Notes on the COLEOPTEROUS fauna of Guadalupe Island.

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The small collection of Coleoptera to which these notes refer, was made by Dr. Edward Palmer, during the spring and early summer of 1875, who at the same time collected a full representation of the flora of the island. The island of Guadalupe is in the Pacific Ocean about one hundred miles westward of the coast of the peninsula of Lower California, and (from the maps) slightly N. W. of the point of crossing of the 28° North and 118° West, and is therefore bathed in the Alaskan current which renders the climate of the western coast of North America as far south as the extremity of the Californian peninsula cold and foggy during the greater part of the year.

The similarity of the climate of the regions immediately adjacent to the ocean, causes a remarkable unity of fauna as far as Coleoptera are concerned, and numerous species extend their range from Alaska to Cape San Lucas, while others extend over large portions of the same region. The islands adjacent to the coast are exposed to the same climatic influences and the fauna should therefore be entirely similar, and as far as the islands have been explored comparatively few new species have been discovered, and on Guadalupe island alone has a new genus been discovered. The species of Coleoptera with few exceptions belong entirely to the fauna of California proper, and are in no way allied to that of Lower California.

The faunal (Coleopterous) regions of the west coast of North America are worthy a few notes in this place. The cold Alaskan current of which mention has been made influences the fauna of the regions adjacent to the coast, this may be called one faunal region, extending with a slight interruption at San Diego, from Alaska to Cape San Lucas. The range of mountains adjacent to the coast in this entire extent limits the region to the eastward. The great central valley of California extending northward into Oregon, limited on the west by the coast range and on the east by the Sierra Nevada with a southern limit near Fort Tejon, forms a tolerably well marked faunal region. The San Diego region extends southward along the eastern side of the peninsula of California, eastward into Arizona and to the north (east of the Sierra Nevada) to Owen's Valley, and following the Colorado river indefinitely toward Nevada and even into Utah. Northern and eastern Oregon and Washington Territory appear to be a middle ground on which we find species from Hudson's Bay, Cali-

fornia, and the north-western great plains regions with a moderate number of peculiar species.

The flora of Guadalupe has yielded results entirely similar to that indicated by the small series of Coleoptera before me, and an excellent paper by Sereno Watson has been published, (Proc. Amer. Acad. Arts and Sciences, vol. xi.), giving the results of the study of one hundred and ten phænogamous plants, and as far as the distribution of insects and plants is capable of comparison, there is a striking similarity in the relationships of the species which are truly Californian and those peculiar to the island itself.

The following list of species shows also the various regions from which they were previously known.

List of Species.	*Previously known from*
Calosoma semilæve, Lec.	California, Lower California, Arizona.
" **Palmeri**, n. sp.	
Calathus obscurus, Lec.	California, (San Diego).
Platynus maculicollis, Dej.	Oregon, Cal., Lower Cal., Arizona.
Amara insignis, Dej.	Oregon, California.
" **californica**, Dej.	Oregon, Cal., Lower Cal., Arizona.
Anisodactylus piceus, Mén.	" " " "
Anisotarsus flebilis, Lec.	Lower California.
Bradycellus nebulosus, Lec.	California, Texas.
Bembidium striola, Lec.	Oregon, California.
Necrophorus nigrita, Maun.	Alaska to California.
Dermestes vulpinus, Fab.	Cosmopolite.
Trogossita virescens, Fab.	United States, Lower California.
Saprinus lugens, Er.	United States, Mexico.
Cœnonycha socialis, n. sp.	Trans. Am. Ent. Soc., 1876, p. 192.
Cardiophorus luridipes, Cand.	California.
Pristoscelis pedalis, Lec.	Santa Catalina Island.
Corynetes rufipes, Fab.	Cosmopolite.
Atimia dorsalis, Lec.	California, Vancouver.
Cœlotaxis (n. g.) **muricata**, n. sp.	
" " **punctata**, n. sp.	
Conibius seriatus, Lec.	California.
Helops Bachei, Lec., *var.*	California, (Santa Barbara Island).

An inspection of the above list of twenty-three species shows that the very large majority occur also in the California fauna, two are cosmopolitan, four are entirely new and probably peculiar to the fauna of Guadalupe Island, one was previously known from Lower California only, and two peculiar to the islands near the coast of California.

Calosoma Palmeri, n. sp.—Black, shining. Body feebly winged. Antennæ piceous, fourth joint slightly shorter than the fifth. Mandibles sparsely punctured with coarse and fine punctures intermixed. Head nearly smooth, with scarcely visible transverse wrinkles and very minute punctures. Thorax

nearly twice as wide as long, base broader than the length and not emarginate, sides moderately arcuate and converging posteriorly, margin very narrow, not reflexed, hind angles obtuse, basal impressions moderately deep, median line very fine; surface extremely finely transversely wrinkled, and with very few punctures near the basal margin. Elytra obovate, humeri broadly rounded, sides moderately arcuate, disc moderately convex, obsoletely substriate, striæ very indistinctly punctured, intervals 4—8—12 with very indistinct larger punctures. Body beneath black, shining, smooth or obsoletely transversely wrinkled. Length .74 inch; 19 mm.

Male.—Anterior tarsi with three joints dilated and pubescent, fourth joint glabrous.

This species should be referred to the same group with *triste*, etc., (Group iv., Lec. Proc. Acad., 1862, p. 53), from all of the species of which it differs by the thorax being narrowed behind and the base narrower than the apex; the elytra are also obovate in the present species and oblong oval in all the others. The body in *Palmeri* is feebly winged, and in the others (except *Haydeni*) the wings are fully developed. In the latter species the elytra are connate, and I have been unable to detect traces of wings.

Numerous specimens were collected on Guadalupe Island by Dr. Edward Palmer, to whom I take great pleasure in dedicating it. Specimens were sent by me to my friend M. Aug. Sallé of Paris, who informs me that there is nothing in the fauna of Mexico with which it may be compared.

CŒLOTAXIS, n. g.

Mentum small, trapezoidal, emarginate in front, ligula exposed. Maxillary palpi moderately long, last joint elongate triangular, rounded at tip. Labrum small, moderately prominent, clypeus emarginate at middle. Antennæ nearly as long as the head and thorax, third joint longer than the fourth. Anterior tibiæ truncate at tip, outer angle not prolonged, outer edge finely spinulose; tarsi nearly as long as the tibia, first joint prolonged beneath the second and partially or entirely concealing it. Abdominal segments entirely corneous, intercoxal process narrow, triangular. Metasternum short, body apterous. Margins fimbriate.

The affinities of this genus are with *Coniontis* and its allies, combining especially the characters of that genus and *Cœlus*. The differences among the genera of Coniontini may be expressed in the following manner:

Anterior tibiæ simple..... **1.**
Anterior tibiæ with outer angle prolonged..... **2.**
1.—Antennæ nearly as long as head and thorax; third joint long..... **3.**
Antennæ very short; third joint not longer than the second..... **4.**
3.—Anterior tarsi slender, first joint moderately long and simple.. **Coniontis.**
Anterior tarsi stouter, first joint prolonged beneath the second.. **Cœlotaxis.**

4.—Anterior tarsi short, first joint with very long process beneath....**Cœlus.**
2.—Antennæ long and tarsi simple as in *Coniontis*.....**Eusattus.**

Coniontis is the only genus in which the margins are not fimbriate, and *Eusattus* has the posterior angles of the thorax prolonged.

Two species are known to belong to this genus.

Color piceous, surface slightly shining, elytra sparsely punctured..**punctulata.**
Color ferruginous brown, opaque, elytra with muricate punctures..**muricata.**

C. punctulata, n. sp.—Oblong oval, robust, piceous, moderately shining. Head moderately densely punctured, with extremely minute punctures intermixed. Antennæ pale castaneous, last four joints paler. Thorax moderately shining, moderately densely punctured, especially toward the sides, intervals with extremely minute punctures. Elytra less densely but more coarsely punctured than the thorax, obsoletely rugulose. Prosternum coarsely punctured, side pieces coarsely longitudinally strigose. Body beneath and abdomen sparsely punctured and shining. Epipleuræ smooth, basal third concave. Thoracic and elytral margins fimbriate with short yellowish hairs. Length .40—.56 inch; 10—14 mm.

The general appearance of this species is not unlike *Coniontis lata*, Lec., its form being almost precisely identical.

C. muricata, n. sp.—Oblong oval, robust, ferruginous brown, opaque. Head densely and moderately coarsely punctured. Thorax densely punctured, punctures denser and coarser at the sides, each puncture bearing a short yellowish hair. Elytra opaque, sparsely muricately punctured, each puncture with a short erect hair. Prosternum sparsely muricately punctured, side pieces longitudinally strigose, body beneath and abdomen sparsely punctured. Legs ferruginous. Epipleuræ at base concave. Margins of body fimbriate with short yellowish hair. Length .28—.40 inch; 7—10 mm.

This species has nearly the form of *Coniontis obesa*. It differs from the preceding not only by the characters given in the table, but also by the persistence of the hairs of the surface. The two species differ also in the length of the process of the first tarsal joint, in the present species the second joint and a portion of the third are concealed, in the preceding species the second only. It is probable that the punctures of the preceding species bear short scale-like hairs, which are very easily removed, as is the case with some *Coniontis*.

The two species were collected by Dr. Edward Palmer on Guadalupe Island.

Helops Bachei, Lec., Proc. Acad., 1861, p. 353.

Specimens which I am unwilling to separate as distinct from this species, differ in having the elytral striæ more distinctly impressed and the interstitial tubercles less distinct. The specimens are somewhat larger in size but vary in this respect from .32 to .54 inch; 8—14 mm.