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New and Little-Known Western Bees

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Cockerell, T. D. A. (June, '10)
New and Little-known Western Bees.

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the apex. Halteres yellowish. Coxae pale yellowish; femora and tibiae pale straw, the tarsi fuscous straw; claws long, slender, simple, the pulvilli rudimentary; basal clasp segment rather long, stout; terminal clasp segment long, slightly curved; dorsal plate long, broad, deeply and narrowly incised, the lobes truncate, setose; ventral plate long, deeply and roundly emarginate, the lobes stout, roundly truncate; style long.

Female.—Length 1.25 mm. Antennae nearly as long as the body, sparsely haired, pale straw; 14 segments, the fifth with a stem about $\frac{1}{2}$ the length of the subcylindric basal enlargement, which latter has a length twice its diameter; subbasal and subapical whorls sparse. Mesonotum reddish brown, the submedian area yellowish. Scutellum and postscutellum yellowish. Abdomen reddish brown, darker basally. Costa reddish brown, Coxae and femora basally yellowish, distal portion of femora, tibiae and basal tarsal segments pale straw, the distal tarsal segments darker. Ovipositor short, the terminal lobes narrowly oval, thickly setose, minor lobes short, broad. Other characters nearly as in the opposite sex.

Type.—Cecid. 1380, N. Y. State Museum.

In this connection it may be well to note that *Clinodiplosis brasiliensis* Rubs. has been described from larvae occurring in leaf galls of *Manihot utilissima*. The two cannot be identical if Rubsaamen's generic reference is correct.

***Camptoneuromyia meridionalis* n. sp.**

This West Indian form may be separated from known American species by the reddish brown abdomen and the nineteen antennal segments, the fifth having a length about equal to its diameter. This species was received from William H. Patterson, of the Agricultural School, St. Vincent, W. I., and was evidently reared March 3, 1910 with *Schizomyia ipomoeae* Felt, from flower buds of *Ipomoea*.

Female.—Length .75 mm. Antennae $\frac{3}{4}$ the length of the body, thickly haired, dark brown; 19 segments, the fifth with a length about equal to its diameter; terminal segment slightly produced, with a length $\frac{1}{2}$ greater than its diameter. Palpi; first segment probably short, the second with a length three times its diameter, the third as long as the second, more slender, the fourth $\frac{1}{2}$ longer than the third, dilated. Mesonotum dark brown, the submedian lines sparsely haired. Scutellum yellowish brown, postscutellum dark brown. Abdomen reddish brown; ovipositor probably as long as the abdomen, the terminal lobes

long, slender, thickly setose. Wings broad, basal half of subcosta thickly scaled, dark brown, subcosta indistinct, the third vein sparsely scaled and uniting with costa at the basal half. Halteres yellowish. Coxæ and femora basally yellowish, the distal portion of femora and tibiae fuscous yellowish, tarsi fuscous; claws long, slender, the pulvilli short.

Type.—Cecid. 1379, N. Y. State Museum.

Schizomyia ipomoeae Felt.

Examples of the larvae having been received, it is briefly described as follows:

Larva, length 3 mm., rather stout, yellowish or yellowish orange. Head small; antennae rather long, stout; breast-bone well chitinized, bidentate, tapering and somewhat obsolescent. Skin coarsely shagreened. Posterior extremity broadly rounded.

New and Little-known Western Bees.

By T. D. A. COCKERELL.

***Chelynia cusackae* sp. nov.**

♀. Length about $9\frac{1}{2}$ mm., parallel-sided, of the usual form; blue-black, very faintly metallic, the prothorax and area of metathorax shining green, the pleura and posterior side of middle femora also green; pubescence long and coarse, entirely black; antennæ dark, the flagellum, except near base, faintly brownish beneath; tegulæ black; wings strongly dusky, brown-stained, the nervures fuscous; spurs of hind tibiae stout and black. The sculpture is as in other species; the venation also is normal, except that the second s. m. is very long, very much longer than the first. The b. n. goes a little basad of t.m. Related to *C. pavonina* Ckll., but easily known by its dark color, narrower form, paler nervures and longer second submarginal cell. The ventral surface of the abdomen is brilliantly green and purplish.

Hab.—Cusack Ranch, Wet Mountain Valley, Colorado, June (*Cockerell*). The species is dedicated to the memory of Mrs. M. E. Cusack, an excellent botanist, who was resident at the type locality; her herbarium is now incorporated with the collections at Kew. Type in British Museum, where it has been for the last twenty years, unnamed.

***Osmia integra* Cresson.**

West Cliff, Colorado, May 19, 1889 (*Cockerell*); Brit. Museum, ♂. This species must be rare, as I have not taken it in recent years. According to the characters given by Robert-

son, it falls in *Leucosmia*. The following characters readily distinguish it: General aspect of *O. viridior* Ckll., but abdomen broader and more hairy, and head larger; antennae not very long, the flagellum not at all crenulate; dense hair covering clypeus brilliant white; hair of vertex long and all light, of cheeks mixed with black; hair of thorax above all light, with a strong ochreous tint on scutellum; hair of pleura and sides of metathorax all light; legs without metallic tints, their hair, except on front legs behind, mainly black; abdomen with first two dorsal segments covered with long white hair, the others with black; sixth segment entire, broadly subtruncate; seventh narrow, with a shallow emargination only; third ventral with an emargination conspicuously bordered with light orange hair. I took two specimens, flying close to *Aragallus lamberti*. In the Boulder County *Osmia* table this runs to 24, and runs out as follows:

Larger; first two dorsal abdominal segments with long hair; margin of sixth segment entire ***O. integra*** Cress.
 Smaller; only first abdominal segment with long hair; margin of sixth segment notched.....***O. wheeleri*** Ckll. and ***O. cyaneonitens*** Ckll.

Osmia quadriceps Cresson.

Mountains near Claremont, California (Baker); Claremont, Cal. (Baker).

Osmia cara sp. nov.

♀. Length about 12 mm.; robust, brilliant deep purple blue, the pubescence entirely black, except that it is pale reddish on under side of head, inclined to be dark reddish on tarsi, and there are some very small and scanty, hardly visible, white hairs near the margins of the abdominal segments, only plainly visible in the subdorsal region of the second, and then only in lateral view; abdomen dullish compared with the related species, short. Very close to *O. gabrielis* Ckll., appearing very distinct by the broader, shorter and rather duller abdomen, but this is partly deceptive owing to the fact that the type of *gabrielis* has the abdomen unusually extended. Other differences from *gabrielis* are as follows: ocelli closer together; sides of vertex with very irregular punctures of various sizes on a shining ground (densely, confluent punctured in *gabrielis*); brushes of hair under clypeal margin orange; mandibles extremely broad (very broad at base), with four well-developed teeth; maxillæ dark reddish (black in *gabrielis*); ab-

domen more strongly sculptured; last dorsal segment much more vertical, less depressed, surpassing last ventral (the reverse is true of *gabrielis*); legs black without metallic colors.

Hab.—Claremont, California (Baker).

***Osmia casta* sp. nov.**

♀. Length about 11 mm., robust, head and thorax dark greenish-blue, abdomen rather greener than blue, very shiny; pubescence all black, except for some reddish on anterior tarsi, and a very slight admixture of glittering white hairs on scutellum and mesothorax; mandibles tridentate, the inner tooth a mere angle; no light hair under margin of clypeus; wings strongly infuscated. This may be a race of *O. artocyanea* Ckll., with which it agrees in most respects, differing by the densely confluent punctured mesothorax, and the total absence of white hair on the metathorax and first abdominal segment; the apical tooth of the mandibles is very well developed. The legs are black without metallic tints.

Habitat.—Claremont, California (Baker).

***Osmia putata* sp. nov.**

♀. Length about 11 mm., robust, brilliant deep indigo blue, the mesothorax darker and bronzy; pubescence black. Very like *O. casta*, but separated as follows: abdomen blue with hind margins purplish; dorsum of thorax without light hairs; tufts of orange hair under margin of clypeus (none in *casta*); mandibles quadridentate, but the two inner teeth short and blunt; hair of cheeks and abdomen much shorter; hind spur of hind tibia thicker, and not much curved (strongly curved in *casta*); second r. n. joining second s. m. at least two-thirds as far from apex as first from base (about half as far from apex as first from base in *casta*); eyes longer, and apparently differently colored.

Hab.—Mountains near Claremont, California (Baker).

***Osmia nassa* sp. nov.**

♀ Length 11-12 mm., robust deep indigo blue, the abdomen shining; pubescence black. Superficially like *O. casta* and *putata*, but easily separated by the clypeus, which is convex, shining, with very strong well-separated punctures, whereas in the others it is minutely and extremely densely punctate, so as to appear granular; no light hair under clypeal margin; mandibles long, quadridentate, the cutting margin very oblique (thus the inner angle is much less prominent than in *O. cara*); sides of vertex and middle of mesothorax with very strong well-separated punctures; abdomen smoother and less closely punctured than in *O. casta* or *putata*; hind spur very straight, with hardly any curve; wings very brown; legs without metallic color.

Hab.—Claremont, California (Baker); also mountains near Claremont (Baker). The following table separates a series of females of medium size (about 11 mm. or over), of a deep blue or purplish color, with the hair either all black or black with a slight admixture, easily overlooked, of light.

Clypeus longitudinally concave, the greatest part smooth, shining and impunctate; legs not metallic	O. quadriceps Cress.
Clypeus normal	1
1. Legs at least partly metallic	2
Legs, black, not metallic	3
2. Punctures of mesothorax strong, large, separate..	O. ribifloris Ckll.
Punctures of mesothorax small, extremely dense..	O. gabrielis Ckll.
3. First abdominal segment with some pale hair; punctures of mesothorax not confluent	O. atrocyanea Ckll.
First abdominal segment without any pale hair	4
4. Clypeus shining, with large well separated punctures; thorax above wholly without light hair	O. nassa Ckll.
Clypeus granular from minute dense punctures	5
5. Mandibles tridentate	O. casta Ckll.
Mandibles quadridentate	6
6. Abdomen deep purple, dullish	O. cara Ckll.
Abdomen rather steel-blue, shining	O. putata Ckll.

These are all species of the Pacific Coast region except *O. ribifloris*, which comes from New Mexico.

WE ARE very glad to be able to state that Dr. Philip P. Calvert, Associate Editor of this journal, is safe. Dr. Calvert and Mrs. Calvert have been nearly a year in Costa Rica, where Dr. Calvert has been studying the Odonata of that country. Cartago, where the Doctor made his headquarters, was destroyed by an earthquake on May 4th and over a thousand lives were lost.

SEVENTH ANNUAL SESSION.—The Puget Sound Marine Station, Friday Harbor, Washington, June 28th to August 8th, under the direction of Prof. Trevor Kincaid, University of Washington. This is a region unsurpassed for the study of marine life. There will be courses in Zoology and Botany by competent professors. The station is located in the midst of the picturesque group of islands known as the San Juan Archipelago, in the northern part of Puget Sound. The total expense for board and tuition for the six weeks will be fifty dollars.

"Go to the ant, thou sluggard," quoted the Wise Guy. "I don't have to," retorted the Simple Mug; "all I have to do is to go to a picnic and the ant will come to me."

The Butterflies of the Lake Tahoe Region.

By E. J. NEWCOMER, Palo Alto, Cal.

Lake Tahoe is situated in the Sierra Nevada Mountains, on the boundary between California and Nevada, just at the point where the boundary line bends to the southeast. The name, which in Indian parlance signifies "big water," very accurately describes the lake, twenty-two miles long and half as wide, and situated at an elevation of over six thousand feet, with mountains piled about it that rise to ten thousand feet and more. The lake is drained by the famous Truckee River, which flows from the northwestern corner. The mountains sloping up from the eastern shores of the lake are now barren, having been stripped of timber, it is said, in the days of the Comstock Mines. Those to the west, however, are covered with pines and firs except at very high elevations, and are for the most part guaranteed protection by being included in the Tahoe Forest Reserve. There are numbers of summer resorts about the lake, owing their existence to the beautiful scenery, excellent fishing, and opportunities for mountain climbing of a moderate sort.

The territory described in this article is that immediately surrounding Lake Tahoe, particularly that part situated in California. It extends westward to the divide at the summit of the Sierras, which is the western limit of the Tahoe Basin. The territory is roughly about thirty miles long and from ten to fifteen miles wide. It includes portions of Placer and El-dorado counties. The region is all above six thousand feet elevation, and it lies in the Boreal life zones. The Canadian zone includes the country up to about eight thousand feet, and is mostly rather heavily forested with conifers. The canyon floors are ordinarily open and meadowy or rocky. In places the hillsides are too steep to afford a foothold for trees, and only a little underbrush grows among the rocks. As to the trees the Tamarack (*Pinus murrayana*), the Jeffrey Pine (*Pinus jeffreyi*), and two firs, *Abies concolor* and *A. magnifica* are the commonest. The Mountain Pine (*P. monticola*), the

