REVIEW OF A FEW MORE PROVANCHER TYPES OF ICHNEUMONIDÆ.

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In making a study of the Provancher types of Ichneumonidæ while at Quebec a year ago last winter, the type of many of the more recent descriptions was not found in the collection. Since that time types of many of the Abbé's latest descriptions have been found to be with the ones who sent the material, and are not lost, as was at first feared. Mr. W. H. Harrington, of Ottawa, has quite a number of these types, and through his kindness and generosity I have been privileged to study the types in his possession. The following notes are the result of this review :

Ichneumon citrinus ♂ = *Hepiopelmus*, Wesm.—This would be an Amblyteles by Cresson's synopsis.

Amblyteles superbus = *Amblyteles suturalis*, Say.

Phaogenes annulatipes = *Ichn. annulipes*, Cress.

Phaogenes pinguis is a *Cryptus*. The ovipositor is almost as long as the abdomen.

Stilpnus deficiens = *Thersilochus*.—The abdomen is piceous, with segment 2 and the tip paler.

Phygadeuon marginatus = *Herpistomus*.

Phygadeuon longicornis = *Cryptus incertus*, Cress.—The metanotum has two transverse carinæ, the tegulæ are reddish-black, and the abdomen is tipped with a pale spot at the apex above.

Phygadeuon fusiformis = *Cryptus montivagus*.—The only difference is in the posterior tarsi, which are pale, but segments 2-4 are not yellowish as in typical *montivagus*. According to Provancher (See p. 408 of "Add. et Corrections") *Phygad. annulatus* = *fusiformis*, and so making it a synonym also.

Phygadeuon gracilicornis = *Herpistomus*.

Phygadeuon fraterculus = *Cryptus*.

Phygadeuon similis = *Cryptus soror*, Cress.—It is a typical *soror* except the white scutellum. It may become a variety.

Phygad. capitalis ♂.—Probably O K, but may prove to be a ♂ *Cryptus*. The petiole is narrow, gradually enlarged, almost straight, spiracles in or just back of the centre. Front with a large irregular tubercle just beneath the antennæ, apparently caused by an injury.

Cryptus pubescens, ♂, O K.

Cryptus segregatus, ♂, O K.—From the description of this species

and *perditus* one would be led to believe they were synonyms, but the two types are quite different. *Segregatus* may be known by the translucent, very narrow, lanceolate stigma, while the stigma of *perditus* is broad, triangular and opaque. The tegulæ are white in *segregatus*, black in *perditus*.

Cryptus perditus has only one wing remaining, but is apparently a Hemiteles.

Cryptus mellipes = *Cryptus alacris*, Cress.

Cryptus sordidus = *Cryptus extrematus*, Cress.

Cryptus longicaudus, O K.—The tegulæ are black instead of white.

Cryptus ignotus, O K.

Cryptus pentagonalis, ♂ and ♀ O K.

Hemiteles gigas = *Platylabus*.

Hemiteles declivus, O K.

Hemiteles aciculatus, O K.—The description of colour markings is faulty. The nervures and stigma are brown; the posterior coxæ with the basal joint of the trochanters are black; the extremity of the tibiæ and tarsi is dusky; abdominal segments 3 and 4, except at the sides, with a part of 5, and 2 at the apex, red.

Hemiteles debilis, O K.

Mesostenus armatus, O K.—The areolet being open behind would place it in Foerster's genus *Otacustes*. There are some of Mr. Cresson's species that also belong here.

Mesostenus latigaster = *Tryphon*.

Mesostenus pluricinctus is not a *Mesostenus*. The oblique, slightly petiolate areolet would lead one to place the specimen with the Tryphoninæ, but the long ovipositor, curved petiole and general form place it nearer the Cryptinæ, where Provancher placed it. By the lunulæ, Foerster would place the specimen in his Phygadeuonidæ, and by the spiracles being in the middle of the petiole, it would belong to his genus *Diacritus*. Provancher's description of the species is not very complete. Points that might be added, besides those given above, are: Lower edge of clypeus, a small dot at the base of each antenna beneath, and a line beneath the primary wings, yellowish-white; a short, transverse median ridge on posterior part of metanotum; ovipositor nearly as long as abdomen; posterior coxæ and trochanters as long as or longer than the femora; claws large; front tibial spurs large and curved. The longitudinal carinæ on the metanotum, of which Prov. speaks, are so very

indistinct that they are hardly traceable. The species has evidently proved a stumbling-block to the Abbé in his work, as he has placed it in three different subfamilies, and each one under a new species. *Mesoliptus rufipes*, *Echthrus pediculatus* and the present species are one and the same. They are all, with very little doubt, synonyms of Cresson's *Mesoliptus* (?) *muliebris*, which is the ♂. The venation, form and markings are the same except that the ♂♂ are paler in colour.

Pezomachus sulcatus = *Pettitii*, Cress.—The sulcate groove of the mesonotum is perhaps a little deeper and plainer than in *Pettitii*, but is present in both, and the two species seem to be identical in all other respects.

Anomalon rufulum, ♀, O K.

Anomalon rufulum, ♂ = *Anomalon chlamidatum*, Prov.

Limneria Guignardi, O K.—Up to a very recent date I have supposed that this species was synonymous with *fugitiva*, Say. This seems to have been the general belief from the number of specimens in various collections under the name *fugitiva*. Say's description of *fugitiva* gives "posterior tibiæ white with black tip and base." Provancher's description of *Guignardi* reads: "The posterior (tibiæ) black with a large white annulus in the middle and another smaller at the base." I have found one typical *fugitiva*. *Guignardi* is the common species.

Thersilochus erebundus ♂ = *Porizon angulare*.

Mesoleptus angustus, ♂ and ♀, O K.

Mesoleptus rufomixtus, ♂, O K.

Mesoleptus nigricornis, ♀ = *Ctenopelma*.

Exenterus hullensis, ♂, O K.

Through the kindness of Mr. Guignard, I have been privileged to examine a few Provancher types in his collection. The following is a summary of this examination:—

Stilpnus appendiculatus = *Hemiteles humeralis* ♂.

Phygadeuon Guignardi = *Ichneumon mendax*, Cress.

Hemiteles mucronatus is O K.

Cryptus ornatus, O K.

Cryptus erythropygus, O K.

Cryptus 3-annulatus, O K.

Cryptus gracilis, O K.—*Cryptus rectus* answers the description of this species quite as well if not a little better. They are probably synonymous, though perhaps not.

Cryptus albonotatus, O K.

Linneria Guignardi has already been spoken of in referring to the types in Mr. Harrington's collection.

Bassus dorsalis ♀ = *Hemiteles* ♂.—This is the true type and not the specimen in the Provancher collection referred to the genus *Plectiscus*.

Ephialtes variatipes is the ♂ of *Ephialtes macer*, Cress.

SYSTEMATIC VALUE OF THE LARVA OF SPERMOPHAGUS.

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The seeds of *Gleditschia triacanthus* frequently show a narrow scar upon the surface. Rarely two of these scars are found upon the same seed. These scars are about one-eighth of an inch long; and indicate the presence of *Spermophagus gleditschie*, a Bruchid beetle, of a mottled, tawny appearance, frequently bred from these seeds in the spring. The grub remains in the seed over winter, changes to pupa in the spring and soon emerges, as a perfect beetle, through a rounded hole in the side of the bean-seed.

The larva, observed by me in the middle of December, is an incurved Chrysomelaform grub, provided with three pairs of legs, as well developed as those of the larva of *Eupsalis* and *Anthrribus*. The thoracic segments are the thickest and the body tapers towards the apex. The head is partly sunken in the first segment. Along the sides the segments are slightly protuberant, and in other particulars an analogy to the larvæ of the typical Rhynchophora is shown; but the presence of thoracic legs proves the insect to belong to a different family of beetles. In the young larva the legs are probably long as in that of *Bruchus*. Mr. H. F. Wickham, in a paper published in 1894, describes the larva of *Spermophagus*.

Prof. J. O. Westwood, in Vol. I. of his "Introduction," states that the larva of *Bruchus* has minute legs. The larva of *Bruchus fabæ*, Riley, has been figured by Dr. Packard (Am. Nat., Sept., '73, p. 537, fig. 141) as a footless grub with a minute head. The larva of *Spermophagus* shows this to be an error, the head being of considerable size, and there being six legs. The mandibles were evidently mistaken for the head by Dr. Packard; and the head mistaken for the first segment. Mr. F. A. Marlatt (2nd Rep. Kansas Ex. Sta., p. 210) says the larva of *Bruchus obsoletus*, Say, is footless; but his figures, 2 and 3, on plate IX., give a better representation and show the legs.