- and a spot on each side, 6 like 5, or the lateral spots wanting, 7 with apex slightly notched.....*vicina*.
 Segments 1-6 with bands continuous, or nearly so, usually a separated spot on each side of 5.....2.
 2. Joints 7-10 wider than long; segment 7 strongly notched; pleura, scutel and legs marked with yellow; vein *a* beyond V_2*salicis*.
 Joints 7-10 longer than wide; segment 7 slightly notched; pleura and scutel black; legs less yellow; vein *a* before V_2*simplex*.
 3. Flagellum distinctly denticulate beneath; front coxæ with short spines; a spot on each side of segment 2, sometimes one on 1, usually continuous bands on 3-6.....*denticulata*.
 Flagellum and front coxæ ordinary.....4.
 4. Joint 4 shorter than 13.....6.
 Joint 4 as long as 13.....5.
 5. Thorax largely red; larger.....*Cressonii*.
 Thorax almost entirely black; smaller.....*Sayi*.
 6. Apical half of abdomen reddish; middle joints of flagellum longer than wide.....*Illinoensis*.
 Apical half of abdomen blackish; middle joints of flagellum hardly longer than wide.....*parva*.

THE NORTH AMERICAN SPECIES OF PEDILOPHORUS.

BY H. F. WICKHAM, IOWA CITY, IOWA.

The Byrrhidae of this continent have received a comparatively small share of attention at the hands of systematists for many years, so that it is not at all surprising to find novelties among recently-collected material. Two new forms of the genus *Pedilophorus* have recently been detected among the accumulations in my cabinet, both of them from the west; no doubt still others remain to reward explorers of the mountain ranges and of the northern districts. The European fauna contains ten species, while but four were previously known from North America. For the sake of better understanding of the new forms, I have constructed the following table, by means of which our native species may be identified:

- A. Elytral punctuation disposed in broad vittæ, alternating with nearly smooth stripes. .34 inch.....*Lecontei*, n. sp.
 AA. Elytral punctuation not disposed in vittæ.
 b. Tarsi simple. A green-bronzed species, clothed with coarse whitish hairs. .17 inch.....*aneolus*, Lec.

- bb. Tarsi with third joint lobed beneath.
- c. Bright green or bronzed species, pubescence fine, recumbent, without intermixed bristles.
- d. Acuminate behind, the elytra narrowing from in front of the middle.
 .16 inch.....*acuminatus*, Mann.
- dd. Form oblong, elytra parallel, or nearly so, to a point about one-third from tip.
 .18 inch.....*oblongus*, Lec.
- cc. Blackish species, metallic tinge lacking or inconspicuous.
- e. Pubescence extremely fine, whitish and ochreous, intermixed with conspicuous black bristle-like hairs. .17 inch.....*subcanus*, Lec.
- ee. Pubescence whitish or yellowish, not intermixed with bristle-like hairs. .16 inch.....*hesperus*, n. sp.

In a cabinet arrangement it might be better to place *oblongus* between *acuminatus* and *æneolus*, and to make *subcanus* follow *hesperus* rather than precede it. This is the sequence I have adopted in the notes below.

P. Lecontei, n. sp.—Oblong-ovate, very convex, bronzed, shining, with extremely fine, sparse, recumbent pubescence. Head with fine, well-separated punctures, front convex. Antennæ gradually clavate, passing the base of the thorax, blackish, the intermediate portion reddish; first joint large, second subglobose, third nearly twice as long as the second, but much more slender, fourth to tenth becoming broader, but subequal in length, eleventh oval, pointed. Thorax broadest at base, strongly narrowed anteriorly, sides scarcely arcuate, a rather deep submarginal lateral impression, which curves inward at the hind angles; posterior angles large, acute, but with somewhat irregular outline, basal marginal line distinct, fine, a small fovea in front of the scutellum; disk finely, regularly punctured, the punctures separated by a space about equal to their own diameters. Elytra continuing the outline of the thorax, becoming slightly broader to a point about one-third from apex, thence rapidly narrowing, tips separately rounded; an oblique impression near the apex, which renders the declivity more gibbous; surface deeply, regularly and rather closely punctured in longitudinal bands, which leave the sutural region and four vittæ on each elytron nearly smooth. Beneath rather coarsely and deeply-punctured abdominal segments becoming gradually smoother in sequence. Legs closely punctured, all the femora

grooved; tibiæ finely spinulose externally; the anterior pair somewhat enlarged towards apex, the middle and hind ones of approximately uniform width in distal two-thirds. Third tarsal joint with a long lobe. Length, 8.5 mm.

This species is much larger than any of the other described North American forms, and looks very much like an *Amphicyrta*. The peculiar punctuation of the elytra gives a vittate effect, recalling *Cytilus*, but there is no alternation of elevation. Only the front tibiæ are distinctly grooved for the reception of the tarsi. The antennal club is so gradually formed that it is difficult to say where it begins; the third and fourth joints are of nearly the same width, while in the fifth the enlargement has become apparent.

Cœur d'Alene, Idaho, two specimens, taken by myself in June, under logs. A third specimen from Vernon, B. C., collected by Mr. Venables and communicated by Dr. Fletcher, is slightly smaller, more brilliant, and a trifle more coarsely punctured, the marginal line of the prothorax is less marked, and the head has a frontal transverse row of three foveæ, of which the middle one is larger and deeper. These foveæ are non-essential, however, since one of my specimens has the median one distinct, the other showing also traces of the lateral foveæ.

P. aneolus, Leconte, New Species of North American Coleoptera, Sm. Misc. Coll., No. 167, 1866, p. 74. Originally described from a specimen in the Ulke Collection, captured in Nebraska. I have a number of examples of a *Pedilophorus* from Kalispell, Montana, which may belong here, though I am not quite satisfied with the determination. Mr. Fall expresses himself as being in doubt as to their exact status, and neither he nor myself have seen the type, which is now presumably in the Carnegie Museum at Pittsburg.

P. oblongus, Leconte, Report upon Insects collected on the Survey, Pacific R.R. Expl. and Surv., 47th and 49th parallels, p. 39 of separate. *P. acuminatus*†, Leconte, Proc. Acad. Nat. Sci., Phil., Vol. VII., p. 115. Oregon, Leconte. I have specimens from Seattle, Washington, collected by S. Bethel.

P. acuminatus, Mannerheim (*Morychus acuminatus*), Bull. Soc. Imp. Nat., Moscow, 1852, p. 341. The type specimens were collected under stones, among moss, at Sitka, Alaska, by Frankenhæuser and Pipingskøeld. Dr. Fletcher records it as being taken at Massett, Queen Charlotte Islands, under moss during the winter, by Rev. J. H. Keen. I took a single

individual at Hunter's Bay, Alaska, from a cut place on the trunk of a conifer. Two specimens in my cabinet, collected by Rev. Geo. W. Taylor, at Nanaimo, Vancouver Island, are a little more deeply punctured.

P. hesperus, n. sp.—Oblong, blackish, feebly shining, a faint æneous tinge, pubescence pale, recumbent, moderately coarse. Head deeply and densely, rather coarsely, punctured, front with a distinct median fovea, around which the punctures are less crowded. Antennæ gradually clavate, about reaching the base of the thorax, piceous-red, club blackish; first joint large and heavy, second subglobose, not quite as thick as the first, third more slender than the second but nearly as long, fourth and fifth subequal, a trifle shorter than the third, sixth broader, seventh to tenth wide, subequal in length, eleventh nearly twice as long as the tenth, oval, pointed. Thorax distinctly, finely and rather closely punctured, narrowed anteriorly, the sides not arcuate but slightly sinuate, lateral margin sharp, front and hind angles acute. Scutellum covered with pale yellowish pubescence. Elytra continuing the outline of the thorax, finely, distinctly and fairly closely punctured and indistinctly sulcate, sides subparallel, tips conjointly rounded. Beneath rufo-piceous, thickly clothed with pale pubescence, which almost conceals the sculpture, especially on the abdomen. Legs piceous, femora paler, all grooved for the reception of the tibiæ. Tibiæ spinulose externally, front and middle pairs with exterior margin arcuate, hind pair simply broader towards tip. Third tarsal joint lobed beneath. Length, 4 mm.

Leadville, Colorado, July, taken by myself under stones on a hillside. The front tibiæ alone are grooved for the reception of the tarsi. The antennæ are much stouter in comparison than those of *P. Lecontei*. In general appearance this insect approaches *P. subcanus*, but is at once distinguished by the lack of bristly hairs among the pubescence. From *acuminatus* it may readily be separated by colour and outline; *oblongus* differs in the bright green colour, strongly shining surface and lack of elytral sulcations, while *æneolus* should at once be separable by the simple tarsi.

P. subcanus, Leconte, Coleoptera of Michigan, Proc. Am. Phil. Soc., XVII., 1878, p. 609. Described from Escanaba, Lake Superior. I have it from Bayfield, Wisconsin, on the southern shore of the same lake, and from Leadville, Colorado.

Mailed June 4th, 1903.