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NEW SPECIES OF NEW WORLD VOLUCELLA.

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Several interesting species of *Volucella* have been received recently which are here described. The types are in the author's collection.

***Volucella lucilia* n. sp.**

Related to *contumax* Curran. The anterior margins of the pteropleura are black and the legs are wholly black and the first abdominal segment is black, except in the middle and upon the sides, besides numerous other differences. Length 8 mm.

Male. *Head*: face and front yellowish white, the former with a distinct, black, medial vitta ending just above the prominent tubercle. There is a wide black stripe from the eye margin to the acute epistoma and the face projects both forward and downward and is deeply concave above with whitish pile on the pale areas and black pile on the tubercle. The cheeks are pale brownish yellow with a posterior, suboccipital, brown band. The pile of the front is whitish, of the vertex black; the ocular pile is yellowish white in color throughout and dense. The antennae are pale brown throughout, the third segment not noticeably darkened above, arista yellowish basally, becoming dark brown towards the apex, with sixteen long rays above. The third antennal segment is slightly concave above, apically narrowed and twice as long as wide. The occiput is black, densely greyish white pollinose; the pile is white except for minute stubby black pile above. *Thorax*: mesonotum black with a strong greenish to coppery reflection. The humeri and adjacent posterior triangle, a triangle immediately behind the transverse suture at the wing base which is continued narrowly back to include the post calli, all pale yellow. The scutellum is concolorous with the mesonotum, the narrow apical margin and the sides more widely and the narrow

base pale yellow. The strong preapical transverse depression is microgranulate. Pile of mesonotum pale yellow, of the scutellum black except basally. The notopleura is shining black without green reflections and has one large black bristle. There are three black bristles over the wing, three on the post calli, three pairs on the scutellum and none in front of the scutellum. The posterior two-thirds of the mesopleura, the pteropleura and a spot above the coxae, all of the metapleura and the greater posterior part of the pteropleura are pale yellow. Otherwise the pleura are blackish and all of their pile yellow white. Squamae white with dark brown border and fringe; halteres white with opaque white knob. *Legs*: entirely black and black pilose. *Wings*: very pale brownish hyaline, the pterostigma broadly brown at the base then pale yellow over the remainder of the basal half, the outer half nearly hyaline. Marginal cell closed in the margin. The subapical cross-vein is strongly recurrent. *Abdomen*: the first segment is yellow with a prominent black spot on either side from base to apex leaving the middle and the side margins yellow. Second segment pale translucent yellow on a little more than the basal half leaving the posterior margin with a wide black band of uniform width, except that near the lateral margin, it narrows and barely reaches the posterior corners. This band sends forward a narrow, brown medial vitta to the base of the segment and the band has a bluish reflection which changes to purple in some lights. Third segment bluish to coppery in reflection with an obscure, short but wide, brownish yellow spot on either side of the base of the segment. This spot does not reach the lateral margins. Fourth segment entirely black with bluish or greenish and coppery reflections. Pile yellowish white on the pale areas and upon the entire fourth segment but otherwise black upon the black areas. First sternite pale yellow, blackish anteriorly on either side, the second uniformly yellow on the posterior third and very narrowly along the base but black in the middle; remaining sternites black.

Female. Similar to the male; the front is shining black and rather narrow, with crescentic depressions on either side, leaving the middle of the front convex. The yellow of the face extends widely up the sides of the front to the point where the crescentic impressions begin. Third antennal segment a little darker apically. The marginal cell of the wing is also closed in the margin. The blackish areas of the first abdominal segment are merely light brown but otherwise the abdomen seems to be the same.

Holotype: male, Chanchamayo, Peru, August 3, 1948. Allotype: female, July 3, 1948, 1100 meters. Paratypes: a male, May 12, 1948, 1300 meters, a male Feb. 24, 1949, one paratype female, June 30, 1948, J. Schunke.

***Volucella pertinax* n. sp.**

Related to *contumax* Curran but the facial stripe is complete. The stripe and face are sharp polished ebony black and the legs are wholly black. There are three tiny brown clouds in the center of the wing. Length 9 mm.

Female. *Head*: sides of the face and the sides of the front on the lower third and a stripe on the posterior portion of the cheeks pale yellow and sharply demarcated. The middle of the face and front and all of the front above the lower third and a very wide band from eye margin to the short epistoma, besides a postgenal stripe, are shining black. The tubercle is well developed, the face concave above; all facial pile and frontal pile pale yellow, the pile across the ocelli and behind black in color. The occiput is black except the ventral portion, and is yellowish grey pollenose. The antennae are entirely light brown, the arista brown to the outer third and then black with twenty long rays dorsally. Ocular pile abundant and pale brownish yellow. The front is rather narrow but with very shallow impressed areas along the eye margin which extend narrowly up toward the ocelli and with the middle of the front broadly and shallowly excavated so that this area is perhaps on the same level as the narrow marginal impressions. The upper third of the front is left rather abruptly convex. *Thorax*: mesonotum broadly black with green to coppery reflection, the scutellum of the same color except narrowly along the margin and base. The sides of the mesonotum including humeri and notopleura, the postcalli, the propleura, a spot above the fore coxae, the posterior two-thirds of the mesopleura, all of the pteropleura and metapleura, are pale yellow. The mesonotal pile is widely yellow in the middle with fine, scattered black hairs above the wing, more numerous ones mixed with the yellow along the anterior margin and the pile in front of the scutellum is almost entirely black. The scutellar pile is black except upon the yellow base; the transverse depression is deep and microgranulate. Bristles of thorax black; there is one on the mesopleura, two on notopleura, three above wing, two on postcalli and three pairs on the scutellum. Squamae and fringe dark brown, halteres pale orange, all pleural pile light yellow. *Legs*: entirely sepia black with

black pile. *Wings*: rather uniformly tinged with brownish yellow, the posterior margin and end of the posterior cells more brownish and with less yellow tint. The pterostigma is diffusely brown at the base, deep brownish yellow on the remainder of the basal half and then lighter yellow beyond. Marginal cell closed with a short stalk. The subapical cross-vein is recurrent. There is a small brown cloud at the base of the marginal cell on the small cross vein and at the base of the discal cell. *Abdomen*: first segment and first sternite and the whole of the second segment on its basal two-thirds and its entire lateral margin light translucent yellow. The posterior margin of the second segment is black with opalescent bluish reflections; the black color is a little wider or more extensive sublaterally, then rapidly diminishing; it ends a short distance from the posterior corners. Third segment entirely black with the same reflection, but there are, however, obscure diffuse traces of a reddish brown basal spot on either side. Fourth segment of the same color except that there is a definite, elongate, sublateral, basal, pale brownish red spot situated upon this segment. These spots are shaped like a slender leaf, are diagonally pointed toward midline, but do not quite touch. The pile of the abdomen is erect and pale yellow on all of the pale areas and also narrowly along the entire lateral margin and broadly upon the basal half of the third segment; the remainder of the pile is subappressed and black. The second sternite is widely black with only its narrow, basal margin yellow.

Holotype: female, Chanchamayo, Peru, Feb. 7, 1949, J. Schunke.

***Volucella ulrica* n. sp.**

Related to *mus* Williston but the front is wholly polished shining black and the wings are bicolored. Length 9 mm.

Female. *Head*: face and cheeks and lower occiput light reddish brown. There is a sharp black stripe down the middle of the face, another between face and cheeks; the front is shining black throughout with black pile on the upper half and white pile below. Facial pile white. The face is without pollen, except on the upper portion beneath the antennae, where it extends over the eye margin and runs down the eye margin in a very fine yellowish white line. The antennae are orange brown, the elongate third segment a little darker and narrowly blackish above. Third segment progressively narrowed, nearly twice as long as its basal width, the arista pale yellow, becoming blackish only on the apical third with sixteen long pale rays. The remainder of the occiput black, with grey pollen and whitish pile except immediately behind the vertex where the pile

is black. The front is not wide, the lateral depressions narrow but a little wider anteriorly and the front very gently depressed across the lower third. The pile of the eyes is pale brownish yellow. *Thorax*: mesonotum widely black with a strong reddish purple reflection and a much less pronounced greenish one. Scutellum concolorous except the margin and base are obscurely yellowish brown and not greatly contrasted. The side margins of the thorax throughout are yellowish brown, the humeri, all of the propleura, and all of the anterior pleura lying above the sternopleura and including the anterior two-thirds of the pteropleura are pale brownish yellow. All pleural pile is yellowish. The plumulae are reddish brown, the squamae sepia, the halteres light orange. The bristles of the thorax are black, one upon the notopleura, two above the wing, two on postcalli and three pairs on scutellum; there was one bristle on the mesopleura which is broken off, its base was yellow but the color of the bristle can not be determined. There are no bristles in front of the scutellum. The transverse depression of the scutellum is deep and microgranulate. *Legs*: all of the coxae brown, the femora dark sepia brown or blackish on the basal third and this color is more extensive on the hind pair. All femoral apices yellowish brown. All of the tibiae dark brown, obscurely but narrowly lighter at the base. Anterior tarsi and middle tarsi dark brown, their basal segment a little more yellowish. Upon the hind tarsi the first two segments are yellowish brown, the remaining ones darker. Besides being diffuse the color pattern of the legs is greatly obscured by the heavy black pile. Pile of hind coxae yellow anteriorly. *Wings*: strongly tinged with yellow which changes to brown beginning just before the outer half of the first posterior cell. The ends of the marginal and submarginal cell again become yellowish brown. The base of the pterostigma has a large dark brown spot, the remainder of the basal half or perhaps more deep yellow. There is a small brown cloud at the base of the submarginal cell; the small cross vein and the base of the discal cell are narrowly and obscurely brownish. Marginal cell widely opened but not so wide as its apical width. Subapical cross vein strongly recurrent. *Abdomen*: first segment and anterior three-fourths of the second, the whole lateral margins of the second and the first two sternites pale translucent yellow. The posterior margin of the second segment is black extending forward a little more deeply sublaterally. The whole third segment in some lights appears to be blackish from the dorsal view with milky bluish reflections; however,

turned over on the side, the lateral margins are not yellowish brown but this color extends widely inward on the basal half although it is obscure and diffuse. The fourth segment is similarly black, the lateral margin narrowly yellowish brown with a pair of distinct, slender, leaf-shaped, yellowish brown spots beginning at the base near the sides and extending obliquely inward toward the midline where they remain widely separated. Pile of abdomen yellowish on the pale areas and black upon the black areas including all of the very short fifth segment, except its lateral margin. Third sternite pale yellow with obscure, brown post medial bands.

Holotype: a female, Chanchamayo, Peru, Jan. 20, 1949, 1300 meters; J. Schunke.

***Volucella astarte* n. sp.**

Related to *panamena* Curran. The pale grey wing has a blackish spot in the middle, which diffusely grades out along the marginal and submarginal cells. Pterostigma and the end of the costal cell very dark. Length 13 mm.

Male. *Head*: face, cheeks and front light brownish orange. There is a shallow crease running diagonally from the eyes and directed towards the epistoma which leaves the greater part of the cheeks marked off by a distinct ridge-like line which, however, is not raised above the general surface. The tubercle is well developed, the face quite concave, with pale yellowish pollen, which is restricted to a broad band across the upper part of the face. The pile of the front and face is reddish golden. The antennae are entirely orange, the third segment barely concave above, narrowest on the apical half and twice as long as its basal width. Arista yellowish basally, becoming black on the apical half with thirty-four long rays above. Eyes touching for a considerable distance leaving the front quite small; the upper facets are greatly enlarged; the eyes have thick, abundant, pale brown pile on the upper half and none below. Vertex minute, restricted to the ocelli, the pile chiefly blackish. Occiput black with pale grown pollen and yellow pile throughout. *Thorax*: mesonotum dark shining reddish brown, lighter on the humeri and the lateral margins, the pleura are also reddish brown, a little lighter dorsally and anteriorly. The scutellum is dark sepia with a pronounced coppery reflection, without preapical depression. Pile of mesonotum chiefly reddish yellow anteriorly with a very few fine black hairs and almost entirely black beyond the middle. Bristles of thorax strong and black; there is one on the mesopleura,



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