

yellowish pollinose; venter entirely yellow. Legs yellow, coxæ blackish, halteres yellow. Wings brownish, slightly darker in the middle and along the fifth longitudinal vein; veins and costal cells yellow, basal half of the marginal cell white, the greater portion of the first and second basal cells noticeably lighter than the rest of the wing. Length, 12 mm.

♀.—Face, front and occiput covered with a dense brown pollen, the front about one-fourth the total width of the head, with five grooves above the base of the antennæ, the four outer ones slightly diverging below, above fusing and deflecting towards the ocelli, the middle one obsoletely divided into three smaller ones below the ocelli. The thoracic stripes are more prominent and a brighter yellow than in the male; scutellum velvety-brown, with three transverse ridges. The abdomen is shining and brownish black, with the posterior pollinose bands on the first, second and third segments, broadly interrupted. Length, 14 mm.

Three specimens, Beulah, Manitoba, received from Mr. C. T. Brues. Holotype and allotype in the author's collection. Paratype in the Museum Comparative Zoology, Cambridge, Mass.; "Hill City, So. Dakota" (Townsend).

This interesting species has the thick heavy form of *Cænomyia*, but the generic characters are those of *Arthropeas*, except that the anal cell is narrowly open. It seems to more clearly show the relationship of the two genera than the other species.

TWO NEW CANADIAN BEES.

BY T. D. A. COCKERELL, BOULDER, COLORADO.

Sphecodes hudsoni, n. sp.

♀. Length about 7 mm.; head and thorax black, legs dark rufo-fuscous, abdomen entirely clear yellowish-ferruginous; head broader than long, face very broad, thinly covered (including the clypeus) with fine pale hair; mandibles bidentate, the apical half dark chestnut-red, the inner tooth short and rounded, about 208μ from apex of mandible; process of labrum very broad, shallowly depressed or subemarginate in middle; only the first three points of the flagellum remain in the types, but they are dull ferruginous beneath; clypeus strongly punctured; front extremely, densely and minutely punctured in middle, not quite so densely at sides, the punctures are so small as to be hard to see with a hand lens; mesothorax brilliantly shining, with scattered punctures, the median sulcus well marked; pleura, beneath the wings, with a large shining raised area, the pleura below this with fine close rugæ; area of metathorax large, fully 320μ . long, with about 20 coarse rugæ, the lateral ones parallel, radiating, the middle ones

irregular, some branching, Y-like in form; regular dark rufous; wings dusky hyaline, distinctly reddish, stigma and nervures reddish-brown; second submarginal cell broad, receiving first recurrent nervure just beyond the beginning of its last third; legs thinly clothed with pale hair; abdomen almost entirely impunctate, quite broad; apical plate about 170μ broad.

Hab.—Hudson Bay. British Museum (44. 17). In Robertson's tables of *Sphecodes* this runs nearest to *S. minor*, which is a larger and evidently different species. In the table of Maine species it runs to the group of *S. dichrous*, to which it is not closely allied. In my table of allies of *dichrous* it runs to the very much larger *arroyanus*. Superficially it is much like *S. washingtoni* Ckll., but aside from other differences, the metathoracic area is much larger than in *washingtoni*. It is a much larger species than *S. cressoni*, and has a broader head. Among the species of the northwest, it falls nearest to *S. patruelis* Ckll. (formerly recorded in error as *minor*), but *patruelis* has the front more coarsely punctured, and area of metathorax with stronger, irregular (not radiating) rugae. It is quite different from *S. sulcatulus* by the densely punctured front, etc. The specimen has been in the British Museum for 67 years.

I take this opportunity to record two other interesting specimens of *Sphecodes* belonging to the British Museum.

(1.) *Sphecodes falcifer* Patton. Colorado (*Cockerell*). A common species of the Eastern United States, but new to Colorado. comes from my old collection of 1887–1890. The material which went to the British Museum was mostly in papers, and nearly all came from Wet Mountain Valley. A statement of the exact locality was furnished for each lot, either in a letter or on the box, but unfortunately the data were only preserved when they accompanied the specimen itself, and all the rest were simply labelled "Colorado (*Cockerell*)". It is nearly certain that all the specimens labelled in this way were from Wet Mountain Valley.

(2.) *Sphecodes persimilis* Lovell & Cockerell. Trenton Falls, New York; from F. Smith's collection. The specimen (♀) has the junction of the first and second dorsal abdominal segments rather evidently depressed, to this extent slightly approaching *S. pecosensis*. F. Smith, who owned the specimen, died in 1879, but the species was not described until 1907.

Anthidium wallisi, n. sp.

♀. Length about 10 mm.; black with chrome yellow markings, those on face, consisting only of an oval spot on each side touching upper part of clypeus, paler yellow; a large yellow spot above each eye; mandibles, tegulae and thorax wholly without yellow; antennae black; pubescence dull white, on vertex shining

and yellowish; ventral scope shining cream-colour; wings strongly brownish; femora and tibiae black; front tibiae with a yellow subapical more or less cuneiform mark; middle tibiae with a yellow mark extending from before middle to apex; hind tibiae with a yellow band, interrupted not far from base; tarsi ferruginous, more or less blackened at base, their hair mainly ferruginous; hind basitarsi with a broad yellow band; no pulvilli; first abdominal segment with a diamond-shaped yellow mark at each extreme side; second segment with a larger mark on each side, deeply notched inwardly, and a pair of transverse, discal stripes; third segment with an interrupted band, broad at sides, broadly and deeply notched in front sublaterally; fourth like third; fifth with the notch less developed, and the interruption narrower; sixth with two large yellow patches.

Hab.—Peachland, British Columbia, August 9, 1909 (*J. B. Wallis*, a 64.)

This has nearly the face-markings of *A. porterae personulatum* Ckll., but *personulatum* is considerably larger, the spots at side of face are lower down, the abdominal markings are much paler, and the abdomen is not so densely punctured. I asked myself whether *A. wallisi* could possibly be a colour-variety of *A. tenuifloræ* Ckll., but it differs as follows, aside from the colour-markings: eyes paler and lighter green; teeth at lower corners of clypeus larger, nearly equal (the outer one much smaller in *tenuifloræ*); lateral tooth-like angles of sixth abdominal segment very prominent; broad depressed apical margins of abdominal segments excessively, minutely and densely punctured, not shining (shining and less densely punctured in *tenuifloræ*).

PHENACOCOCCUS BETHELI AGAIN.

BY T. D. A. COCKERELL, BOULDER, COLORADO.

When recently describing *P. betheli* in THE CANADIAN ENTOMOLOGIST, I remarked that it was possibly a subspecies of *P. cockerelli* King. I was surprised, a few days ago, to receive from Mr. E. Bethel a quantity of *P. betheli* on branches of *Amelanchier*, collected by Mr. L. J. Hersey at Steamboat Springs, Colorado. This looked suspicious, as Steamboat Springs is the type locality of *P. cockerelli*. However, the new material is twice the size of *cockerelli*, and yet the legs are not merely relatively, but actually smaller, and the fourth antennal joint is very short as in the Grand Canon insect. The insects, on being boiled in caustic potash, stain it a deep wine red. The larva is light orange.

Although I transmitted the original *cockerelli* material to Mr. King, I did not study it. I have, however, studied abundant material, agreeing with King's description, found by Mr. L. C.