

BEES OF THE GENUS ANDRENA IN THE
COLLECTION OF THE CALIFORNIA
ACADEMY OF SCIENCES

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ANDRENA NIGROCÆRULEA Cockerell

Females: San Francisco, California, April 11 (Van Duzee).
Male: Berkeley, California, April 22 (Van Dyke).

ANDRENA MIMETICA Cockerell

Male: Chiricahua Mountains, Cochise County, Arizona,
March 26, 27 (V. W. Owen).

ANDRENA MIMETICA FALLI Cockerell

Perhaps a distinct species; readily known from *A. mimetica* by the dusky wings. The following localities are all in California: Claremont, ♂ (C. H. Muzzall); Soboba Springs, Riverside County, June 5, ♂ ♀ (Van Duzee); Sobre Vista, Sonoma Co., June 12, ♂ (J. A. Kusche); South Sonoma County, June 22, ♀ (Kusche); Tallac, Eldorado County, August ♂ (F. E. Blaisdell); Bradley, Monterey County, May 23, ♂ (Van Duzee); Mount St. Helena, Napa County, June 9, ♀ (Van Duzee); Yosemite Valley, June 3, ♀ (Van Dyke).

ANDRENA PRUNORUM Cockerell

Male: Soboba Springs, Riverside County, June 5 (Van Duzee).

ANDRENA PRUNORUM ARIZONENSIS (Viereck and
Cockerell)

Male: Santa Monica, California (F. C. Clark). This was based on a female from Oracle, Arizona, and was treated as a distinct species. It appears to be a form or race of *prunorum*, the male differing by its black abdomen, antennæ and femora. In the original description we said: "It is probably a race of *prunorum*."

ANDRENA SUBTRISTIS Cockerell

Female: San Francisco, California, April 20 (Van Dyke).
Described from Los Angeles.

ANDRENA CANDIDA Smith

Female: Soboba Springs, Riverside Co., California, June 1 (Van Duzee).

ANDRENA CERASIFOLII Cockerell

Males: Vivian Park, Utah, July 7 (Van Duzee); Salt Lake City, Utah, July 1 (Van Duzee). Described from Santa Fé, New Mexico.

Andrena semicyanea Cockerell, new species

Female. Length about 15 mm., anterior wing, 11 mm.; head and thorax black with abundant pale hairs, very pale ochreous dorsally; on cheeks, face and pleura dull white; abdomen rich dark blue, dull, without evident punctures, without bands, but a little white hair at extreme sides of segments, forming a little patch on second; caudal fimbria dark reddish brown. Head broad, facial quadrangle very much broader than long; malar space linear; process of labrum pointed, with a round apical swelling; clypeus convex, finely and closely punctured, with a rather inconspicuous median raised line; front dull with a median keel; facial foveæ broad, seen from above white with a slight reddish tint, extending below level of antennæ; third antennal joint longer than next two together, but not as long as next three; flagellum very faintly brown beneath; mesothorax and scutellum dull, mostly hidden by hair; scutellum a little shining anteriorly; area of metathorax dull and minutely granular; tegulæ dark brown, very hairy; wings deep fuliginous; stigma dark brown, rather slender; second cubital cell broad, receiving recurrent nerve near middle; legs black, femora with long white hair; tibiæ with very dark brown hair; hair of tarsi paler, greyish brown, on inner side light reddish; spurs pale reddish; abdomen broad and rather flattened.

Type, female, No. 1581, Mus. Calif. Acad. Sci., collected by E. C. Van Dyke, May 16, 1909, on the hills back of **Oakland, California**. A very handsome species close to *A. subtilis* Smith, but separated by the dark wings and reddish black (instead of pale fulvous) hair on hind tibiæ.

Andrena carissima Cockerell, new species

Female. Length a little over 10 mm.; head, thorax and legs black, abdomen dark glaucous green, with the hind margins of the segments broadly dark purplish; hair of thorax above, including tubercles, very light ferruginous; of pleuræ and sides of metathorax white. Head broad, facial quadrangle much broader than long; hair of head dull white, thin on face, pale fulvous on vertex; malar

space very short; third antennal joint slightly if at all longer than next two together; flagellum very obscurely brownish beneath; clypeus dull and minutely granular above, the lower part closely punctured and shining, with a short subapical keel; facial foveæ broad; occupying about two-thirds distance between antennæ and orbit; seen from above light greyish brown, going a short distance below level of antennæ; mesothorax dull, without evident punctures; area of metathorax dull, without evident sculpture; tegulæ shining dark red-brown; wings greyish, stigma dusky red with dark margin, nervures fuscous; second cubital cell broad, receiving recurrent nervure near middle; femora with long white hair; tibiæ and tarsi with dark brown, hind tibiæ with long brilliant white hair in front; hind knees with dark hair; spurs light brown; abdomen shining, not evidently punctured under a lens (the microscope shows very fine scattered punctures), not banded; second segment depressed slightly more than a third of the visible part; caudal fimbria dark brown; ventral segments with thin fringes of long white hair.

Type, female, No. 1582, Mus. Calif. Acad. Sci., collected by J. I. Carlson, March 26, 1918, at **Clifton, Arizona**. Paratype, one female, same data. A very beautiful and distinct species, easily known by the color of the thoracic hair and metallic abdomen.

***Andrena blaisdelli* Cockerell, new species**

Female. Length about 11.3 mm.; black, with the hair entirely black, except that it has a slight rusty tint on tarsi, and the caudal fimbria is dark chocolate; facial quadrangle much broader than long; clypeus covered all over with dense, small punctures, with no trace of a smooth line on ridge, only the middle of upper margin shining; malar space linear; process of labrum long, narrowly truncate, the apex thickened; third antennal joint longer than next two together; flagellum dark brown beneath; facial foveæ broad, very dark brown, going below level of antennæ; face with much outstanding hair; mesothorax and scutellum dull, the punctures minute; area of metathorax hardly defined, rugulose at base; tegulæ black, obscurely reddish posteriorly; wings brownish hyaline; stigma very dark reddish; second cubital cell of moderate size, receiving first recurrent nervure beyond middle, about as far from end as second recurrent from end of third cubital; spurs dark; abdomen shining, finely punctured, not banded, the hind margins of segments obscurely reddish; second segment depressed over a third, but less than a half.

Type, female, No. 1583, Mus. Calif. Acad. Sci., collected by F. E. Blaisdell, May 18, 1890, at **San Diego, California**.

Closely related to *A. subtristis* Ckll. from Los Angeles, but

smaller, and conspicuously differing by the broad, smooth hind margin of abdominal segments, the long erect (depressed in *subtristis*) hair of hind tibiæ, and the much more slender hind basitarsi. It is also related to *A. caliginosa* Vier. and *A. nigerima* Casad.

ANDRENA SURDA (Cockerell)

Described (1910) as *A. hirticincta surda*, and hitherto only known from males collected in Colorado. A female collected at Paraiso Springs, Monterey County, California, September 29, 1922 (L. S. Slevin), certainly appears to belong to this same form, agreeing in everything except the sexual characters. It shows that we have to do with a quite distinct species, differing from *hirticincta* by being less robust, the hair at apex of abdomen yellow stained with red, and the hair of hind legs pale yellow. The broad middle tarsi are fringed with yellow instead of black hair; only the small joints of tarsi are reddened. The abdomen appears broadly black between the bands.

Andrena mesoleuca Cockerell, new species

Female. Length about 11 mm.; black, with black hair, except long white hair as follows: A tuft at each side of antennæ, margins of mesothorax broadly, tubercles, and to some extent on pleura, scutellum, post-scutellum and metathorax, and also first three dorsal segments of abdomen, except that on sides of third it is only white anteriorly and posteriorly. Facial quadrangle much broader than long; malar space well developed; process of labrum short and broadly truncate; clypeus shining, closely punctured, with a poorly defined smooth central band; facial foveæ black, going little below level of the antennæ; antennæ black, third joint about as long as next two combined; mesothorax dull, a little shining and with obscure punctures on disc; scutellum more shining; cheeks behind eyes highly polished; area of metathorax dull, triangular, rather small, defined by absence of the long hair; tegulæ black; wings dilute fuliginous, subhyaline, stigma dark rufous, nervures piceous; second cubital cell broad, receiving recurrent nervure far beyond middle; hair of face dark brownish; spurs dark; middle basitarsi broad; abdomen moderately shining, not evidently punctured.

Type, female, No. 1584, Mus. Calif. Acad. Sci., collected by E. C. Van Dyke, July 7, 1921, at Yosemite Valley, California.

Readily known by the striking black and white hair, but

allied to *A. milwaukeensis* Grænicher, differing at once in the color of the pubescence, the sculpture of the clypeus, and the shorter antennæ. Allied also to *A. impuncta* Kirby.

***Andrena microdonta* Cockerell, new species**

Male. Length about 9.5 mm.; robust, with broad head and abdomen; head and thorax with very long, pale ochreous hair, the color brightest on scutellum; face very broad, covered with hair, the visible surface at sides dull, but anterior orbits, from level of antennæ down, swollen and shining, ending below in a small but prominent tubercle or tooth; mandibles long and curved; malar space linear; clypeus broad and low; vertex dull, but a polished shining space above each eye; antennæ long, black, third joint as long as the two following together; mesothorax dull and granular, slightly shining on disc; scutellum dull; area of metathorax small, slightly shining, without evident sculpture; tegulæ black; wings slightly smoky; stigma lanceolate, pale dull amber, nervures fuscous; second cubital cell broad, receiving recurrent nervure about the middle; legs with pale hair, tinged with reddish on inner side of tarsi; spurs pallid; hind tarsi long, dark brown, polished, with only minute feeble punctures, no hair bands, apical tuft of hair very pale, with a yellowish tint; second segment depressed less than a third.

Type, male, No. 1585, Mus. Calif. Acad. Sci., collected by J. I. Carlson, March 26, 1918, at **Clifton, Arizona**.

Allied to the Californian *A. osmioides* Ckll., but easily separated by the polished abdomen and the position of the first recurrent nervure, which in *A. osmioides* joins the second cubital cell much before its middle. I had to consider whether *A. microdonta* could be the male of *A. carissima* Ckll., and while it is possible that this is the case, the probabilities seem against the reference, so I have described it as distinct.

***Andrena yosemitensis* Cockerell, new species**

Female. Length about 10 mm.; head, thorax and abdomen shining dark blue, legs black; facial quadrangle somewhat broader than long; clypeus convex, black (except at sides), the disc highly polished, with very strong sparse punctures; process of labrum rather narrowly truncate; malar space linear; hair of head and thorax thin, entirely black, except a few long, pale hairs at extreme sides of scutellum; facial foveæ very dark chocolate, going below level of antennæ; third antennal joint about as long as next two together; flagellum very obscurely brownish beneath; mesothorax and scutellum shining, but very finely roughened, with scattered minute punctures; mesopleura dullish, fine dark blue; area of metathorax

merely minutely roughened; tegulae dark brown; wings dusky, suffused with brown throughout; stigma narrow-lanceolate, reddish with a dark margin; nervures dark fuscous; second cubital cell receiving recurrent nervure in middle; legs with black hair, scopa on hind tibiae appressed, hind basitarsi stout; abdomen shining, finely roughened, but not evidently punctured under a lens, the first two segments very smooth; second segment very narrowly depressed only about a quarter of length of segment; no hair bands; apical tuft thick, black.

Type, female, No. 1586, Mus. Calif. Acad. Sci., collected by E. C. Van Dyke, June 12, 1921, in **Yosemite Valley, California**.

Related to *A. nigrocærulea* Ckll., but easily known by the clypeus, black hair on thorax above, etc. Possibly this is identical with *A. chapmanæ* Viereck, which has never been properly described, but *chapmanæ* is placed in the series with third joint of antennæ decidedly longer than four and five together (in *yosemitensis* it appears about equal to the eye, but measured is found to be as 22 to 20), and is said to be 12 mm. long. By inference we are led to understand that only the abdomen of *A. chapmanæ* is blue.

***Andrena epileuca* Cockerell, new species**

Female. Length, 9 to 11 mm.; head, thorax, and abdomen dark blue, clypeus and legs black; pubescence black except on thorax above where it is clear white, and there are some long, white hairs on first abdominal segment; facial quadrangle somewhat broader than long; clypeus shining, closely and rather finely punctured all over, without a smooth line; malar space linear; process of labrum large, very broadly triangular; facial foveae narrow, black, hardly going below level of antennæ; front striate; third antennal joint longer than next two together; flagellum very obscurely brownish beneath; mesothorax and scutellum dull, without evident punctures under a lens; area of metathorax dull, without evident sculpture; tegulae very dark brown; wings dilute fuliginous, stigma dark reddish, nervures piceous; second cubital cell receiving recurrent nervure at middle; hair of tibiae and tarsi shining, more or less brown in certain lights; hind basitarsi robust; spurs dark; abdomen shining, finely roughened, without distinct punctures; no hair bands; second segment depressed about third; apical tuft black.

Male. Length about 7.5 mm.; slender, head not particularly broad, nor cheeks enlarged; long hair on lower part of cheeks and on pleura pallid but not white, nor is that on thorax above white, but rather pale dusky yellowish; abdomen dorsally with thin, white hair, becoming black toward apex; hair of legs pallid. There is

much long, black hair at sides of face and on upper part of cheeks. The upper part of the clypeus is green. One specimen carries a Stylops.

Type, female, No. 1587, Mus. Calif. Acad. Sci., collected by E. C. Van Dyke, May 8, 1910, on the hills back of **Oakland, California**. Other females are from South Sonoma County, California, April 16 and 23 (J. A. Kutsche); Forks, Clallam County, Washington, July 5 (E. C. Van Dyke); Pismo, California, April 25 (E. P. Van Duzee). The males are from the hills back of Berkeley, California, March 7 (Van Dyke).

Closely related to *A. nigrocærulea* Ckll., but easily known by the shining clypeus. It is, perhaps, no more than a race, as a female from Santa Cruz, California, June 2, 1919 (Van Duzee), has the clypeus dullish and appears to be intermediate. Typical *nigrocærulea* has the hair on thorax above pale ochreous, in the Santa Cruz specimen referred to it is white. The male is distinctly different from that of *A. nigrocærulea* by the shining clypeus, black hair all over face, and mandibles more or less reddened at apex. Presumably the two species visit different flowers, but as to this we have at present no information.

***Andrena lustrans* Cockerell, new species**

The type of *A. nigrocærulea* and *A. epileuca* has given rise to still another segregate which (female) has white hair on the thorax above as in *epileuca*, but differs at once from both the others by the shining steel blue mesothorax and scutellum, with sparse minute punctures. The process of labrum is broadly truncate, and the second abdominal segment is depressed less than a third. The clypeus is shining and punctured essentially as in *A. epileuca*, its upper part metallic. The third cubital cell is broader on marginal than in *A. nigrocærulea*. The occiput has white hair, and in the specimen from Fallen Leaf Lake, apparently only a variety, the hair of upper part of pleura, cheeks, and face (excepting clypeus) is whitish. The male is unknown.

Type, female, No. 1588, Mus. Calif. Acad. Sci., collected by Dr. E. C. Van Dyke, June 12, 1924, at **Meadow Valley, Plumas County, California**, at 4000-5000 feet altitude. Paratypes: Keen Camp, Riverside County, California, June 6-12, 1917 (Van Duzee); Mokelumne Hill, California, April

(Blaisdell); Fallen Leaf Lake, Lake Tahoe, California, July 13 (Van Dyke); Steen Mountains, Harney County, Oregon, June 25 (Van Dyke). This species averages smaller than *A. nigrocærulea*.

***Andrena supervirens* Cockerell, new species**

Female. Length, 9-9.5 mm.; head and thorax dark blue, abdomen bluish-green; antennæ and legs black; facial quadrangle conspicuously broader than long; clypeus with upper half green, lower half black, and rose color between; surface of clypeus dull, minutely rugulose, without distinct punctures and with no smooth line; process of labrum broadly truncate; orange hairs projecting below mandibles; facial foveæ very narrow, warm reddish, going only a little below level of antennæ; third antennal joint to next two together as 25 to 20; hair of face mixed black and dull white, of vertex black, of occiput and cheeks white; malar space small; thorax with thin, long, white hair; mesothorax, scutellum and area of metathorax dull, without evident sculpture; tegulæ dark brown; wings hyaline, only faintly dusky; stigma light dull reddish with dark margin; nervures brown; second cubital cell rather large, receiving recurrent nervure a little before middle; femora with white hair beneath; tibiæ and tarsi with brown hair, hind tibiæ with dull white hair in front; hind basitarsi broad; spurs pale reddish; abdomen with a sericeous luster, not evidently punctured; apical depressions of segments steel-blue; second segment depressed rather more than a third; traces of very thin white hair bands at sides of third and fourth segments; caudal tuft pale chocolate-brown. The dorsum of abdomen has very thin erect white hair.

Type, female, No. 1589, Mus. Calif. Acad. Sci., collected by Dr. E. C. Van Dyke, May 8, 1910, on hills back of **Oakland, California**. Paratypes from Fairfax, Marin County, April 13 (Van Duzee); South Sonoma County, California, April 26 (J. A. Kutsche); Melrose, Alameda County, California, April 2 (Van Duzee); San Luis Obispo, California, April 24 (Van Duzee); Muir Woods, Marin County, California, May 4 (Van Dyke); hills back of Berkeley, California, March 7 (Van Dyke).

Variety *aurescens* new variety. Head and thorax dark green; abdomen bright yellowish-green, with golden tints; the depressed hind margin of segments bluish-green. Type, No. 1590, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, April 13, 1919, at **Fairfax, Marin County, California**.

This looks like another species, but it certainly is only a variation.

This is another species of the same alliance as those just described, but more distinct by the green or bluish-green satiny abdomen, abundant long white hair, etc.

Typhlusechus. This genus was created by Linell in 1897 to receive an interesting new blind Tenebrionid (Ent. News, Vol. VIII, p. 154), two specimens of which were collected in Los Angeles County, California, by Mr. Albert Koebele. It has since been taken by other collectors. A number of years ago Mr. Charles Fuchs gave me a specimen from the type locality. Another has recently been taken by Mr. Vasco M. Tanner which seems to differ in several characters from *singularis* Linell. In this the basal prothoracic impression is stronger and deeper, and is limited laterally by distinct prominences; the prothorax is rather more elongate and its sides, with those of the elytra, are more explanate. It may represent a new species unless the sexes differ. At any rate, it is very interesting to learn that a species of the present genus is found so far east.—F. E. Blaisdell.

Valgus californicus Horn. In July, 1907, I took two specimens of this rare California Sacrabæid, one at the Calaveras Big Trees, elevation 4702 feet, and one at Blood's Meadow, Alpine County, elevation 7000 feet. Both were taken from the nests of termites, one in a stump and the other beneath bark of a dead pine, four feet from the ground. This note may help others to obtain the species.—F. E. Blaisdell.



Cockerell, Theodore D. A. 1924. "Bees of the genus *Andrena* in the collection of the California Academy of Sciences." *The Pan-Pacific entomologist* 1, 57–65.

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