal spur. Tarsi moderately stout, the first joint of the posterior a little longer than the next two. Claws appendiculate.

This new generic name is suggested for a small species which I cannot refer to any of the described genera. It is without doubt referable to the Oxygonites of Chapuis, and seems most nearly related to Oxygona, but differs in having the elytra regularly striate punctate and by the entire absence of frontal callosities, the head, in fact, resembling Systema. The angles of the thorax are tuberculiform and setigerous, as in Oxygona.

In the arrangement of the Halticini proposed by me

(Trans. Am. Ent. Soc., xvi, 1889, p. 167), the *Oxygonæ* will take place near the *Systemæ*, from which they will be separated by the longer first ventral segment.

Doubtless the genus is allied to *Cyrsylus* Jacoby.

*DYSPHENGES ELONGATULUS* n. sp. Plate viii, fig. 8.

Form of an elongate *Longitarsus*, color variable from rufo-testaceous to piceous, moderately shining, glabrous. Head sparsely punctate, indistinctly alutaceous. Thorax a little wider than long, sides and base arcuate, apex truncate, the angles dentiform and setigerous, disc convex coarsely not closely punctate, punctures finer in front. Elytra wider than the thorax, slightly wider behind, apices truncate and rounded, disc convex, striato-punctate, the punctures closely placed, intervals flat and smooth. Epi-pleuræ coarsely irregularly punctate. Body beneath very sparsely punctate the abdomen transversely alutaceous. Length, .08-.10 inch; 2-2.5 mm.

No sexual differences have been observed in the specimens examined. One specimen is entirely piceous, excepting the knees, tarsi and base of the antennæ. The rufo-testaceous specimens have a piceous metasternum and abdomen.

El Taste.

*LONGITARSUS BICOLOR* n. sp.

Oblong, piceous black, shining, head and thorax rufescent, body apterous. Antennæ pale at base, darker externally, joints 2-3-4 about equal in length. Head smooth. Thorax broader than long, sides irregularly arcuate, disc moderately convex, sparsely indistinctly punctate, finely alutaceous, scutellum pale. Elytra oblong oval, humeri obliterated, punctate, not coarsely nor closely, surface shining. Body beneath piceous black,

shining. Legs rufescent, posterior femora finely alutaceous. Length, .08 inch; 2 mm.

This species is the largest of our apterous forms, and differs from all known in our fauna by its color.

Margarita Island.

BRUCHUS JULIANUS n. sp.

Facies robust, approaching *scutellaris*, but otherwise very different, dark chestnut brown, with brownish pubescence variegated with ochreous above, ochreous beneath. Head coarsely punctate, a smooth carina between the eyes which are well separated. Antennæ piceous, the four basal joints pale. Thorax conical, broader at base than long, surface coarsely and moderately closely punctate, the intervals densely punctulate surface clothed at the sides with ochreous pubescence, the middle brownish. Elytra conjointly square with rounded corners, regularly striato-punctate, the punctures not coarse, intervals flat, closely punctulate, clothed with rather coarse brownish pubescence with whitish patches irregularly scattered, some ochreous spots at base and others in alternate intervals forming a much broken fascia at middle. Body beneath with ochreous or dull yellow pubescence irregularly scattered. Pygidium densely clothed with ochreous pubescence. Posterior femora with an acute tooth and three denticles. Posterior tibiæ with a short spur. Length, .12-.20 inch; 3-5 mm.

This species belongs to a group in our fauna containing but few species which approach the *scutellaris* group in form, while Group vii of my revision contains species of more oblong form. Bruchus is a genus of very difficult study, and the results obtained by Dr. Sharp in the more numerous species of Mexico are not more satisfactory than my own published twelve years anteriorly.

Occurs in Texas. San Julio and San Ignacio.

## SPERMOPHAGUS (ZABROTES) SEMICINCTUS n. sp.

Quadrate-oval, robust, black, clothed beneath with cinereous pubescence, above black, variegated with cinereous. Antennæ feebly serrate, more than half the length of the body, black. Front feebly carinate. Thorax nearly semicircular with relatively coarse scattered punctures, the interspaces densely punctulate, clothed with black pubescence, at sides narrowly cinereous, in front of scutellum a long, narrow, triangular cinereous space branched in front, between the middle and sides three other cinereous spots, one of which joins the margin. Scutellum white. Elytra striate, striæ finely punctate, intervals flat, densely finely punctulate, clothed with black pubescence an irregular, narrow cinereous band at middle attaining the side but not the suture, a few dashes of cinereous on alternate intervals in front of and behind this band. Pygidium black with ochreo-cinereous pubescence along its anterior border and a conspicuous white line at middle. Length, .09 inch; 2.25 mm.

This species differs from all described in our fauna in the thoracic markings, and is evidently near to *pectoralis* of Mexico.

Dr. Sharp (Biol. Cent. Am., vol. v, p. 492) seems hardly willing to admit *Zabrotes* to full generic rank, but the feebly or not toothed claws, contiguous front coxæ, the shorter scutellum, together with the general facies, seem to entitle it to recognition. The question, however, still remains open whether *titivilitius*, the type of the genus *Spermophagus*, may not be the type of the *Zabrotes* group. In that case the latter will truly be a synonym and the other larger forms as *robinia*, etc., will have a new name.

San José del Cabo.

## TRIMYTIS OBTUSA n. sp.

Oblong, piceous black, moderately glossy. Antennæ pale. Head densely and somewhat strigosely punctate, middle lobe of epistome obtusely triangular. Thorax about twice as wide at middle as long, sides regularly arcuate, base and apex nearly equal, the angles obtuse, moderately coarsely and closely punctate, somewhat strigose at the sides. Elytra slightly wider at base than the thorax, with striæ of fine punctures not closely placed, intervals irregularly biserially punctate, the punctures of the striæ and intervals confused behind the scutellum. Pro- and mesosternum very coarsely punctured, the propleuræ strigose. Abdomen moderately coarsely not closely punctate. Legs slightly brownish. Length, .15—.18 inch; 4-4.5 mm.

Occurs at Sierra Laguna.

There are now three species of Trimytis known to me, which may be separated in the following manner:

Thorax distinctly wider at base than at apex, hind angles rectangular, anterior angles prominent to the front.

Middle lobe of epistome squarely truncate, front very little strigose at the sides; thoracic punctuation not coarse nor dense; surface moderately shining. *pruinosa.*

Middle lobe of epistome semicircular, front closely strigose; thoracic punctuation rather coarse and close; surface subopaque. *pulverea.*

Thorax scarcely perceptibly wider at base than at apex, hind angles obtuse, anterior angles not produced.

Middle lobe of front obtusely triangular, front not truly strigose but with coarse punctures longitudinally confluent; thoracic punctuation moderately coarse and close; surface moderately shining, less on the head and thorax. *obtusa.*

From an examination of a typical specimen of *Pisceninus villosus* Champion, from Mexico, shows that it does not differ from Trimytis in structural characters beyond the fact that the surface is hairy.

## EMMENASTRICHUS gen. nov.

This name is proposed for two species which are in all essential respects *Emmenastus*, except that the surface is sparsely clothed with hair more or less erect. This genus in its relation to *Emmenastus* parallels that of *Pescennius* to *Trimytis*, of which mention has already been made.

The two species known to me are—

Brownish, hairs moderately long; thorax with large round, closely placed punctures almost cribrate at the sides. *cribratus.*

Piceous, hairs short; thorax with elongate punctures, denser and deeper at the sides. *erosus.*

In both species the elytral epipleuræ are punctate, a character not observed in *Emmenastus*.

## EMMENASTRICHUS CRIBRATUS n. sp.

Oblong, similar in form to *Emmen. punctatus*, brown or slightly piceous. Head with coarse, round punctures, close but not crowded, each bearing a short yellow hair. Thorax not quite twice as wide as long, slightly narrowed in front, sides feebly arcuate, anterior angles prominent in front, hind angles sharply rectangular, base slightly sinuate, surface with coarse, round, closely placed punctures at sides almost cribrate, each bearing a moderately long erect hair. Elytra oblong oval, with striæ of coarse closely placed punctures, intervals flat irregularly, biserially finely punctate, all the punctures with an erect yellow hair longer than that of the thorax. Prothorax beneath very coarsely cribrate punctate. Meso- and metothorax similarly but less coarsely punctate. Abdomen coarsely not closely punctate, surface beneath sparsely hairy as above. Femora punctate. Legs sparsely hairy. Length, .32-.34 inch; 8-8.5 mm.

This species might readily be mistaken at first sight for an *Amphidora*; in fact, one was given to me as such.

San José del Cabo.



*EMMENASTRICHUS EROSUS* n. sp.

Moderately elongate as *Emmen. longulus*, piceous, dull. Head densely coarsely punctate, sparsely hairy. Thorax nearly twice as wide as long, apex slightly narrower, sides feebly arcuate, base almost squarely truncate, hind angles rectangular, apical angles prolonged to the front, disc sparsely hairy, coarsely and closely punctate, the punctures elongate and densely crowded at the sides. Elytra rather obtuse at apex, disc with striæ of moderately coarse and closely placed punctures, intervals flat, uniseriately punctate, the third and fourth biseriately, all the punctures bearing a short, semi-erect fulvous hair. Prothorax beneath coarsely punctate, the punctures of the pleuræ coarser than those of the sternum. Mesosoma and metasternum similarly punctate. Abdomen much less coarsely and less closely punctate. Body beneath inconspicuously hairy. Femora sparsely punctate. Length, .28 inch; 7 mm.

One specimen. San José del Cabo.

*CENTRIOPTERA ANGULARIS* n. sp. Plate vii, fig. 4.

Form more robust than usual in the genus, approaching *Cryptoglossa*. Head wanting in the specimen. Thorax trapezoidal, broader than long, sides arcuate in front, sinuate behind the middle, the hind angles acute and everted, anterior angles acutely prominent to the front, disc moderately convex, a slight depression along the base, surface very finely sparsely punctate. Elytra oval, approaching the form of *Cryptoglossa*, disk slightly depressed, surface subsulcate with small distant murications in the grooves, intervals slightly convex more evidently muricate especially at the sides, apex gradually declivous. Prothorax beneath slightly wrinkled. Metasternum with few coarse punctures. Abdomen very sparsely punctate.

Legs coarsely closely punctate. Length from apex of thorax to tip of elytra, .83 inch; 21 mm.

While the absence of the head prevents a certain assignment of the species generically there seems to be but little doubt of the correctness of the assumption that it is a Centrioptera. It seems to go one step further from the general form of the genus than *infausta* toward *Cryptoglossa*. From all our species it differs in having the hind angles distinctly everted and the lateral margin in front of them slightly reflexed. These characters are faintly indicated in some *infausta*.

El Paraiso.

ASIDA PLANATA n. sp.

Of the exact form of *opaca*, black, subopaque. Head coarsely punctate. Thorax coarsely and closely punctate. Elytra slightly broader at base than the thorax, humeri distinct, the margin at that point slightly reflexed, disc transversely flat, the lateral marginal carina very nearly reaching the apex, surface even, without costæ or wrinkles, with sparsely placed small granules each bearing a minute hair. Prothorax beneath very coarsely punctured, granulate each side of the coxæ. Entire mesosternum and sides of metasternum granular. Abdomen finely sparsely punctate, last two segments more densely. Legs closely punctate. Length, .63 inch; 16 mm.

In the unique female before me there is a small fovea each side of the median line in front of the middle of the disc of the thorax. This is probably individual here as it is known to be in *morbillosa*.

This species may be known by its resemblance to *opaca* in form, differing in its almost sculptureless elytra which are flat in a transverse direction.

San Francisquito.

*Asida planata* belongs to a group of species which seems fairly definable. The elytra at base are wider than the thorax, the humeri rectangular or nearly so and the lateral margin is distinctly reflexed. In repose the hind angles of the thorax are slightly prolonged over the humeri. It will be also observed that the mentum does not completely fill the gular emargination and the ligula is nearly as distinctly visible as in *Branchus*. The species belonging to this group are moderately numerous. In the following table will be found the species of our fauna to which I have added two from Mexico, *collaris* and *scutellaris*, as a means of adding a good number of other forms from that region which belong near those cited:

Elytra sharply costate, the marginal ridge extending to the apex; hind angles of the thorax not everted.

Elytral costæ regular, the outer one not joining the margin. *lirata*.

Elytral costæ undulating, the outer joining the margin near the humerus. *scutellaris*.

Elytra not sharply costate.

Marginal ridge of elytra entire, extending from base to apex; hind angles of thorax everted.

Elytra with three lines of wrinkles replacing the costæ, disc transversely convex, more or less shining. *mancipata*.

Elytra with slightly uneven and very opaque surface, transversely convex. *opaca*.

Elytra with transversely flat and almost unsculptured surface.

*planata*.

Marginal ridge of elytra short, humeral; elytra smooth; hind angles of thorax not everted.

Thorax scarcely broader at base than apex and very little wider than long.

Thorax coarsely punctured near the side. *quadricollis*.

Thorax at sides smooth. *collaris*.

Thorax broader than long, broader at base than apex. *polita*.

*ASIDA SUBVITTATA* n. sp.

Somewhat of the form and facies of *opaca* but with the elytra more narrowed at base and expanded posteriorly, dull black, elytra with three vittæ of minute

granules each with a minute spine-like hair. Head moderately coarsely, not densely punctured. Thorax broader than long, slightly narrower in front, sides feebly arcuate with a slight sinuation posteriorly, the hind angles acute, disc moderately convex, a faint trace of a median groove, coarsely and closely punctured, denser at the sides. Elytra broadest behind the middle, humeri distinct but not rectangular, marginal ridge nearly reaching the apex, disc feebly convex transversely with three vittæ (one close to the suture) formed of minute granules each with a minute hair, a few scattered granules in the interspace next the margin, otherwise quite smooth. Prothorax beneath punctate at middle, granular at the sides. Mesosoma and sides of metasternum coarsely granular. Abdomen moderately finely not closely punctate bearing short hairs. Legs roughly punctured. Length, .70-.82 inch; 18-21 mm.

This species has no closely related form in our fauna, although not very different in outline from *moricoidea* of Mexico. It will however be easily known by the feebly convex disc of elytra (rather less convex than in *opaca*) and by the replacement of the costæ by rows of minute setigerous granules.

Pescadero, west side.

*ASIDA DENSICOLLIS* n. sp. Plate vii, fig. 5.

Very like *carinata* or *bifurca* in general form, black, dull. Head densely punctured. Thorax trapezoidal, wider than long, widest one-third from apex, apex feebly emarginate, angles not prominent in front, sides arcuate in front, oblique behind, hind angles rectangular not prominent, disc rather strongly convex densely and rather roughly punctate, more roughened at sides and base. Elytra oval, broader behind the middle, one-half longer

than wide, base as wide as the base of thorax, humeri oblique, marginal costa extending three-fourths to apex, disc convex with a well marked costa extending from base within the humerus more than two-thirds to apex, within this costa a much fainter one, nearly as long, slightly oblique to the suture, surface finely and moderately closely granulate. Prosternum coarsely closely punctate, propleuræ punctate-granulate. Mesosternum and metasternum granulate. Abdomen muricately punctate, more coarsely at the sides. Legs muricately punctate with short hairs. Length, .52 inch; 13 mm.

This species with the general outline and facies of *carinata* has the disc of the thorax convex and more roughly sculptured for its size than any species in our fauna. The inner costa of the elytral disc is very faint resembling a similar structure in *actuosa* where the costa may be entirely absent.

Two specimens. One in Mr. Wickham's cabinet from N. Yakima, Wash., the other in my own labelled doubtfully as from Oregon.

*ASIDA IMPETRATA* n. sp. Plate vii, fig. 4.

Form oblong resembling *parallela*, piceous or dark brown, dull. Head coarsely not closely punctate, occiput and neck densely punctate. Thorax at least one-half wider than long, widest slightly behind the middle, base not wider than apex, apex emarginate with angles prominent to the front, sides regularly arcuate, hind angles rectangular, disc feebly convex, the lateral margin slightly explanate and slightly reflexed, surface moderately coarsely, evenly, but not densely punctate, along the lateral margin very coarsely punctate, surface with extremely short yellow hairs, the lateral edge similarly fimbriate. Elytra oblong, twice as long as wide, at base

narrower than the thorax, humeri very obliquely rounded, lateral marginal ridge reaching nearly to the apex, disc moderately convex and with three costæ, the outer beginning at the lateral margin behind the humerus, extending near to apex and sinuous near its end, the second costa does not quite reach the base, is slightly oblique to the suture and indistinctly joins the outer costa near apex, inner costa faint joining the next outer one fourth from apex, these costæ and the lateral edge fimbriate at their summits with extremely short hairs, surface very finely and closely punctate. Pro-, meso- and metasterna coarsely not closely punctate. Abdomen rather closely and finely submuricately punctate with short yellow hairs. Legs roughly punctate and slightly hairy. Length, .42-.56 inch; 10.5-14 mm.

This species must be placed near *parallelus* differing in its opaque surface, tricostate elytra and more narrowly reflexed sides of the thorax.

San Diego and Yuma, California. This species will doubtless occur in Baja California.

*ASIDA EMBAPHIONIDES* n. sp. Plate vii, fig. 8.

Form rather slender and graceful, dull brown suture and two lines on each elytron faintly paler. Head coarsely and closely punctate. Thorax more than half wider than long, slightly narrower between the basal than the apical angles, apex deeply emarginate, base bisinuate, sides regularly arcuate, disc flat, the margin broad and widely reflexed, the edge slightly crenulate and with short hairs, surface sparsely punctate, each puncture with a short hair. Elytra less than twice as long as wide, widest at middle, humeri very oblique, lateral margin sharp and slightly reflexed, marginal line suddenly incurved one-fourth from apex, thence oblique nearly to apex, disc nearly flat transversely, surface with sparsely placed erect

spinules of peculiar structure. Prosternum sparsely punctate, with short erect hairs, propleuræ more coarsely punctate. Abdomen sparsely finely punctate, with short erect spinules. Legs roughly punctured with short hairs. Length, .60 inch; 15 mm.

This species is very peculiar in its form, having nothing in our fauna with which it may be compared. The widely reflexed thoracic margin, the flat and very acutely margined elytra suggest vaguely *Embaphion* or some species of *Akis*.

The spinules of the elytra and abdomen are of very peculiar construction. When examined under the high-power hand lense they are seen to be really feathers or spines pectinate on two edges, as in the tibial spurs of *Prionochaeta* and some other genera.

One specimen. San José del Cabo.

*ASIDA WICKHAMI* n. sp. Plate vii, fig. 7.

Exactly of the form of *parallela*, dull brown opaque, thorax less opaque. Head sparsely punctate, slightly hairy. Thorax about a third wider than long, widest slightly in front of middle, not wider at base than apex, sides arcuate, apex moderately emarginate, base bisinuate, disc slightly convex, a finely impressed median line, lateral margin rather widely reflexed as in *parallela*, surface sparsely punctate, each puncture with a short erect hair, the margin with short hairs. Elytra oval, broadest slightly behind the middle, humeri distinct but not prominent, marginal ridge extending nearly to apex, disc flat at middle, a sharply elevated costa arising within the humerus extends three-fourths to apex, a short costa branches from the marginal behind the middle and extends parallel with the inner costa, surface sparsely punctate, with short erect hairs. Prothorax beneath sparsely punctate. Abdomen finely not closely punctate, with short

erect hairs. Legs roughly punctured with short hairs. Length, .56 inch; 14 mm.

This species so closely resembles *parallela* that a specimen sent me by Mr. Wickham covered with the argillaceous coating so common in *Asida* was labeled *parallela*. It has exactly the same form and facies, but differs in its opaque surface and by the presence of a short additional costa branching from the marginal ridge.

Riverside, Arizona. Collected by Mr. H. F. Wickham.

*ASIDA CONNIVENS* Lec. A short time since, I stated that this species is the male of *bifurca*. In the present series it is shown that the only character of those mentioned by Le Conte for the separation of the two species of any value resides in the prominent hind angles. However, in a somewhat related species, *A. confluens*, the hind angles of the thorax are similarly prominent in the male, and to that extent confirm the view expressed.

*A. HORRIDA* Champion, Biol. Cent. Am., iv, pt. 1, p. 500, pl. xxii, fig. 15, occurs in Texas near the lower Rio Grande, the Mexican locality being Nuevo Laredo, Tamaulipas. It is probably best placed in our series near *sexcostata*. The surface has short inconspicuous hairs, the side margin of thorax reflexed as in *hirsuta*, each elytron with two feeble discal costa parallel with the suture.

*A. OBLITERATA* Champion, soc. cis., p. 493. This occurs in southern Arizona. At first glance this species would be placed near *marginata*, but the disc of thorax is scarcely convex and the lateral margin not reflexed, nor is there the median basal impression.

*EUSATTUS SECUTUS* n. sp.

Very like *E. dubius*, but a little more convex, oblong oval, black, moderately shining. Head opaque, sparsely punctate, clypeus nearly entire. Thorax rather more



than twice as wide as long, widest at base, sides arcuate, margin not fimbriate, hind angles acutely prolonged behind, disc convex, absolutely impunctate. Elytra smooth impunctate, without marginal edge. Epipleuræ gradually and but little wider at base, absolutely smooth. Prosternum coarsely punctured between the coxæ, the tip rounded and with a distinct marginal bead. Abdomen very sparsely and finely punctate, shining. Length, .37-.40 inch; 9-10 mm.

This species could not be mistaken for any other, except *dubius*, from which it differs in its smooth surface, nearly entire clypeus and margined prosternum.

El Taste and San José del Cabo.

*EUSATTUS CILIATUS* n. sp.

Oval, convex, black moderately shining, slightly more obtuse behind, margin of thorax and the legs ciliate with long yellowish hairs. Head sparsely finely punctate, clypeus deeply and broadly emarginate with a moderately deep incisure each side, the entire margin of the front reflexed. Thorax more than twice as wide as long, much narrowed in front, sides arcuate, the margin explanate, hind angles slightly prolonged but not acutely, disc of thorax smooth with a few fine piliferous punctures near the side. Elytra without lateral margin, surface with minute sparsely placed submuricate granules each with a short hair, intervals very minutely alutaceous. Epipleuræ gradually wider from apex to base, sparsely punctate and ciliate. Prosternum sparsely punctate ciliate with yellow hairs, the tip narrowly oval with a distinct marginal bead. Abdomen very sparsely finely punctate. Legs ciliate with moderately long yellowish hairs. Length, .46 inch; 11.5 mm.

This species approaches *muricatus* in form, with a suggestion of *Cœlus* from its ciliate thorax.

One specimen, Tantilles Mountains, Big Cañon, Baja California, lat.  $\frac{32}{3}$ , long. 116.

The last table of the species of *Eusattus* appeared in Trans. Am. Ent. Soc., 1883, p. 304, and will now need correction for the new species added since.

Elytra with distinct lateral margin.	2
Elytra not margined.	5
2. Epipleuræ occupying the entire space below the margin; prosternum distinctly margined.	<i>robustus.</i>
Epipleuræ narrow, suddenly broader at base.	3
3. Prosternum distinctly margined at tip; elytra subcostate.	<i>costatus.</i>
Prosternum not margined at tip.	4
4. Elytra with faint costæ with intermediate reticulations.	<i>reticulatus.</i>
Elytra coarsely irregularly eroded.	<i>erosus.</i>
5. Prosternum margined at tip.	6
Prosternum not margined.	9
6. Elytra subopaque, punctured, with fine scale-like hairs.	<i>puberulus.</i>
Elytra more or less shining, without hairs or scales.	7
7. Side margin of thorax explanate and ciliate; clypeus incised, on each side.	<i>ciliatus.</i>
Side margin not explanate nor ciliate; clypeus not incised.	8
8. Prosternum broad, coarsely punctured between the coxæ; a distinct marginal line at the sides of thorax extending on the apex.	<i>secutus.</i>
Prosternum narrow, smooth at tip; thorax without marginal line.	<i>politus.</i>
9. Epipleuræ suddenly broader at base and smooth; tip of prosternum rounded and smooth.	<i>lævis.</i>
Epipleuræ gradually broader toward base.	10
10. Epipleuræ smooth.	11
Epipleuræ punctate and hairy.	12
11. Form oblong, shining.	<i>dubius.</i>
Form oval.	<i>sculptus.</i>
12. Form oblong.	<i>productus.</i>
Form oval, very convex.	13
13. Thorax either smooth or with minute scattered granules.	<i>muricatus.</i>
Thorax distinctly punctate.	<i>difficilis.</i>

*E. sculptus* Champ. includes *obliteratus* Ch. From types sent and additional material before me they prove to be variations parallel to those seen in *reticulatus*.

Specimens of the last four species are found in which there is shown a faint tendency to a margining of the prosternum.

ARGOPORIS EBENINA n. sp.

Black, somewhat dull. Head moderately finely and closely punctate, clypeus truncate. Thorax a little wider than long, narrower at base than apex, sides moderately arcuate, slightly sinuate near the hind angles which are rectangular, disc slightly flattened posteriorly, surface very finely and moderately closely punctate. Elytra oblong oval, widest slightly in front of middle, humeri slightly dentiform, disc slightly flattened, substrate with more distinct punctures in the male or with rows of fine punctures in the female, the seventh interval costiform at apex, joining an oblong tubercle on the first. Prosternum finely punctate, propleuræ granulate. Mesopleuræ cribrate, metapleuræ coarsely punctate. Abdomen finely punctate, wrinkled longitudinally. Legs black, finely sparsely punctate. Length, .55-.63 inch; 14-16 mm.

*Male*.—Anterior tibiæ serrate within, the inner apical angle prolonged inward. Posterior femora with a long slender tooth one-third from apex. A tuberosity at middle of first ventral segment.

*Female*.—Anterior tibiæ very feebly serrate, the inner apical angle not prolonged. Posterior femora simple.

This is the largest species in our fauna, differing from all by the velvety black color of surface and legs, and in the male it differs from all but the next species in the presence of but one tooth.

The elytral sculpture of the male consists of fairly impressed striæ with moderate punctures not closely placed, intervals slightly convex, very finely sparsely punctulate. In the female there are no striæ, simply lines of fine punctures, the intervals flat and minutely punctulate.

Sierra El Chinche, Pescadero and El Taste.

**ARGOPORIS INCONSTANS** n. sp.

Piceous black, rather dull, legs red. Head finely punctate, clypeus truncate. Thorax a little wider than long, slightly narrowed at base, sides feebly arcuate, hind angles distinct, disc slightly flat, surface very finely sparsely punctulate, sometimes very indistinctly. Elytra oblong, widest at middle, humeri slightly prominent, surface variable in sculpture either subcostate as in *costipennis* or quite smooth as in *alutacea*. Prosternum beneath opaque, obsoletely punctate. Meso- and metapleuræ coarsely punctate. Abdomen finely punctate, longitudinally wrinkled. Length, .45-.53 inch; 11.5-13.5 mm.

*Variations*.—The extreme form has the elytra striate with moderately coarse punctures, intervals convex and near apex costiform. This form is known from San Diego and San Esteban.

The other extreme has the ordinary series of striate punctures, the intervals flat, not costiform at apex. San José del Cabo.

A specimen intermediate is known from San Francisquito.

*Male*.—Very like *ebenina*. The tubercle on the first ventral is triplicate.

*Female*.—As in *ebenina*.

There may be trouble in separating the extreme variations in the female—one form from *costipennis*, the other from *alutacea*—but in these latter the clypeus is always arcuate and not truncate.

San Diego, Cal. San Esteban, San Francisquito and San José del Cabo.

**CERENOPUS ATERRIMUS** n. sp. Plate vii, fig. 10, hind leg of male.

Form of *concolor*, but a little more slender, black, feebly shining. Head sparsely finely punctate, clypeus emarginate.

nate at middle. Thorax as wide as long, widest at anterior third, sides regularly arcuate, hind angles rectangular, disc convex, slightly flattened posteriorly, with extremely minute punctures sparsely placed. Elytra widest at middle, scarcely wider than the thorax, humeral angles dentiform, the extreme apices conjointly notched, surface with very faint traces of striæ or absolutely smooth. Prosternum transversely wrinkled, the pleuræ sparsely finely punctate. Meso- and meta-pleuræ coarsely granular. Abdomen sparsely finely punctate, first segment more or less plicate. Legs sparsely finely punctate, the tibiæ rough at apical half. Length, .86-.94 inch; 22-23.5 mm.

*Male*.—Anterior tibiæ serrate within, the inner angle prolonged. Posterior femora with a long, slender, slightly curved tooth one-third from apex.

*Female*.—Anterior tibiæ not serrate nor with the apical angle prolonged inward. Posterior femora simple.

This species is readily known by its very black color and almost sculptureless surface.

Santo Domingo del Taste and San José del Cabo.

CERENOPUS ANGUSTATUS n. sp. Plate vii, fig. 9, head.

Piceous black, rather dull, form slender. Head sparsely punctate, more evident in the male, clypeus emarginate at middle. Thorax as broad as long, widest slightly in front of middle, sides regularly arcuate with a slight sinuation posteriorly, disc regularly convex, almost absolutely smooth along the middle becoming gradually more distinctly punctate toward the sides. Elytra oblong, rather acute posteriorly, humeri prominent, disc with rows of coarse punctures which are large, shallow and vague in the male, sharply impressed in the female, the intervals vaguely convex, slightly costiform near apex. Prosternum opaque with transverse wrinkles and few

coarse punctures or granules, the pleuræ sparsely granulate. Meso- and metapleuræ granulate. Legs sparsely punctulate, the tibiæ rougher at apical half. Length, .65 inch; 16.5 mm.

*Male*.—Anterior tibiæ serrate within, the inner apical angle prolonged, anterior femora very abruptly narrowed at base. Posterior femora with a moderately long, slender tooth one-third from apex.

*Female*.—Anterior tibiæ not serrate within the inner apical angle prolonged, the femur not abruptly narrowed at base; posterior femora simple.

In the male the first three ventral segments are slightly concave and smooth, the sides of the segments granulate-punctate. The female has the first three segments coarsely punctate from side to side, at middle slightly flattened.

In both sexes the last two ventrals are finely punctate.

The elytral sculpture of this species is of the same type as seen in *concolor* and shows a tendency to vary as in *Argoporis inconstans*.

Two specimens. San José del Cabo.

DOLIOPINES nov. gen.

Form oblong, parallel, depressed, body alate. Head dissimilar in the sexes, transverse male, oval female, the clypeal margin truncate male, arcuate female. Eyes transversely oval, coarsely granulate, deeply emarginate by the sides of the clypeus. Labrum transverse, feebly trilobed in front. Mandibles slightly visible beyond the labrum, apex bidentate. Mentum hexagonal with rounded angles, emarginate in front, partly membranous anteriorly. Ligula membranous, lanceolate. Labial palpi moderate in length last joint cylindrical as long as the two preceding joints, membranous at tip. Maxillary palpi longer, the second and fourth joints equal, third shorter, fourth joint slightly broader to tip, obliquely truncate, tip

membranous. Antennæ arising under the sides of clypeus in front of the eye, more slender and two-thirds the length of body in male, shorter and more robust in the female; first joint conical, second small, third as long (female) or a little longer (male) than the first, joints 4-11 equal in length, slightly flattened, each two-thirds as long as the third joint. Thorax broader than long. Scutellum small, triangular. Elytra without explanate margin, epipleuræ terminating abruptly near the apex. Prosternum not wide between the coxæ, coxal cavities round not angulate externally. Middle coxal cavities slightly open externally with a feeble trochantin. Intercoxal process of abdomen acutely triangular. Anterior tarsi with joints 1-4 small, together scarcely longer than the fifth, middle tarsi first joint as long as next two, hind tarsi first joint longer than next two and as long as the fourth. Vestiture of tarsi consists of stiff hairs. Abdomen as in *Doliema*.

In the above description as many details are given as possible that the close relationship with *Doliema* may be realized. The only valid difference is in the form of the head, that of *Doliema* having the sides of the clypeus prolonged anteriorly in the male and with a distinct sinuation in the female, while in the present genus the clypeus is arcuate in both sexes more obtuse at middle in the male.

*DOLIOPINES CUCUJINUS* n. sp. Plate vii, figs. 11, 12.

Form oblong, parallel, depressed, piceous or brownish, feebly shining. Head finely not closely punctate. Thorax a little less than twice as wide as long, slightly narrower in front of the female, sides feebly arcuate, the angles obtuse, base slightly arcuate with a marginal line, disc freely not closely punctate, a faint basal impression each side of middle. Elytra very little wider than the thorax,

parallel, obtuse at apex with a slight sinuation caused by the abrupt termination of the feeble lateral edge, disc flat at middle, at sides rounded without sub-marginal edge, surface finely striate, striæ finely, moderately closely punctate, intervals flat minutely punctulate. Body beneath finely not closely punctate. Length, .23-.32 inch; 6-8 mm.

San José del Cabo.

*NOTIBIUS REFLEXUS* n. sp.

Form nearly of *N. opacus*, velvety black. Head moderately closely punctate, finer on the clypeus, the latter moderately deeply emarginate. Thorax broader than long, widest a little in front of middle, base slightly narrower than apex, sides arcuate, hind angles rectangular. Elytra slightly oblong or regularly oval, wider than the thorax, the entire lateral margin visible from above and slightly reflexed near the humeri, disc convex, very finely striate, striæ finely and closely punctate, intervals flat, slightly convex near the apex, very finely punctulate. Prosternum punctate-granulate, propleuræ strigose. Meso- and metasternum coarsely punctate. Abdomen finely punctate. Legs black, finely submuricately punctate. Length, .15-.20 inch; 4-5 mm.

The anterior tibiæ are merely slightly broader from base to apex and similar in the two sexes. The male has the first two ventral segments slightly flatter at middle.

This is the only species known to me in which the entire lateral margin of the elytra is visible from above and slightly reflexed near the base.

Occurs at San José del Cabo.



## NOTIBIUS COSTIPENNIS n. sp.

Similar in form to *N. opacus*, black, opaque. Head roughly punctured between the eyes, clypeus smoother, broadly emarginate. Thorax broader than long, widest in front of middle, sides arcuate, hind angles distinct, disc moderately convex, punctuation dense and somewhat strigose longitudinally, surface very opaque. Elytra a little wider than the prothorax, disc convex, deeply sulcate, with a row of coarse ill-defined punctures, intervals acutely costiform. Prosternum coarsely not deeply punctured, propleuræ longitudinally strigose. Metasternum at sides coarsely punctate. Abdomen sparsely punctate and more shining. Legs black, alutaceous, not closely submuricately punctate. Length, .22 inch; 5.5 mm.

Of this species I have seen but two somewhat mutilated specimens, which show no evidence of sexual difference. It resembles *sulcatus*, but differs from that in having the thorax distinctly narrower behind, as in *opacus*, and by the acute elytral intervals.

Magdalena Island and Lower Purisima.

Notibius is used in the same sense as in the Class. Col. N. A. or my Revision of the Tenebrionidæ. In the Proc. N. Y. Acad. Sciences, v, 1890, Capt. Casey has modified the definition of Conibius and Notibius in such a manner as to cause a rather heterogeneous distribution of the species and requiring the formation of the genus Conibiosoma, which is certainly untenable.

## HELOPS PINGUIS n. sp.

Form nearly intermediate between *farctus* and *areus*, castaneous brown (slightly immature?), the surface faintly bronzed. Antennæ slender, two-thirds the length of body, joints 4-7 and 8-11 equal in length, the last series

distinctly longer than the first. Front flat or slightly concave, moderately coarsely and closely punctate. Thorax nearly twice as wide as long, widest at middle, apex truncate, angles not prominent, sides arcuate, the margin acute, base truncate with obtuse angles, disc moderately convex, a crescentic depression near the base, moderately coarsely and closely punctate. Elytra oval, slightly prolonged at apex, convex, moderately deeply striate, striæ coarsely not closely punctate near base, gradually more finely toward apex where the punctures disappear, intervals convex, smooth. Prothorax beneath at middle and sides more coarsely punctured than above. Mesonotum and metasternum less coarsely punctured. Abdomen more sparsely and gradually more finely punctate toward the apex. Body apterous. Length, .26 inch; 6.5 mm.

The form of this species is more nearly that of *æreus*, although more robust, while the rather deeply striate elytra suggest *furctus*.

The name *Helops* is used in the sense intended by Lacordaire. The numerous genera into which it has been divided are not only difficult of appreciation, but so indefinite that disagreement with the position of species is expressed by about every one who has followed Allard.

One specimen. Coral de Piedra, Sierra El Taste.

*PHEDIUS OPACULUS* n. sp.

Dull black, opaque, form very like *carbonarius*. Antennæ black or brownish. Head punctate, not coarsely, somewhat more closely in the male. Thorax one-fourth wider than long, slightly narrower at apex than base, sides feebly arcuate, base feebly arcuate, hind angles obtuse, disc convex, sparsely punctate. Elytra oval, convex, slightly wider at base than the thorax, disc with striæ of faint punctures sometimes nearly obliterated, in-

tervals flat, not punctate, the surface microscopically alutaceous. Body beneath very sparsely punctate. Abdomen smooth. Legs finely sparsely punctate. Length, .36-.40 inch; 9-10 mm.

At first sight this insect would be thought a *Helops* allied to *difficilis* or *spretus*. The figure given by Mr. Champion (Biol., iv, pt. 1, pl. xx, fig. 19) very closely resembles our species, excepting the pilose surface of *carbonarius*. It is, however, more closely related to *hidalgoensis*, which, however, has the interstices finely and sparsely punctured.

Sierra Laguna, El Taste and Pescadero.

*ALLECULA SORDIDA* n. sp.

Brownish black, dull, sparsely clothed with short black erect hair. Head coarsely and moderately closely punctate. Thorax about one-fourth wider than long, narrower in front, sides arcuate in front then parallel to base, hind angles rather obtuse, disc convex, a slight median impression near the base, basal foveæ small, surface densely and moderately coarsely punctate. Elytra with striæ of moderate size, closely placed punctures, the striæ slightly impressed near the apex, intervals flat punctate, punctures as large as of the striæ, but gradually finer to apex. Prothorax more sparsely punctured beneath than above, sides of meso- and metasternum more coarsely punctured. Abdomen finely sparsely punctate. Body beneath with short yellow hairs. Legs closely punctate. Length, .40 inch; 10 mm.

This species resembles the figure of *rugicollis* Ch. (Biol., iv, pt. 1, pl. xviii, fig. 17), and from description seems most closely related to *pilipes* Ch.

One female specimen. Coral de Piedra, Sierra El Taste.

## LYSTRONYCHUS CHAMPIONI n. sp.

Entirely black, sub-opaque. Head densely and relatively coarsely punctured. Thorax more than half wider than long, sides strongly arcuate from the front angles to middle where there are two distinct teeth, thence narrowing to base, disc regularly convex, very densely punctured. Elytra broader than the thorax, slightly wider behind the middle, disc with striæ of very closely placed punctures, the intervals flat with a single row of punctures, some of which are much larger and bear a short, erect, stiff black hair, submarginal stria quite deeply impressed. Prosternum coarsely sparsely punctate, the pleuræ densely punctate. Meso-metasternum coarsely punctate. Abdomen shining much more finely and sparsely punctate. Legs black, punctate. Length, .28 inch; 7 mm.

A slightly larger and more convex species than *scapularis* with less opaque surface, which has a faint bluish tinge. The humeral red spot in the Mexican species being a constant character affords an additional means of distinction. The above described species with *scapularis* and *denticollis* agree in having the sides of the thorax bidentate.

I dedicate the species to Mr. Champion, who has given us in his treatment of the genera of Mexico the correct elements for proper classification of the family.

One female, western Texas.

The two species now known in our fauna are as follows:

Antennæ slender, outer joints not flattened; thorax scarcely wider than long, the sides not dentate. *piliferus.*

Antennæ broader externally, the joints subserrate; thorax broader than long, sides bidentate at middle. *Championi.*

Both species occur in Texas, the former extending as far as Brazil.

*HYMENORUS PLANULUS* n. sp.

Oblong, parallel, similar in form to *occidentalis* but much more depressed, piceous, semi-opaque, antennæ and legs ferruginous. Antennæ not longer than half the body, third joint longer than fourth. Head coarsely not closely punctate, clypeus more densely, eyes large, narrowly separated. Thorax one-half wider than long, sides arcuate in front nearly parallel in basal half, hind angles sharply rectangular, disc slightly convex, coarsely densely punctured (as in *occidentalis*). Scutellum densely punctured. Elytra a little wider than the thorax, sides nearly parallel, gradually narrowing at apical third, the sutural angle obtuse, disc flat finely striate, striæ closely finely punctate, intervals flat, moderately closely punctate and with short brown hair. Prosternum densely punctate, propleuræ quite smooth near the margin. Abdomen shining, sparsely finely punctate. First joint of hind tarsus longer than the following joints. Length, .30 inch; 7.5 mm.

One female specimen evidently related to *occidentalis* from the table given by Capt. Casey (Ann. N. Y. Acad., 1891, p. 86), but differing in smaller size, much more depressed form, darker color and less pubescent surface.

El Taste.

*HYMENORUS SPINIFER* n. sp.

Oblong, sub-depressed, piceous, slightly shining, sparsely clothed with short brownish hair, form very like *occidentalis*, but more depressed. Antennæ about half the length of the body, ferruginous or piceous, third joint in both sexes very little longer than the fourth. Eyes large, narrowly separated, head coarsely punctured between them. Outer side of last joint of maxillary palpus longer than the apical side. Thorax about a third wider than long, sides convergent nearly from the base, more

arcuate anteriorly, hind angles rectangular, disc moderately convex, coarsely and closely punctate. Elytra more than twice as long as wide, sides parallel, arcuately narrowing at apical third, the apex slightly sinuate near the suture, the sutural angle prolonged into a spine, disc slightly flattened, finely striate, striæ finely punctured, intervals flat, submuricately punctulate, but not densely. Prothorax beneath densely punctured and opaque, the propleuræ near the margin much smoother. Abdomen shining, sparsely finely punctate. First joint of hind tarsus longer than the following joints. Length, .37-.48 inch; 9.5-12 mm.

This species is described with the view of introducing an element in *Hymenorus* hitherto unrecorded—the spiniform prolongation of the sutural angle. I have, in addition, a second species closely resembling *occidentalis* superficially, with the sutural angle acute, but never with the spine so well developed as in *spinifer*. The species now described is related to *occidentalis* and is the largest species known in the genus.

Mr. Champion has recorded the spiniform suture in several species of *Lobopoda*, and, from the yet unstudied material in my cabinet, the line of demarcation between that genus and *Hymenorus* is becoming gradually effaced.

Four specimens. Southern Arizona.

*SISENES CHAMPIONI* n. sp.

Elongate, nearly parallel male, broader behind female, head and thorax black shining, with a slight tinge of blue, elytra entirely orange-yellow with similar pubescence. Antennæ black, slender in both sexes, third joint shorter than the fourth. Head elongate, sparsely, finely and indistinctly punctate. Thorax one-fourth longer than wide, widest one-third from apex, sides anteriorly slightly arcuate, posteriorly feebly sinuate, disc feebly convex a vague

triangular flattening from the apex toward base, finely, sparsely punctate a broad vitta of fulvous hairs each side, black along the middle. Scutellum black. Elytra nearly twice as wide as the base of the thorax, disc faintly tricostate, one costa on the deflexed sides the other two superior within the humerus, surface densely finely punctate, clothed with short fulvous hairs. Body beneath and legs deep blue-black, shining. Abdomen sparsely punctate. Length, .36-.40 inch; 9-10 mm.

The male has the last ventral segment deeply emarginate, in the female it is simply truncate. This species belongs to Champion's group 1—a characterized by filiform antennæ in both sexes, and with the first four joints of the front and middle tarsi and the third of the hind tarsi tomentose beneath.

From the figures given by Mr. Champion of many of his species there is no indication of as elongate a head as the present species. In fact, the head is nearly as elongate as in *Rhinoplatia*.

Collected in southern Arizona (Morrison).

*MACROBASIS TENUILINEATA* n. sp.

Elongate, castaneo-testaceous, moderately densely clothed with grayish white pubescence forming three slender more distinct lines on the disc of each elytron and one less distinct at the sides. Antennæ slender, black. Head densely punctured. Thorax longer than wide, sides convergent in front, parallel behind the middle, surface densely punctured, a finely impressed median line. Elytra parallel densely punctured, cinereo-pubescent distinctly denser in three lines on the disc of each. Body beneath densely punctured and pubescent, the apical margin of each ventral segment piceous. Legs concolorous the knees piceous. Length, .40-.55 inch; 10-14 mm.

*Male*.—First joint of antennæ not diffomed, shorter than second, this somewhat thickened and nearly as long as the next three. Anterior tibiæ with two spurs.

*Female*.—Second joint of antennæ not thickened and not longer than the first.

The first two joints of the female antennæ are conspicuously cinereo-pubescent, in the male nearly glabrous. In all the females before me there is a piceous spot each side of the scutellum and in front of the humeral umbone, not seen in the male.

This species may be associated with *tenuis* and *unicolor* in the arrangement suggested by me some years ago (Proc. Am. Philos. Soc., 1873, p. 89).

Sonora, Mexico and San José del Cabo.

*CALOSPASTA DECOLORATA* n. sp.

Form rather short, deep violet, the elytra entirely reddish-yellow (male), or with an oval piceous spot on the middle of suture. Antennæ short, compact. Head broadly oval, occiput truncate, surface coarsely irregularly punctate. Thorax quadrate, broader than long, narrowed for a short distance in front, disc feebly convex without median impressed line, surface nearly smooth with very indistinct scattered punctures (male), or with coarse irregularly placed punctures (female). Elytra much wider at base than the thorax sides parallel (male), or slightly divergent (female), surface coarsely scabrous with two feeble costæ on the disc near the suture. Body beneath deep blue, sparsely silken pubescent. Legs blue, sparsely hairy. Length, .30-.36 inch; 7.5-9 mm.

In the male the last ventral segment has a small acute notch, in the female truncate. The upper surface from indications is sparsely clothed with short silken pubescence. The spurs of all the tibiæ are slender and similar.



From its broad thorax and other characters this species should be placed near *Fulleri*, from which it differs radically in color.

Calmalli Mines.

It is highly probable that Mr. Champion has realized the extremely close relationship existing between *Calospasta*, *Tegrodera* and *Eupompha*, and but few more species are needed to unite the three beyond question. Recently (*Ann. N. Y. Acad.*, 1891, p. 175) Capt. Casey has described the genus *Negalius*, which does not show any structural differences from *Calospasta*, the grooved mandibles and dilated tarsi occurring in the latter genus.

The most remarkable discovery, however, is the result of the collections of Mr. D. W. Coquillett of Los Angeles. During a visit to him in May, 1893, he gave me what I recognized as a *Calospasta*. The male has the form of *Fulleri* (which is rather that of a *Tetraonyx* than a *Calospasta*), but the female is from any standpoint of classification a *Meloide*, apterous and with the meso-coxæ overlapping the metasternum. In fact, the female was described by me many years ago as *Megetra opaca*.

*Megetra opaca*, or *Calospasta opaca*, as it must now be called, is somewhat variable. I have three series of specimens, the first represented by six taken by Mr. Gabb near Los Angeles about thirty years ago; a second series of eleven from Morrison, taken about ten or twelve years ago, with no special locality other than southern California; a third series from Mr. Coquillett, taken near Los Angeles in 1893. The first two series are all females. In the last series three are males and four females.

The last series has the elytra coarsely punctate scabrous, the first series the elytra are less coarsely punctate and less coarsely scabrous, while the Morrison series is comparatively smooth. These subdivisions are not sharply drawn, but describe the general aspect of each series.

As *opaca* must now be placed in *Calospasta*, it can be separated from *Fulleri* in the following manner:

Thorax moderately shining with scattered coarse punctures; elytra entirely covering the body in both sexes which are winged. *Fulleri*.

Thorax opaque comparatively smooth and impunctate; elytra covering the body in the male, body winged, elytra much abbreviated and divergent from the scutellum, body apterous in the female. *opaca*.

From the study thus briefly made the further conclusion suggests itself that the tribe Meloini, based as it is on apterous forms and the consequently short metasternum, is unnatural, and that the genera composing it should form part of other tribes. Thus *Meloe* would associate with *Cantharis*, *Henous* with *Epicauta*, the two species of *Nomaspis* divide—one toward *Cantharis*, the other to *Epicauta*. *Megetra* and *Poreospasta* ally with *Calospasta*, *Tegrodera* et al. *Cysteodemus* seems unrelated. We have already in *Hornia* an apterous *Sitaride*, although Mr. Champion has allowed himself to be misled by the prevailing methods of classification, and has formed for it a tribe apart.

*PYROTA TROCHANTERICA* n. sp.

Elongate, black, feebly shining, head and thorax in part yellow, elytra with the suture, margin and apex narrowly yellow and an arcuately oblique yellow vitta each side of the scutellum. Antennæ black, slender, setaceous. Head elongate oval, very sparsely punctate, occiput black, front yellow with a central piceous spot and four smaller ones anteriorly in an arcuate row. Labrum black, coarsely punctate. Thorax much longer than wide, sides parallel behind, obliquely narrowing in front, disc rather flat, smooth, a few punctures at the sides, color in great part black, in front yellow to a variable extent. Scutellum black. Elytra moderately closely punctulate and vaguely tricostate. Body beneath black.

Trochanters conspicuously yellow. Legs black, the basal half of the middle and hind tibiae yellow. Length, .36-.64 inch; 9-16 mm.

*Male*.—Last joint of maxillary palpus transverse, narrowly oval, inner angle acute, the under side concave. Fifth ventral segment triangularly impressed at apex, sixth deeply and broadly emarginate.

*Female*.—Last joint of palpus cylindrical, slightly broader at middle, apex truncate. Last ventral segment with a small triangular notch.

This species resembles *insulata* Lec., but the elytra have not the apical yellow spot. The legs, including the trochanters, are entirely black in *insulata*. The elytral coloration resembles the figure of *divirgata* var. (Biol., iv, pt. ii, pl. 21, fig. 17), but the color of the trochanters is not noticed in the descriptions, and if conspicuously pale, as in *trochantericus*, would certainly have been.

Sierra El Chinche 2,000 feet.

TETRAONYX DUBIOSUS n. sp.

Rufous, clothed with very fine short pubescence, opaque resembling *T. frontalis* in form and color. Head unicolorous closely punctate. Thorax more than twice as wide as long, disc uneven, a vague depression of middle near the base and within each hind angle, surface closely punctate. Scutellum rufous. Elytra densely punctate, extremely finely bicostate. Body beneath rufescent, more shining, less punctate and pubescent than above. Metasternum piceous along the posterior border, met-episternum tipped with black. Ventral segments with a transversely oval spot on each side. Legs rufous, knees, tips of tibiae and tarsi black. Length, .52 inch; 13 mm.

This species resembles *frontalis*, but the head is entirely red and the underside also rufous. It must be re-

lated to *decipiens*, but Haag makes no mention of the ventral spots, and the tibiæ are in that entirely black. In our species the thorax is closely and regularly punctate; in *decipiens* it is irregular and in groups.

One specimen. El Chinche, San Julio.

EPICÆRUS LUCANUS n. sp.

Pyriform, moderately robust, elytra densely clothed with cinereous and ochreous scales forming an illy defined pattern of three oblique fasciæ on each side, the inflexed portion of sides much whiter. Rostrum quadrangular, parallel, flat above, a fine median groove ending in a fovæ between the eyes, lateral sulci wanting or indicated by a vague fovea, surface above coarsely sparsely punctate and sparsely scaly, beneath densely scaly. Thorax conical with slightly arcuate sides, the base a fourth wider than long, disc convex, the median line with a fine groove interrupted at middle, surface with coarse scattered punctures, the interspaces finely punctate, scaly vestiture not dense; under side of prothorax very densely scaly. Elytra regularly oval, not compressed at apex, with striæ of coarse deep punctures, intervals (when abraded) very finely punctulate, scaly vestiture dense with very short erect hairs irregularly placed. Body beneath very densely scaly. Middle and posterior femora conspicuously more densely scaly at apex. Length (apex of thorax to tip of elytra), .32-.58 inch; 8-14.5 mm.

This species is given a name not without some misgivings that it may be one of the forms described from Mexico, but the descriptions of some of the more recently described species from that region are annoyingly short and unsatisfactory. As compared with our Boreal American species it is far more robust than *imbricatus*, approach-

ng the form of *formidosus*, but differs from either species by the absence of the lateral sulci of the rostrum.

Sierra El Chinche, Pescadero and San José del Cabo.

*RHIGOPSIS SIMPLEX* n. sp.

General form of *R. effracta* and recalling the facies of some *macrops*, clothed with dirty white, broadly oval thin scales, the middle and sides of thorax darker and with series of darker spots on the elytra. Beak with fine median sulcus extending from apex to occiput, lateral sulci scarcely evident. Thorax broader than long, widest near apex sides straight and slightly convergent behind, a slight post-apical constriction, disc very coarsely and deeply punctured, a vague median depression. Elytra regularly oval, disc convex the suture and two discal costæ feebly elevated without tuberosities, the intervals with striæ of coarse punctures almost entirely concealed by the broad leaf-like scales. Body beneath with brownish-white scales. Length, .18 inch; 4.5 mm.

As in *effracta* the surface has short, semi-erect curved hairs, sometimes concealed by the surface exudation. This species may be known from *effracta* by the absence of tuberosities, the feeble elytral costæ and the almost entire absence of lateral rostral sulci.

Calmalli Mines.

An examination of my series of *R. effracta* shows that *R. scutellata* Cas. (Ann. N. Y. Acad., 1888, p. 242) cannot be retained as distinct, the species having doubtless been described from females. The scutellar character has no value, as several of my specimens have the scutellum entirely concealed by the elevations near it.

*GEODERCODES HISPIDUS* n. sp.

Oblong, piceous, densely dotted with brownish scales with paler scales intermixed on the disc, at sides the

whiter scales predominant and with moderately long and slender cinereous hairs over the entire surface. Head very sparsely coarsely punctate. Thorax nearly a half wider than long, broadest at middle, sides regularly arcuate, a feeble post-apical constriction, surface very indistinctly coarsely punctate. Elytra oval, the sides parallel for a short distance, humeri rounded, disc finely punctato-striate, intervals flat, irregularly biserially punctate, each puncture with an erect hair. Body beneath with paler, less dense scales and with shorter hairs. Legs moderately densely scaly and with long hairs. Length, .20 inch; 5 mm.

I place this very inconspicuous insect in *Geodercodes*, from the fact that the second ventral segment is longer than the next two and the front tibiae are not serrulate within. It has the general form of *Geoderces* but less robust. The moderately long hairs is a character universal in this part of the *Otiorhynchide* series.

One specimen. San Jorge.

*THRICOLEPIS?* *SEMINUDA* n. sp.

Form elongate, resembling in facies a diminutive *Peritaxia rugicollis*, sparsely clothed with easily removable scales and with an irregular row of short whitish hairs on each interval. Beak longer than the head, longitudinally plicate, eyes surrounded by a groove, scrobes terminal, vague. Scape of antennae passing slightly the apex of thorax, shorter than the funiculus, the first two joints of which are moderately long and equal. Thorax wider than long, sides regularly arcuate, a feeble post-apical constriction, disc convex, coarsely deeply and closely punctate. Elytra oblong-oval, nearly twice as long as wide, with regular rows of moderately coarse and closely placed punctures, the intervals flat and more than twice as wide as the striae, the scales narrow, semi-erect and

deciduous. Abdomen sparsely punctate, the first segment transversely wrinkled. Legs paler, sparsely hairy. Length, .16 inch; 4 mm.

This species may be compared in facies to a small *Peritaxia rugicollis*, and almost equally to an elongate *Exomias pellucidus*. I place it in *Thricolepis* temporarily to avoid the necessity of erecting a genus for each new species. Unfortunately, the Le Conte system of classification of the Curculionidæ, as a whole, is so radically different from that of Lacordaire that it is impossible to correlate the genera, especially of the Otorhynchidæ, without actual comparison; and the more genera established on unique species and specimens, the greater will be the confusion in the future.

Two specimens. San Julio.

SCYTHROPUS DELICATULUS n. sp.

Form rather slender, densely clothed with pale green, oval, pearly scales. Antennæ pale testaceous. Head with few short erect hairs, especially on the beak. Thorax very little wider than long, sides very feebly arcuate. Elytra widest behind the middle, disc finely striate, the punctures closely placed, intervals slightly convex. Body beneath less densely scaly, the scales more metallic. Legs pale honey yellow. Length, .14 inch; 3.5 mm.

A small, delicate species, with a facies of some of the European Phyllobius.

El Taste.

MITOSTYLUS GRACILIS n. sp.

Form rather slender, densely clothed with ashy white rounded scales, elytra often maculate or banded with black. Antennæ pale brown. Head with numerous elongate scales intermixed. Thorax variable, from longer

than wide to slightly wider than long, slightly wider at base than apex, sides feebly arcuate. Elytra oblong-oval, nearly twice as long as wide, base equaling the base of the thorax, disc finely striate, striæ finely closely punctate, intervals feebly convex. Body beneath less densely clothed than above. Legs scaly. Length, .14-.19 inch; 3.5-4.75 mm.

This species varies to such an extent that with a few selected specimens it might be divided into three species. The first variety has on each elytron behind the base an oval brown-black spot variable in size, at the declivity a crescentic fascia of similar color, and near the apex an oval spot.

In this form the cinereous scales of the surface have numerous brown ones intermixed.

In the second form the sub-basal spots are small, the crescentic fascia is reduced to a small spot on each side and the apical spot is minute.

The third variety has the spots so small that they might be mistaken for accidental abrasions.

Specimens are before me with the post-basal spots alone present, others again with these absent and the two posterior spots present and very small.

Coral de Piedra, Sierra El Chinche and San José del Cabo.

POLYDROSUS PENINSULARIS n. sp.

Form nearly of *dorsalis*, clothed with cinereous scales, the elytra with a sinuous fascia of darker color at the declivity, variable in width and color. Antennæ pale, the club darker, scape joint longer than the hind margin of the eye. Head with some blackish scales. Thorax not longer than wide, slightly narrower in front, sides very feebly arcuate, disc covered with intermixed darker



scales. Scutellum longer than wide. Elytra much wider at base than the base of the thorax, a little wider behind the middle, humeri moderately prominent, disc convex, with fine striæ, striæ not densely punctured, intervals flat, with a row of extremely short setæ. Body beneath scaly as above. Legs pale brown, with scales and hairs. Femora not dentate, tibiæ not sulcate. Length, .08-.12 inch; 2-3 mm.

The specimens examined vary in the distinctness of the sinuous elytral band, in one specimen scarcely discernible.

This species is a true *Polydrosus*, and from the structure of the antennæ and their scrobes is related to the European *tereticollis*.

With *Polydrosus* the genus *Cyphomimus* is synonymous, as indicated by Bedel (Coleop. du Bassin de la Seine, vi, p. 57, note). The species described by me as *C. dorsalis* is probably the same as *Polydrosus americanus* Gyll.

Coral de Piedra, El Taste, San José del Cabo.

*COPTURUS QUADRIDENS* n. sp.

Form moderately robust, densely clothed with white scales ornamented with brown. Front narrow, with intermixed white and brown scales extending on the beak. Thorax as wide as long, constricted at apex, the angles prominent, limiting the constriction behind is an arcuate row of six tubercles, a tubercle at the middle of the apical margin, two tubercles on the disc behind the two middle tubercles of the arcuate series, sides of thorax irregular, median line carinate, surface with white scales with a transverse brownish space at base and the tips of the discal tubercles. Elytra each prolonged in a truncate tubercle, a post-basal transverse ridge, on each elytron at

middle an arcuate row of four tubercles on each, convex anteriorly, tipped with fuscous scales, a tubercle on each elytron before the apex, surface with striæ of coarse punctures almost entirely concealed by the scales, vestiture of white and brown scales intermixed. Body beneath uniformly clothed with dirty white scales, the legs with intermixed scales. Femora not toothed. Second ventral segment quadrituberculate along its posterior border. Length, .14 inch; 3.5 mm.

Among the species at present known in our fauna this one is related to *mammillatus*, but it differs strikingly from all by the pronounced tuberosities of the thorax and elytra.

One specimen. El Taste.

*BARIS PENINSULÆ* n. sp.

Oblong-oval, form and general appearance of *subænea*, black, shining, a slight æneous surface lustre. Beak stout, closely and relatively coarsely punctate, head almost smooth. Thorax as wide at base as long, slightly narrowed in front, disc convex, coarsely and closely punctate with an incomplete smooth median line, each puncture with a narrow white scale. Elytra slightly narrowed behind, about one-fourth longer than the thorax, deeply striate, intervals flat, the third a little wider and confusedly biseriately punctate, the other intervals irregularly uniseriately punctate, each puncture with an elongate white scale. Pygidium coarsely and densely punctured. Body beneath coarsely and closely punctate, less so on the abdomen, each puncture with an elongate white scale. Prosternum not as wide between the coxæ as the width of one of the coxæ. Tibiæ straight, without external dentiform process. Length, .15 inch; 4 mm., nearly.

Of this species four specimens have been examined. It seems to be related to *aprica* Casey. The genus *Baris*, as accepted by Le Conte, has been subdivided by Capt. Casey, one of the important characters being the separation of the anterior coxæ, whether narrowly or widely. I have not been able to realize the importance of this character, as the transition is so gradual that the position of a species becomes purely opinionative and controlled by facies.

San José del Cabo.

*ANTHRIBUS VAGUS* n. sp.

Cylindrical, moderately densely clothed with intermixed whitish and ochreous scale-like hairs, the paler scales more numerous in an indefinite region behind the base of the elytra. Head and beak marmorate with ochreous and white scales. Thorax slightly wider at base than long, narrower in front, sides arcuate, disc convex coarsely punctate, with three erect tufts of brown scales forming an arcuate row at middle, surface marmorate with ochreous and whitish scales, an arcuate line each side of middle semi-nude. Elytral sculpture almost concealed by the vestiture and consists of rows of moderately coarse punctures, the vestiture of whitish and ochreous scale-like hairs, an indistinct band paler behind the base, the declivity also paler, on each elytron three tufts of brownish scales, in a row the posterior tuft more distant from the second than that is from the first. Body beneath with sparser more hair-like vestiture. Legs with longer whitish hairs. Length, .18 inch; 4.5 mm.

One specimen. El Taste.

## EXPLANATION OF PLATES.

## PLATE VII.

- Fig. 1. *Cremastochilus opaculus* Horn.
- Fig. 2. *Acmæodera stigmata* Horn.
- Fig. 3. *Acmæodera clausa* Horn.
- Fig. 4. *Centrioptera angularis* Horn.
- Fig. 5. *Asida densicollis* Horn.
- Fig. 6. *Asida impetrata* Horn.
- Fig. 7. *Asida Wickhami* Horn.
- Fig. 8. *Asida embaphionides* Horn.
- Fig. 9. Head of *Cerenopus angustatus* Horn.
- Fig. 10. Hind leg of male of *Cerenopus aterrimus* Horn.
- Fig. 11. *Doliopines cucujinus* Horn.
- Fig. 12. Head and thorax of *D. cucujinus*, female.

## PLATE VIII.

- Fig. 1. *Vesperoctenus Flohri* Bates.
- Fig. 2. Head of same, front view.
- Fig. 3. Hind tarsus of same.
- Fig. 4. *Acmæodera cribricollis* Horn.
- Fig. 5. *Acmæodera maculifera* Horn.
- Fig. 6. *Acmæodera scapularis* Horn.
- Fig. 7. *Trichodes peninsularis* Horn.
- Fig. 8. *Dysphenges elongatulus* Horn.
- Fig. 9. *Xestobium elegans* Horn, antenna.
- Fig. 10. Thorax of *Thermonectes peninsularis* Horn.



