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XVI.

ENTOMOLOGICAL RESULTS (10):

APHIDIDÆ.

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THIS paper is based upon a small collection of plant lice obtained in Alaska by Professor Trevor Kincaid during the Harriman Expedition in 1899.

The material thus brought together comprises four species, one of them European, while the remaining three appear to be new; at least I failed to identify them with any of our described forms. It is greatly to be regretted that the migratory female was obtained with only two of them, that no colorational notes were made of the living insects before immersion in alcohol, and that no attempt was made to ascertain the name of the host plants on which they were feeding. The descriptions of the new species will therefore be rather defective and incomplete, though I hope they will enable future students to recognize them.

NECTAROPHORA CAUDATA sp. nov.

Winged viviparous female: general color apparently green or yellowish green. Antennæ black; the two basal joints dusky, their base and base of the third pale. Eyes brown. The head, a somewhat lunate spot at the posterior margin of the prothorax, the mesothoracic

lobes and sternal plate, posterior margin of the scutellum, two small roundish spots on the metathorax, a transverse row of three small linear spots on the first abdominal segment, a narrow, transverse band about the middle of the abdomen, a dorso-lateral row of three transverse spots in front of and two smaller spots between the nectaries of a brownish or dusky coloration. Legs brownish yellow, base of femora greenish yellow; both the femora and tibiæ change gradually to a darker brown towards the apex. Tarsi black. Nectaries and tail concolorous with the abdomen, with tip of nectaries blackish. The wings were very much mutilated, though the subcosta appears to have been greenish or greenish yellow at base and shading gradually to brownish yellow towards the stigma, which appears to have been greenish or yellowish green; veins black.

Length of body about 3.4 mm.; expanse of wings about 10 mm.; length of antennæ almost 4 mm.; of the nectaries nearly 0.4 mm.; and of the tail a little over 0.2 mm. The two basal joints of the antennæ, as usual, shortest, each of them slightly over 0.1 mm., the first one being slightly the longest; the third joint measures 0.8 mm. in length, the fourth nearly 0.7, the fifth a little over 0.5 mm., and the sixth with its spur 1.2 mm. in length. The hairs of the antennæ and abdomen are very short, simple and sparse, while those of the tibiæ are prominent and spine-like. The nectaries are slightly tapering and much shorter than usual in this genus, not reaching to the end of the body, while the tail is unusually broad and but slightly constricted beyond the middle.

Apterous female: General coloration similar to that of the winged form; eyes brown, antennæ black, the two basal joints pale, the third joint brownish. Legs and nectaries brownish yellow, base of femora greenish, apex of the tibiæ, of the nectaries and the tarsi black. There are no markings on the abdomen, except a dorso-lateral row of five or six minute, impressed, dusky dots each side in front of the nectaries.

Length, 3.6 to 4 mm. to the tip of the tail; antennæ rather short, barely reaching to nectaries and about 3 mm. in length. The third joint measures almost 0.7 mm., the fourth somewhat over 0.4 mm., the fifth 0.4 mm., and the sixth with its spur 0.8 mm. in length. There are from one to four small sensoria a little above the base of the third joint. The nectaries and tail are subequal in length, or with the tail, as in some specimens, distinctly longer than the nectaries; the tail measures about 0.4 mm. in length and is much broader than in the winged form.

The winged form of this species resembles, on account of the mark-

ings of its abdomen, *Nectarophora granaria* Kirby; it is, however, larger, with much shorter nectaries and much broader tail, while the apterous form, on account of the short nectaries comes near *Nectarophora fulvæ* Oestl., though it is considerably larger and differs besides in the conspicuously broad tail.

Taken at Juneau, Alaska.

Type.—Cat. no. 5274, U. S. National Museum.

NECTAROPHORA INSULARIS sp. nov.

Apterous female: General color evidently green. Eyes brown; antennæ black, the two basal joints, and the basal two-thirds or more of joints three and four pale. Legs pale, the coxæ brown, apex of tibiæ, the tarsi and the tip of nectaries dusky to black. The body is marked with a subdorsal row of nine small dusky spots, of which those on the prothorax and mesothorax are elongated; there are also two mediodorsal spots on the metathorax; four still smaller dorso-lateral spots in front of nectaries and four minute ventro-lateral spots. In some of the immature specimens the nectaries are almost black.

Length of body to tip of tail 3 to 3.4 mm., antennæ rather long, reaching to or beyond tip of tail and about 4 mm. in length. Length of nectaries 0.7 to 0.8 mm.; tail about 0.3 mm. Length of third antennal joint about 0.7 mm.; fourth joint 0.6 mm.; fifth joint 0.5 mm., and the sixth, with its spur, 2 to 3 mm. in length, the spur being much longer than joint three. The first joint is very stout and almost twice the length of the second; the third joint is provided with one to three small sensoria near its base. Nectaries slender, slightly tapering and curving outwards. Hairs of antennæ minute and simple, those of the tibiæ stout and spine-like, a few of them sometimes slightly thickened at the tip.

This species resembles somewhat *Nectarophora pisi* Kalt., but is much larger, the legs shorter and stouter, the nectaries shorter and the tail broader.

Obtained on St. Paul Island, Bering Sea.

Type.—Cat. no. 5275, U. S. National Museum.

NECTAROPHORA EPILOBII sp. nov.

Apterous female: Color apparently dark reddish or brownish. Eyes brown. Head, antennæ, nectaries, coxæ, terminal third of femora and tibiæ, the tarsi and anal lobes black, remaining parts of legs dark yellowish; tail yellow. There is a black or dusky band on the

prothorax and mesothorax, a longitudinal dusky mark each side of the mesothoracic band, transverse rows of minute black dots on the abdomen, and a large black spot at the base of the nectaries posteriorly.

Length of body, exclusive of the tail, 3 to 3.4 mm. Length of antennæ 3.5 mm.; nectaries 0.7 mm.; tail 0.6 mm. The third joint of the antennæ measures 1.2 mm.; the fourth joint 0.6 mm.; the fifth 0.5 mm., and the sixth, with its spur, 1.2 mm.

The third antennal joint is provided with a row of nine to ten prominent sensorial tubercles near its basal one-third. Nectaries stout and tapering; tail prominent, almost as long as nectaries, densely covered with sharp points and provided each side with five or six small notches, which give rise to a fine, long and curved hair. Hairs of antennæ and legs stout and spine-like, those of the body rather long, slender and simple.

In general appearance this species resembles very much *Nectarophora millefolii* Fab., but is larger and not so hairy as that species.

Found upon a species of *Epilobium* on Popof Island, Alaska.

Type.—Cat. no. 5276, U. S. National Museum.

CLADOBIUS POPULEUS Kalt.

Cladobius populeus KALT., Monog. d. Pflanzenl., 1, p. 116, 1843. (*Aphis*.)

While studying this handsome species and comparing it with the descriptions by Kaltenbach and Koch, I became convinced that it was identical with that described by these authors, notwithstanding both of them speak of the nectaries as being cylindrical, whereas, in fact, they are clavate. This error, or discrepancy was evidently due to the fact that the nectaries of this and probably some other species of this genus are rather more slender than usual and when being carried parallel to the sides of the abdomen, appears to be more or less distinctly cylindrical, whereas, in projecting obliquely from the sides of the body their clavate character becomes quite plain. In many of the species of this genus the nectaries are unusually robust and conspicuously clavate, while in others this character becomes less and less pronounced and may easily lead to errors.

Besides this oversight, Koch made evidently additional errors while drawing up his diagnosis of this genus, which, no doubt, was due to impaired eyesight. One of the most notable instances is his statement that joints four to six are of nearly equal length and that the, so-called, seventh joint is very small; in reality joints four, five, and the spur, or seventh joint, are, as stated by Kaltenbach, subequal in length,

whereas, as is usual in the higher groups of Aphidinae, the sixth joint is shorter than either of these joints, and, since our Alaska insect agrees in coloration and other important characters, excepting the nectaries, with Kaltenbach's description, I take it for granted that it belongs to the same species.

It may be of interest in this connection to point out that *Pterocomma pilosa* Buckton, belongs also to this genus and that his *Pterocomma* has to be dropped. In examining the type specimen of *Pterocomma pilosa*, which had been kindly loaned me by Dr. Buckton for study, I was surprised to find that the principal character, the peculiar shape of the wings, on which this genus was founded, does not exist, but that it was the result of poor preparation, by which a peculiar fold along the third discoidal vein was formed, which can be readily traced by gently focusing this part of the wing.

It is quite possible that his species may belong to the same species; at least, it appears to come very near to it.

Additional studies of other genera with more or less distinctly clavate nectaries have convinced me that the genus *Melanoxanthus* Buckton has also to be dropped and that it must be made a synonym of *Cladobius*. The clavate character of the nectaries in different species varies considerably, so that it frequently may happen that the clavate character of rather slender nectaries is overlooked, especially if they lay parallel with, or close to the abdomen. The general appearance, however, of these insects, their rather large size, strong pilosity of the body and its members and the minute, blunt tail, will not fail, even if the exact shape of the nectaries cannot be ascertained, to assign them to their proper position.

The synonymy of this genus will therefore read:

CLADOBIUS Koch.

Melanoxanthus Buckton.

Pterocomma Buckton.