

ART. XXVII.—*Insects in Amber from South America*; by
T. D. A. COCKERELL.

It has long been a matter for regret that nothing was known of fossil insects from South America. It can hardly be doubted that insect-bearing beds will eventually be found in more than one locality, but in the meanwhile, it is with great satisfaction that I am able to record two species of Diptera in amber from Colombia. The material was obtained in the Valle de Jesus, in the Department of Santander del Sur, by Brother Aristé of the Institute de la Salle, Bogotá. It was sent, with other specimens, to Prof. Edward W. Berry, who forwarded it to me for investigation. Prof. Berry, years ago, sent me the first North American amber insect to be described, so, as he remarks, it is fitting that he should now contribute the first from South America. In using the term amber, I imply simply a fossil resin, of course not identical with the European resins from the Baltic or Sicily. The present material, unfortunately of uncertain age, is relatively soft, being easily cut with an ordinary knife. Several pieces of the amber were found, only one of which contained insects. The two small insects, quite close together in the piece, are Diptera, and may be described as follows.

Mycomya aristei n. sp. (Mycetophilidæ.)

Female. Length about 3 mm., wings reaching beyond end of abdomen; head concealed in view from above; antennae rather short; thorax pale testaceous, the mesothorax bare, with two converging lines of small black bristles, forming a V-like figure, and between these a short median line of bristles; scutellum with four long black bristles; halteres very stout, with very large knob; femora and coxae whitish, tibiae and tarsi blackish; wings brownish, but without distinct markings; costa, subcosta and radius stout, brown, beset with oblique black bristles; abdomen narrowed basally, blood red, with dusky bands, thinly beset with black bristles; subcosta ending in radius, a short distance beyond middle of the small radial cell; upper branch of radius reaching margin at a very acute angle before end of wing, at a

considerable distance basad of end of lower branch; upper branch of radius beyond small cell about five times length of the cell; lower margin of wing with a fringe of fine hairs. The bristles on upper branch of radius are much more widely spaced (about $50\ \mu$ apart) than on costa, where they are crowded. The small radial cell is about $255\ \mu$ long.

In the cloudy wings and subcosta ending in radius this agrees with *Mycomya hyatti* (*Sciophila hyatti* Scudder) from the Green River Eocene of Wyoming. It is not closely related to *M. helmii* (*Sciophila helmii* Meunier) from Baltic amber, *M. oblita* Ckll. from the Isle of Wight Oligocene, or *M. cockerelli* Joh. and *M. lithomendax* Ckll. from the Florissant Miocene. Thus it might seem that *M. aristei* should be referred to the Eocene; but unfortunately for such a conclusion, there is a similar species (*M. littoralis* Say) in the present fauna of North America. It is therefore impossible to say more than that *M. aristei* is doubtless not earlier than Tertiary.

I take pleasure in naming this insect after the collector.

Drosophila berryi n. sp. (Drosophilidæ.)

Length 2.3 mm., wings about 2.2 mm., extending about 640μ beyond end of bond; head, thorax and abdomen dark brown; wings hyaline, with brown veins; eyes brown (not red), bare; vibrissae present; third antenna joint shaped as in *Drosophila*, except that it appears to be pointed at the apex (compare, for instance, *Cerodonta femoralis*), and the arista appears to be more apical, as in some Agromyzids, but it is difficult to get a very good view of the antennae; arista with long not very numerous hairs, as in Drosophilids or such flies as the Geomyzid *Diastata*; vertical bristles lost; ocellar bristles long, diverging and directed forward, exactly as in *Drosophila*; orbital bristles three on each side, as in *Drosophila*, all well developed, the anterior directed forward, middle outward over the eyes, posterior obliquely laterad; four dorsocentrals (represented only by the sockets except one which remains), placed exactly as in *Drosophila*; scutellum with four bristles (represented by sockets) all near margin, the posterior ones subapical, not so far apart as distance of each from the

anterior bristles of same side, all this exactly as in *Drosophila*; wings hyaline, with brown veins; costa twice broken, exactly as in *Drosophila*, and costal bristles also agreeing; auxiliary vein represented by a rudiment running into first longitudinal as in *Drosophila*, and first longitudinal formed exactly as in that genus; the rest of the venation also agrees, with the short anal cell, and second basal confluent with discal. The following measurements are in microns: base of submarginal cell to anterior cross-vein, 256; end of costal cell to vertical level of anterior cross-vein, 112; end of costal cell to end of marginal cell, 1120; vertical distance from tip of second vein to nearest point on third, 208.

This is very easily distinguished from the modern *D. melanogaster* by the absence of black bristles on the eyes, but some living *Drosophila* (e. g. *D. dubia* Sturtevant, from Cuba and Honduras) have nearly bare eyes. The wing and bristle characters appear to agree excellently with *Drosophila*, but the antennae, not very well seen, are perhaps discordant enough to indicate another genus. On the whole, the reference to *Drosophila* appears satisfactory, and probably the antennae, if better seen, would conform. No fossil *Drosophila* has hitherto been described. Loew in 1850 referred to a *Drosophila* in Baltic amber, but as Meunier lists no such fossil in his much later catalogue of amber Diptera, the record must be considered of little value.

To sum up the evidence to be derived from these fossils; they are of a modern type, and not even distinctly tropical or South American. They might very well be Tertiary, but it is perhaps more likely that they are Pleistocene or Holocene. We can only hope for more evidence, throwing light on this subject.

It may be worth while to note that Sturtevant, in his admirable work on *Drosophila** infers (from Handlirsch) that the Diptera Cyclorrhapha did not appear until the Lower Oligocene. As a matter of fact they occur in the Green River Eocene, with forms so highly developed that their origin must have been much earlier.

University of Colorado,
Boulder, Colorado.

* Carnegie Institute of Washington, Publ. 301 (1921).