

over, good structural characteristics also, especially of the middle segment.

15. *PEPSIS CINNABARINA* R. LUC.

*Pepsis cinnabarina* R. Lucas, l. c., 804, ♀, 1895.

Mexico: Lower California; California: Coulterville (Lucas), San Diego. The wings in this species are fiery red.

---

—The following paper was read by Mr. Ashmead:

NOTES ON PARASITIC HYMENOPTERA, WITH DESCRIPTIONS OF SOME NEW SPECIES.

By Dr. GEORGE DIMMOCK, Springfield, Mass., and WILLIAM H. ASHMEAD, Washington, D. C.

---

PART I.—NOTES ON PARASITIC HYMENOPTERA.

By Dr. GEORGE DIMMOCK.

The following notes concern parasitic hymenoptera, mostly reared species, for the identification of which I am indebted to Mr. W. H. Ashmead, whose article accompanying this paper will describe the species that proved to be new, and which are indicated by a \* against the abbreviation Ashm.

The data which pertain to each species are fragmentary, as many of the parasites were the accidental results of attempting to rear their hosts. Dates of emergence, and locality, are of some importance, and are quite fully noted: the locality N. H., in all cases, signifies Canobie Lake, a village about five miles north of the state line of Massachusetts, between the towns of Windham and Salem, in Rockingham county, New Hampshire.

The numerals in parentheses refer to my manuscript notes, and correspond with numbers on the specimens preserved.

FAMILY PROCTOTRYPIDÆ.

(1) *Telenomus dimmocki*, \*Ashm. One lot reared from eggs of a hemipteron (possibly *Podisus spinosus*), found 20 July, 1885, at Arlington, Mass.; parasites emerged 24 July. A second lot of the same kind of eggs, found in N. H., 10 July, 1892, gave parasites 14 July. (702, 958.)

(2) *Telenomus sphingis*, Ashm. From egg of *Telea polyphemus*, Belmont, Mass., 4 Aug., 1883. (536.)

(3) *Helorus paradoxus*, Prov. Reared from a chrysopid larva taken 20 July, 1885, in Arlington, Mass.; this larva pupated 28 July, and from the pupa the parasite emerged 20 Aug. (709.)

## FAMILY CYNIPIDÆ.

(4) *Allotria ambrosiæ*, \*Ashm. Reared from *Siphonophora ambrosiæ*, in Arlington, Mass. (781.)

## FAMILY CHALCIDIDÆ.

(5) *Chalcis ovata*, Say. From a larva, probably of *Zerene catenaria*. N. H. (1138 d.)

(6) *Perilampus cyaneus*, Brullé. One specimen from a tachinid pupa reared from a larva of *Spilosoma virginica*, in Cambridge, Mass. Numerous specimens, in latter half of Sept., from a breeding-cage of larvæ of *Zerene catenaria*, in N. H.; as these larvæ were badly parasitized by tachinids, it is likely that the chalcids were, in this case also, parasites of the tachinids. (674, 934.)

(7) *Encyrtus thyreodontis*, \*Ashm. A larva of *Smerinthus excæcatus*, taken 8 Sept., 1882, in Cambridge, Mass., that went under ground for pupation 3 Oct., was dug up later, and found to be parasitized by *Thyreodon morio*. From the cocoon of the *Thyreodon* emerged, April, 1883, a large number of *E. Thyreodontis*, of which 170 specimens were preserved and many lost. On 6 Sept., 1882, a female *E. thyreodontis* was watched while apparently ovipositing in a larva of *S. excæcatus*; both larva and chalcid were preserved, and the former produced a healthy normal male imago, not producing chalcids, perhaps because it had not been parasitized previously by a *Thyreodon* to provide a suitable host. Another *E. thyreodontis* was observed stinging a larva of *Attacus cecropia*; this larva died later, possibly of some bacterial disease, but no chalcids came from it. Were the two presumably resultless ovipositions cases of mistaken instinct? (340, 345, 563.)

(8) *Homalotylus terminalis*, Say (= *Scelio terminalis* Say = *H. obscurus*, How. = *Eutelus scymnæ* Schimer). Bred several times, in August, 1885, from larvæ of *Coccinella novemnotata*, taken in Arlington, Mass. Synonymy by Mr. Ashmead. (731 c.)

(9) *Pteromalus puparum*, L. From pupa of *Pieris rapæ*, Aug., 1895, in N. H. (1124.)

(10) *Pteromalus tabacum*, Fitch. Found a dead larva of *Smerinthus geminatus*, covered with cocoons of an *Apanteles*, 29 Aug., 1892; the *Smerinthus* had been parasitized also by a tachinid, and its half-starved larvæ appeared the next day, only two of them with sufficient vitality to pupate; these two never producing imagos. A very large number of chalcid imagos emerged. *P. tabacum* was also reared, Aug., 1895, from a

larva of *Ampelophaga myron*. Both rearings were in N. H. (1020 q, 1123.)

(11) *Habrocytus phycidis*, \*Ashm. Bred from larva of *Phycis rubrifasciella*; parasite emerged 25 July, 1892. N. H. (961 c.)

(12) *Diglochis omnivorus*, Walk. This introduced European species was reared from a pupa of *Orgyia leucostigma*, in Cambridge, Mass., in 1883. (509 c.)

(13) *Elachistus cacæciæ*, How. Bred from *Cælodasys unicornis*; the parasites, which fed internally, came out and pupated 7 July, and two only (♂ and ♀) emerged 11 August. Cambridge, Mass., 1883. (489.)

(14) *Elachistus cidariæ*, \*Ashm. Bred from larva of *Cidaria diversilineata*, in N. H. (580.)

(15) *Entedon albitarsis*, Ashm. Hyperparasitic on *Apanteles congregatus* from *Thyreus abbotii*. Cambridge, Mass., July, 1882. (125.)

(16) *Cratotechus brevicapitatus*, C. & D. Bred from larvæ of *Euplexia lucipara*, which are quite common in gardens in Cambridge, Mass., feeding on *Dicentra spectabilis*. One lot of 20 pupæ of *C. brevicapitatus*, found 27 July, 1882, emerged 1 Aug., 1882; another lot pupated 14 Sept., 1882, and emerged 7 May, 1883, thus hibernating as pupæ. Another lot was bred from a geometrid larva that fed on *Prunus nana*; pupation occurred 15 June, 1884, and emergence 28 June, 1884. (134, 347, 601.)

(17) *Cratotechus smerinthis*, \*Ashm. From larva of *Smerinthus excæcatus*, found in N. H. Pupation of the chalcid larvæ about 16 Sept., 1892; emergence, the next spring, before 30 May. (1064.)

(18) *Eulophus incongruus*, \*Ashm. Hyperparasitic on *Apanteles congregatus* reared from larva of *Thyreus abbotii*. Cambridge, Mass., July, 1882. (125.)

(19) *Tetrastichodes tibialis*, Ashm. Hyperparasitic (on *Homalotylus*?) in pupæ of *Coccinella novemnotata*, in Cambridge, Mass. Thirteen specimens emerged from one coccinellid pupa, 31 Aug., 1885; fifteen from another pupa, 2 Sept., 1885. (734, 738.)

#### FAMILY BRACONIDÆ.

(20) *Rhogas intermedius*, Cr. Emerged 20 Sept., 1882, from a cocoon of *Ennomos alniaria*, in Cambridge, Mass. Also reared from a larva of *Apatela hastulifera*, taken at Wachusett, Mass., 26 Aug., 1882. (266, 1138 e.)

(21) *Rhogas geometræ*, Ashm. Bred from a geometrid larva (probably *Anisopteryx*) from Arlington, Mass.; parasite pupated 20 June, 1884, and emerged 8 April, 1885. (612.)

(22) *Bracon charus*, Riley. Known to be a parasite of buprestid and cerambycid larvæ, this species was bred from decaying bark of *Quercus*, where its host was apparently *Eucrada humeralis*. Cambridge, Mass., 1885. (671.)

(23) *Habrobracon gelechiæ*, Ashm. From a noctuid larva living among the buds and blossoms of *Solidago*; Cambridge, Mass., July, 1883. (429.)

(24) *Apanteles acronyctæ*, Riley. From a larva of *Apatela*, supposed to be that of *A. vulpina*, in N. H., Sept., 1892. (1032.)

(25) *Apanteles congregatus*, Say. I have obtained this species from the following sphingid larvæ: *Thyreus abbotii*, at Cambridge, Mass., about 1 July, 1879, and about 26 July, 1882; at the latter date the *A. congregatus* had four kinds of hyperparasites, which are mentioned under their respective species. *Philampelus pandorus*, at Cambridge; the parasites emerged about 1 Oct., 1882. *Ampelophaga myron*, at Cambridge; the parasites emerging 19 Aug., 1882; also, several rearings in N. H., among which emergences occurred 12 Aug., 1890, and about 1 Sept., 1892. *Ampelophaga versicolor*, in N. H.; emergences 16 and 25 Aug., 1892. *Sphinx chersis* (= *S. cinerea*), at Cambridge; emergences, 17 Sept., 1882, 4 Aug., 1883, and 21 May, 1884. The last mentioned lot of parasites hibernated as pupæ, having pupated 11 Sept., 1883. *Dolba hylæus*,\* in N. H.; emergence early in Sept., 1895.

(26) *Apanteles smerinthi*, Riley. From larvæ of *Smerinthus geminatus*, in N. H.; in some cases the parasites hibernate in their cocoons. (1020, 1136.)

(27) *Apanteles xyliua*, Say. From larva of *Ellema harrisii*, in N. H.; parasites pupated late in August and emerged early in Sept., 1895. (1121.)

(28) *Apanteles euchætis*, \*Ashm. From larvæ of *Euchætis egle*, in N. H. The larvæ of the parasite came from the moth-larva, and pupated in a mass beneath the hairs of the latter; both pupation and emergence occurred in Aug., 1895. (1125.)

(29) *Apanteles murtfeldtæ*, Ashm. From a geometrid larva that fed on *Rubus canadensis*, at Cambridge, Mass.; parasites pupated 2 July, 1883, and emerged five days later. (450.)

\* These parasites were from the larva of *D. hylæus* [?], which feeds on *Ilex verticillata*, and not from the larva well described by Mr. S. H. Scudder (*Psyche*, 1877, v. 2, p. 77), which I have proved by rearing to be that of *Sphinx gordius*, which is common on *Comptonia asplenifolia* in N. H., and which I have found in Cambridge, Mass., feeding on *Spiræa salicifolia*.

(30) *Apanteles nemoriæ*, \*Ashm. Bred from larvæ of a *Nemoria* (probably *N. gratata*) which fed on *Euphorbia corollata*, in Suffield, Ct., Aug., 1883. Several specimens also from larvæ of *Eucrostis chloroleucaria*; parasites pupated 21 July, 1892, and emerged 26 July, 1892. Larvæ of *E. chloroleucaria* are common in N. H., feeding upon the flowers of *Rudbeckia hirta* and of species of *Aster*, and, in 1892, more than half the larvæ were parasitized by *A. nemoriæ*. (565, 962.)

(31) *Apanteles parorgyiæ*, Ashm. From larva of *Pyr-rharctia isabella*; parasites pupated in a mass of cocoons 5 Aug., 1892, and emerged 12 Aug., 1892. (1012.)

(32) *Apanteles schizuræ*, \*Ashm. Bred from larvæ of *Cælodasys unicornis*, in N. H.; parasites pupated 6 July, 1892, and emerged about eight days later. (943.)

(33) *Apanteles radiatus*, \*Ashm. From a lepidopterous larva feeding on *Plantago major*, in Cambridge, Mass. (1129.)

(34) *Pseudapanteles ephyræ*, \*Ashm. From larvæ of *Ephyra pendulinaria*, in N. H.; one parasite pupated 16 July, 1892, and emerged 22 July, 1892; another emerged 5 Aug., 1892. In each case but a single *Pseudapanteles* came from a larva of the geometrid, and both the green and brown forms of these variably colored larvæ were parasitized. (944 c, 960 a.)

(35) *Protopanteles tortricis*, \*Ashm. From a tortricid larva that feeds on *Comptonia asplenifolia*, in N. H.; emergence 13 July, 1892. (949.)

(36) *Microplitis hyphantriæ*, Ashm. From an undetermined bombycid larva that fed on apple leaves, in Cambridge, Mass.; parasite emerged about 10 July, 1883. (486.)

(37) *Microdus simillimus*, Cr. Bred from larva of *Pædisca strenuana*, which mines the pith of *Ambrosia artemisiæfolia*. Arlington, Mass.; parasite emerged 21 Aug., 1885. Also bred, in N. H., from *Phycis rubrifasciella*; parasite pupated 18 July, 1892, and emerged 28 July, 1892. (730 g, 979.)

(38) *Macrocentrus delicatus*, Cr. Parasite of *Pædisca strenuana*; emerged about 24 Oct., 1885. Arlington, Mass. (930 e.)

(39) *Amicoplus crambi*, Ashm. From a larva, probably tortricid, that wraps up the leaves at tip of twigs of *Prunus nana*. Cambridge, Mass.; parasites emerged 30 June, 1884. (602.)

(40) *Aphidius nigriceps*, Ashm. From *Siphonophora ambrosiæ*, at Arlington, Mass., 1885. (781 a.)

(41) *Aphidius ribis*, Ashm. From *Myzus ribis*, at Cambridge, Mass., May-June, 1884. (589 a.)

## FAMILY ICHNEUMONIDÆ.

(42) *Anomalon exile*, Prov. A male emerged from a pupa of *Phycis rubrifasciella*, 12 Aug., 1892, in N. H. (961 p.)

(43) *Thyreodon morio*, Fabr. Often reared from *Smerinthus excæcatus*, both in Cambridge, Mass., and in N. H. Hibernates as pupa. (361, 1031.)

(44) *Ophion bifoveolatus*, Brullé. From pupa of an undetermined arctian found in N. H., in 1891; parasite emerged 28 July, 1892. (978.)

(45) *Enicospilus purgatus*, Say. Bred from a pupa of *Prionia bilineata*, in N. H.; the bombycid pupated 6 Oct., 1893, and the ichneumon emerged 17 April, 1894. (1069 c.)

(46) *Campoplex diversus*, Nort. From *Cidaria diversilineata*, in Cambridge, Mass.; emergence of parasite 23 Aug., 1882. Also found in N. H. (1008 e.)

(47) *Hypotherentes geometræ*, \*Ashm. From an undetermined geometrid larva, on *Betula alba*, at Arlington, Mass.; parasite pupated 17 June, and emerged 27 June, 1884. (611.)

(48) *Limneria fugitiva*, Say. Three specimens from larvæ of *Ædemasia concinna*, Belmont, Mass.; parasites emerged 11 Sept., 1882. Also two specimens from Springfield, Mass. (326.)

(49) *Ischnoscopus synchloræ*, \*Ashm. Reared from larva of *Aplodes* (possibly *A. mimosaria*) in N. H.; pupation 14 July, 1892; emergence, 21 July, 1892. (956 a.)

(50) *Mesochorus tachinæ*, \*Ashm. Hyperparasitic: from a tachinid puparium, the tachinid larva being parasitic on a tortricid larva that fed on *Comptonia asplenifolia*, in N. H.; emergence of the ichneumon 11 Aug., 1892. (992 j.)

(51) *Mesochorus aprilinus*, Ashm. Hyperparasitic on *Apanteles congregatus* (from larva of *Ampelophaga versicolor*) and on *Apanteles smerinthus* (from larva of *Smerinthus geminatus*); emergence of the ichneumons early in Oct., 1895, in N. H. The above-mentioned larva of *A. versicolor* was also host of two tachinid larvæ, thus illustrating both hyperparasitism and double parasitism. (1013, 1127.)

(52) *Trypon subcrassus*, Cr. A single male from the pupa of an undetermined tenthredinid larva taken 26 Aug., 1882, on *Prunus pennsylvanicus*, at Wachusett, Mass.; emergence of parasite 27 May, 1883. (270.)

(53) *Neoeryma lophyri*, \*Ashm. Reared by Miss Anna Dimmock, from larvæ of *Lophyrus abbotii*, in N. H.; emergences, 1, 2, 5, 7 and 16 June, 1893. (1058.)

(54) *Sychnoportus rufopectus*, \*Ashm. From a tenthredinid larva that fed on *Populus tremuloides*, in N. H. (1131.)

(55) *Trogus exesorius*, Brullé. From hibernated pupæ of

*Papilio asterias*, in 1892. A very large dark-winged specimen from *P. troilus*, in 1895. N. H. (941, 1138 a.)

(56) *Ichneumon maius*, Cr. Taken hibernating in large numbers, under bark, in N. H., 18 Mar., 1894. (1110.)

(57) *Phæogenes phycidis*, \*Ashm. Reared from *Phycis rubrifasciella*, in N. H.; emergence of parasite, 28 July, 1892. (961 k.)

(58) *Phæogenes mellinus*, Prov. From pupa of *Oxyptilus periscelidactylus*, in Cambridge, Mass. (684.)

(59) *Acrobela tachinæ*, \*Ashm. From a tachinid puparium reared from an undetermined geometrid larva which is abundant on *Ambrosia artemisiæfolia* about Cambridge, Mass. (567.)

(60) *Hemiteles annulatus*, Ashm.

(61) *Hemiteles utilis*, Nort. Both species raised, as hyperparasites, from the same larva of *Thyreus abbotii* that produced the chalcids *Eulophus incongruus* and *Entedon albitarsis*. Cambridge, Mass., July, 1882. (125 a.)

(62) *Cryptus pallidus*, Cr. A male, probably of this species, was reared from *Oxyptilus periscelidactylus*, in Cambridge, Mass. (684 b.)

(63) *Cryptus extrematis*, Cr. From pupa of *Attacus promethea*, in N. H. (996.)

(64) *Pimpla conquisitor*, Say. Reared in considerable number from pupæ of *Zerene catenaria*, in N. H.; the parasites mostly emerged about 20 Aug., 1892, from pupæ collected six days earlier. Four specimens, the same year, from *Phycis rubrifasciella*, in N. H.; emergences 23, 26, 29 and 31 July. A specimen of *P. conquisitor* was taken 21 July, 1884, in Cambridge, Mass., while ovipositing in a larva of *Orgyia leucostigma* that had already spun its cocoon for pupation. (639, 934, 961.)

(65) *Pimpla indagatrix*, Walsh. From a tortricid larva that rolls up the ends of leaves of *Comptonia asplenifolia*, in N. H.; emergence of parasite 20 July, 1892. Another bred from a larva, probably a pyralid, that feeds on *Betula alba*, in N. H. (949 c, 1114 a.)

(66) *Pimpla novita*, Cr. Raised twelve specimens from larvæ of *Mononychus vulpeculus*, which fed in the unripe seed-pods of *Iris versicolor*; from the same lot of seed-pods only two *M. vulpeculus* emerged, showing how extensive the parasitism was. Raised three specimens from larvæ of *Phycis rubrifasciella*; emergences 20, 22 and 31 July, 1892. Both rearings in N. H. (918, 961 a.)

(67) *Pimpla rufovariata*, Cr. Bred from its pupa found at Arlington, Mass., 10 Aug, 1885, in a mine of *Pædisca*

*strenuana* in *Ambrosia artemisiæfolia*, where it had replaced its host; emerged 15 Aug., 1885. (730.)

(68) *Pimpla inquisitor*, Say. Emerged, 27 June, 1883, from a lepidopterous (probably geometrid) pupa found ten days earlier on *Prunus pennsylvanicus*, in Cambridge, Mass. (412.)

(69) *Asphragis pulcherrimus*, \*Ashm. From a tortricid larva feeding on *Comptonia asplenifolia*, in N. H.; emergence of parasite, 3 Aug., 1892. (992 b.)

(70) *Bythycetes scutellaris*, Cr. From *Ægeria tipuliformis*, L.; Cambridge, Mass. (678 e.)

3-21-1898

PART 2.—DESCRIPTIONS OF NEW PARASITIC  
HYMENOPTERA.

By WILLIAM H. ASHMEAD.

The new species of parasitic Hymenoptera described below were all bred by Dr. Dimmock, and the numbers prefixed to the species conform to those of Dr. Dimmock's in part 1 of this article, where the records in regard to breeding, hosts, &c., may be found.

FAMILY PROCTOTRYPIDÆ.

(1) *Telenomus dimmocki*, n. sp.

♀.—Length 1-1.1 mm. Black, shining; mesonotum microscopically punctate, sericeous; scutellum polished, impunctate; antennæ black, the scape pale at extreme base, pedicel yellow at tip; legs brownish-yellow, the coxæ black, the femora, except at tips, fuscous or dark brown.

Head transverse, about  $2\frac{1}{2}$  times as wide as thick antero-posteriorly. Mandibles yellowish. Antennæ 11-jointed, the pedicel a little shorter than the first joint of funicle, the latter about  $2\frac{1}{2}$  times as long as thick at tip; second funicular joint two-thirds the length of first, the third very little longer than thick, the fourth moniliform; club 5-jointed, the first about twice as wide as the last joint of funicle, the second, third and fourth still wider, and all wider than long, the second being the longest joint, the fifth conical. Wings hyaline, ciliate, the nervures brownish-yellow; the marginal vein is about two-thirds the length of the stigmal.

Abdomen as long as the thorax, truncate or subtruncate at tip, and, except the petiole and the suture at base of second segment, entirely smooth and highly polished; petiole and first suture striated; the second segment is about  $1\frac{1}{2}$  times as long as wide at apex.

♂.—Length about 8 mm. Black; scape and legs yellow; the coxæ more or less dusky basally; flagellum light brown. Antennæ 12-jointed, scarcely



as long as the body; the first and second joints of the flagellum are elongate, about of an equal length, three times as long as thick; the third joint is only about half the length of the second, slightly curved; the following joints, except the last, are small, rounded or moniliform, and loosely united, while the last joint is conical, twice as long as the preceding.

Hab.—Canobie Lake, N. H. (Bred from Hemipterous eggs.)

#### FAMILY CYNIPIDÆ.

##### (4) *Allotria ambrosiæ*, n. sp.

♀.—Length 1.6 mm. Polished black; mandibles, first five joints of antennæ and the legs, pale yellowish; pronotum, scutellum towards apex and metapleura rather densely pubescent; the basal scutellar furrow slightly separated into two parts by a very delicate median carina; metathorax very short, with about six elevated lines. Abdomen with a pubescent ridge on each side at base. Flagellum with joints 1 and 2 subequal, not longer than the scape, the third joint stouter than the two preceding and somewhat longer, the following three or four joints subequal.

Hab.—Cambridge, Mass. (Bred from an *Aphis* on *Ambrosia*.)

#### FAMILY CHALCIDIDÆ.

##### (7) *Encyrtus thyreodontis*, n. sp.

♀.—Length 1.6 to 1.8 mm. Head bluish; thorax above æneous black, at the sides and beneath, blue-black; abdomen and legs black; sutures of the trochanters, knees, tips of all tibiæ and tarsi, except the last joint, honey-yellow; antennæ black; wings hyaline, the marginal and stigmal veins brown, the latter scarcely longer than the marginal, the post-marginal vein short; mandibles reddish, tridentate.

Head with the frons and vertex microscopically shagreened, opaque; eyes large, oval, the frontal space rather narrow, about half the width of the eye, the lateral ocelli close to the eye margin, the front ocellus farther away from the lateral ocelli than these last are to each other. Antennæ 11-jointed, the club much stouter than the last joint of funicle, half as long as the scape and obliquely truncate at apex from beneath; pedicel obconical, as long as joints 1-3 of funicle united; funicle 6-jointed, the first joint a little longer than thick, the following transverse, gradually widening, the three last being more than twice wider than long.

Pro- and meso-notum smooth, polished, impunctate; scutellum, including the axillæ, minutely shagreened with a few long hairs; metathorax very short, smooth, the pleura bright cupreous, with white fimbria, the spiracles round. Abdomen as long as the thorax, depressed, acute at tip, with the sheaths of ovipositor somewhat prominent.

Hab.—Cambridge, Mass. (Bred from *Thyreodon morio*, Fabr.)

(11) *Habrocytus phycidis*, n. sp.

♀.—Length 3 mm. Head and thorax bronzed-green, confluent punctate; scape, tegulæ, tips of femora and all tibiæ and tarsi, except the last joint, honey-yellow; abdomen conically produced, blue, with æneous tinges; wings hyaline, the veins light brown.

Head about  $3\frac{1}{2}$  times as wide as thick antero-posteriorly, the frons slightly impressed; ocelli subtriangularly arranged, red; mandibles rufous, the right 3-dentate; flagellum brown-black, pubescent, very slightly thickened towards tip, the first joint a little less than three times as long as thick, longer than the second, the second about twice as long as the pedicel, the third and following joints very gradually, almost imperceptibly shortening. Pronotum not short, as long at the middle as at the angles, the anterior edge rounded, not acute or margined; mesonotum about one-half wider at base than long at the middle, with the parapsidal furrows distinct anteriorly and extending back as far as the middle of the mesonotum; axillæ as far from each other as their width at base; scutellum proper, with the transverse suture before tip nearly obsolete; metathorax not short, produced at apex into a subglobose neck, closely punctate, the lateral folds distinct at base, the median carina only vaguely defined at base, the spiracles large, oblong-oval. Front wings with the marginal and postmarginal veins equal in length, or nearly so, while the stigmal vein, with its small knob, is about four-fifths the length of the marginal. Abdomen conically produced, flattened above, boat-shaped beneath, and about  $1\frac{1}{2}$  times as long as the head and thorax united, the second segment, with a large deep fovea at base, (just beneath the neck of the metathorax, and not quite as long as segments 3-5 united,) segment 3, except the short petiole, the shortest segment, the following segments gradually increasing in length, the last conical; segments 4-8, under a very high power lens, exhibit delicate, wavy, microscopic lines.

Hab.—Canobie Lake, N. H. (Bred from larva of *Phycis rubrifasciella*.)

(14) *Elachistus cidariæ*, n. sp.

♀.—Length 1.8 mm. Black, shining, but with the pronotum, mesonotum, and scutellum microscopically reticulate. Head polished, the frons concave; metanotum polished, with a median carina and broad lateral sulci; antennæ light brown, or brownish-yellow, if darker above, paler beneath, the scape paler; legs, except coxæ and femora, pale yellowish, coxæ black, the femora, except tips, embrowned, the hind femora almost black. Wings hyaline, the veins pale; the marginal vein is fully as long as the subcostal vein, or more than three times as long as the stigmal; the postmarginal twice as long as the stigmal. Abdomen depressed, rotund, much shorter, but a little wider than the thorax, æneous-black, with the second dorsal segment (the first after the petiole) mostly pale.

Hab.—Cambridge, Mass. (Bred from larva of *Cidaria diversilineata*.)

(17) *Cratotechus smerinthi*, n. sp.

♀.—Length 2.5 mm. Head, mesopleura and abdomen cupreous; thorax blue-green, the pronotum above blue; scape, tegulæ and legs, except the hind coxæ, waxy-white; flagellum brown, paler beneath. Wings hyaline, the marginal, stigmal and postmarginal veins light brown.

♂.—Length 2 mm. More uniformly bluish-green, the depressed frons alone bright cupreous; abdomen æneous-black; first, second and third joints of flagellum with a long branch; otherwise, except that the middle coxæ are metallic at base, it agrees with the female.

Hab.—Canobie Lake, N. H. (Bred from larva of *Smerinthus excæcatus*.)

(18) *Eulophus incongruus*, n. sp.

♀.—Length 1.5 to 1.8 mm. Æneous-black, scaly punctate, with purplish metallic reflections in certain lights; scape, flagellum beneath, trochanters, tips of femora, and all tibiæ and tarsi, except the last joint, yellowish-white. Wings hyaline, the veins light brown, the marginal vein more than three times as long as the stigmal, the postmarginal nearly twice as long as the stigmal.

Head transverse, wider than the thorax, with a deep, broad frontal excavation, clothed with sparse, short hairs; viewed from in front the head is wider than long, the space between the eyes alone being as wide as the head is long; the anterior ocellus is on or at the extreme edge of the frontal excavation; antennæ 8-jointed, inserted below the middle of the face, on an imaginary line drawn from the base of the eyes; the scape is a little longer than half the length of the flagellum, including the pedicel, and does not quite reach to the front ocellus; flagellum slightly thickened towards the tip, the pedicel a little shorter than the first joint of the flagellum; joints 2-4 of funicle about equal in length but widening, joints 3 and 4 being a little wider than long; club cone-shaped, 2-jointed.

Thorax clothed with long, sparse hairs; no parapsidal furrows, the mesonotum slightly depressed in front of the scutellum; scutellum rather large, subconvex, the axillæ widely separated, each bearing a long black bristle at inner apical angle; metathorax not short, with a median carina and broad spiracular sulci, the spiracles rounded. Abdomen oval, depressed, not longer than the thorax, the segments subequal.

♂.—Length 1.2 mm. Agrees well with the female, except in its smaller size and in having joints 1 to 3 of flagellum furnished with a long, pilose branch.

Hab.—Cambridge, Mass. (Bred from the larva of *Thyreus abbotii*.)

The species is undoubtedly a hyperparasite on one of the primary parasites reared by Dr. Dimmock from this moth. It is placed in the genus *Eulophus* only temporarily.

## FAMILY BRACONIDÆ.

(28) *Apanteles euchætis*, n. sp.

♂ ♀.—Length 2-2.5 mm. Black, shining; scape beneath in ♂, pedicel, and two or three of the basal joints of flagellum testaceous (scape in ♀ black); palpi white; legs honey-yellow, the hind coxæ, except at tips and beneath, black, polished, impunctate, their femora fuscous, paler towards base and beneath, tips of their tibiæ and tarsi, subfuscous.

Head on vertex and behind polished, impunctate, the face opaque, confluent punctate; mandibles rufous; antennæ in ♀ about the length of the body, in ♂ a little longer. Mesonotum finely but not closely punctate, shining, the punctures confined to anterior margin and at basal angles of the humeri, the scutellum shining but distinctly although sparsely punctate; metanotum rather short, shining, only slightly wrinkled, the median carina very delicate and almost obliterated. Wings hyaline, the stigma pale brownish, the nervures pallid; the first abscissa of radius is scarcely as long as the transverse cubitus, or at least not longer. Abdomen, except the lateral membranous margins of first dorsal segment and ventral segments 1 and 2 which are reddish-yellow, polished black, shining; the plate of first segment is long, trapezoidal, from  $2\frac{1}{2}$  to 3 times as long as wide at apex, with the hind angles slightly rounded, smooth or at the most with only a few sparse punctures; the second segment has distinct oblique lateral furrows and in the ♀ is a little more than one-third the length of the third, while in the ♂ it is scarcely one-third the length of the third; the fourth segment in ♀ is two-thirds the length of third, the following a little shorter; in the ♂ the fourth segment is only about half the length of the third.

Hab.—Canobie Lake, N. H. (Bred from larva of *Euchætus egle*.)

(29) *Apanteles murtfeldtæ*, n. sp.

♀.—Length 1.8 mm. Black, shining, sericeous; scape, pedicel and legs, except hind coxæ which are black and punctate, brownish-yellow, the tips of hind tibiæ and tarsi subfuscous; flagellum brown-black, fluted; lateral membranous margins of dorsal segments 1 to 3 and sides of ventral segments 1 to 5 (the latter only slightly so) yellowish; mandibles, except at tips, ferruginous or reddish; palpi and tegulæ yellowish-white.

Head above smooth, shining, impunctate, the temples feebly alutaceous; face shagreened, subopaque; antennæ about as long as the body. Mesonotum closely, uniformly punctate, subopaque; scutellum polished, shining, feebly sparsely punctate at sides only; metathorax not short, finely rugose, with a distinct median carina; mesopleura smooth, polished on the disk, with a femoral furrow, but anteriorly, and along the upper margin, punctate. Wings hyaline, the stigma, poststigmatal vein and first branch of the radius light brown, the other veins pallid; first abscissa of radius a little longer than the transverse cubitus or the upper side of the

open areolet. Abdomen as long as the thorax; the plate of first segment is trapezoidal, about  $1\frac{1}{2}$  times as long as wide at apex, with the hind angles a little rounded; the plate and the second segment, and the third segment, except at apex, but more feebly so, rugoso-punctate, the second with a median ridge, rest of the abdomen smooth and shining; the second segment is a little shorter than the third or at least not longer, while the fourth and fifth united are scarcely as long as the third.

♂.—Length 1.6 mm. Differs from ♀ in having the antennæ longer than the body, the scape brownish only beneath, the hind coxæ pale at apex, the hind femora at tips as well as the tips of their tibiæ and their tarsi, fuscous; while the abdomen is depressed, with the plate of first segment a little narrower in proportion to its width, it being fully  $1\frac{3}{4}$  times as long as wide at apex.

Hab.—Cambridge, Mass., and Kirkwood, Mo. (Miss Mary Murtfeldt.)

This species was first bred by Miss Murtfeldt, and is now in the U. S. National Museum, labeled "from a gray Geometrid on Oak, Aug. 12, 1886." It has also been bred by Dr. Dimmock from an unknown Geometrid feeding on *Rubus*.

(30) *Apanteles nemoriæ*, n. sp.

♂ ♀.—Length 1.8 to 2 mm. Black, sericeous; palpi whitish; mandibles and legs ferruginous; all coxæ black; terminal joints of anterior and middle tarsi, middle femora toward base, hind femora above, apical one-third of their tibiæ and their tarsi, fuscous or black; hind femora beneath, more or less rufous; tibial spurs white.

Head shining, the face subconvex, with a slight median carina above, and minutely, closely punctate; ocelli whitish; antennæ nearly as long as the body, black, the scape at extreme apical margin piceous.

Thorax above, including the scutellum, minutely, closely punctate, opaque, and finely sericeous; mesopleura punctate anteriorly, the punctures becoming less dense posteriorly, where there is a smooth, polished median space; metathorax moderately rugulose, with a delicate median carina. Wings hyaline, the tegulæ and stigma brown, the costal nervure, parastigma and internal nervures pale or hyaline; first abscissa of the radius  $1\frac{1}{2}$  times as long as the transverse cubital nervure, or the inner side of the open triangular areolet; third abscissa of the median nervure a little longer than the second; discoidal and subdiscoidal veins subobsolete. Abdomen not longer than the thorax, wholly black, except the coxal foveæ which are piceous, and the lateral membranous margins of the first segment which are honey-yellow; the plate of first segment is trapezoidal, about  $1\frac{1}{2}$  times as long as wide at apex, the plate and second segment rugulose punctate, the latter with a slight median ridge, and very little shorter than the third segment; the third segment, except narrowly at outer basal angles, as well as all the following segments, is smooth, impunctate; ovipositor at the most subexserted.

Hab.—Suffield, Mass., and Canobie Lake, N. H. (Bred from larva of *Nemoria gratiasia*.)

This species comes nearest to *A. limentidis* Riley, and might easily be confused with it; but the paler trochanters, color of anterior legs, pale costal and internal nervures, the sculpture of the first and second abdominal segments which is coarser, while the second segment is proportionately longer, readily separate the two species.

(31) *Apanteles parorgyiæ*, sp. n.

♀.—Length 25 mm. Black; palpi, tegulæ, costal nervures toward base and median and submedian nervures, white; scape, except apex, pedicel, mandibles, except tips, legs including coxæ, abdomen beneath, lateral margins of all dorsal segments, the third dorsal segment entirely (rarely with a dusky spot at middle) and large lateral spots on fourth and usually small lateral spots on fifth segment, yellow. Sometimes the third dorsal segment except two small lateral spots, as well as the following segments, are wholly black.

Head smooth, polished; the face sparsely minutely punctate but still shining, with a slight median carina above, more distinct in male.

Thorax above closely confluent punctate, opaque, sericeous, except a small space on the shoulders where the punctures are separated and the scutellum; mesopleura with a large shining impunctate space on disk but anteriorly and extending on to the mesosternum the surface becomes rather closely punctate; metespisternum smooth, polished, with a large fovea; metapleura and metanotum rather coarsely rugose, the latter with a sharp well-defined median carina; hind coxæ sometimes dusky at base.

Wings hyaline; costal nervure towards apex, parastigma, stigma and other nervures except as already mentioned light brown; first abscissa of radius a little shorter than the first transverse cubital nervure.

Abdomen a little longer than the thorax; plate of first segment trapezoidal; it, as well as the second segment, longitudinally lineately rugose; the third more or less feebly sculptured at base; the following segments smooth, polished, the second segment is a little shorter than the third, the fourth about half as long as the third.

♂.—Length 1.5 mm. Besides the great difference in size, this sex differs greatly in other respects. The antennæ are very much longer than the body, the flagellum being brownish, with each joint indistinctly divided into two joints; the mesosternum and mesopleura anteriorly are more sparsely punctate; the metathorax is without the distinct median carina; the plate of first abdominal segment is rugoso-punctate, while the second segment is shallowly vaguely punctate or almost smooth; otherwise in color and venation of front wings, it agrees with the female.

Hab.—Canobie Lake, N. H.

Described from ♂ ♀ specimens bred by Dr. Geo. Dimmock, from larva of *Spilosoma* (?) *virginica*. Bred specimens are also in the National Museum reared from *Parorgyia clintonia*.

(32) *Apanteles schizuræ*, n. sp.

♂ ♀.—Length 1.8 to 2 mm. Head and thorax black, sericeous; labrum and mandibles ferruginous; palpi and tegulæ white; legs brownish-yellow, the anterior pair a little the paler; hind coxæ black, tips of hind femora, tips of their tibiæ and their tarsi fuscous.

Head above and behind polished, impunctate, face feebly microscopically punctate; antennæ a little longer than the body, brown-black. Thorax at sides and beneath, shining; the mesonotum opaque, minutely, densely punctate; scutellum shining, sparsely punctate; mesopleura anteriorly closely punctate, on disk and posteriorly smooth, shining; metathorax finely rugulose, subopaque, with a distinct median carina; wings hyaline, with the stigma and poststigmatal vein brown, the other nervures paler; there is a bulla at the inner fork of the areolet, and the upper fork of the areolet is two-thirds the length of the first abscissa of radius. Abdomen not quite as long as the head and thorax united, black, except the lateral membranous margins of the first segment and the sides of venter at base, usually hidden by the hind coxæ, which are piceous or reddish; the first and second segments are finely rugulose, the second less distinctly so, or much more finely sculptured, with a very slight indication of a median ridge at base; the plate of the first segment is trapezoidal, scarcely  $1\frac{1}{2}$  times as long as wide, while the second segment is a little shorter than the third, the fourth is about half the length of the third, the following very slightly and gradually shorter.

The male differs in no particular from the female, except the antennæ are longer, being  $1\frac{1}{2}$  times as long as the body, ferruginous beneath; while the abdomen is much narrower, with the ridge on the second dorsal segment complete.

Hab.—Canobie Lake, N. H.

Described from many specimens bred by Dr. Geo. Dimmock, from larva of *Schizura unicornis*; also, from many specimens in U. S. National Museum, bred from same larva.

The species structurally comes nearest to *A. scitulus* Riley, but differs decidedly in colorational detail and in sculpture.

(33) *Apanteles radiatus*, n. sp.

♂ ♀.—Length 1.8-2 mm. Black, shining; scape, pedicel, legs, including the coxæ, the lateral membranous margins of dorsal segments 1-3, and the venter, except sometimes at the apex, brownish-yellow; tips of hind tibiæ dusky; flagellum dark brown, paler beneath, especially in the ♂; labium and mandibles reddish or ferruginous; palpi and tegulæ, white. Head above and posteriorly smooth, impunctate; the face feebly and sparsely, microscopically punctate, more distinctly punctate in ♀. Thorax polished, the mesonotum sparsely, minutely punctate, the mesopleura and scutellum impunctate, the former with a deep femoral furrow; metathorax not short, subopaque, feebly or finely rugulose, with a

distinct median carina. Wings hyaline, the stigma brown, the first abscissa of radius shorter than the transverse cubital nervure, or the upper side of the areolet. Hind coxæ long, cylindrical, extending to the apex of the third abdominal segment. Abdomen about as long as the thorax; the plate of first segment is narrow, in outline conical, about three times as long as wide at base; the plate and the second dorsal segment are longitudinally aciculate or striate, the latter being shorter than the third segment and with two oblique furrows, sometimes almost obliterated by the striæ.

Hab.—Canobie Lake, N. H. (Bred from a Lepidopterous larva feeding on *Plantago major*.)

(34) *Protapanteles ephyrae*, n. sp.

♂.—Length 2 mm. Black, pubescent, the head and thorax somewhat closely finely punctate, subopaque; palpi yellowish-white; legs except coxæ and tips of hind femora, tips of tibiæ and their tarsi except annulus at base of first joint, brownish-yellow; lateral membranous margins of first segment, and basal half of venter, yellow; the costa, stigma, and poststigmatal vein dark brown, rest of veins subhyaline. The antennæ are much longer than the body, thickened at base and gradually becoming slenderer towards apex, the first flagellar the shortest and stoutest, three times as long as thick, the second four times as long as thick, the following relatively longer and slenderer; mandibles ferruginous. Metathorax finely rugulose, shining, without carina; hind coxæ elongate, polished except a few microscopic punctures on the outer ridge towards base.

Wings hyaline, the recurrent nervure and second branch of the median nervure of an equal length, first abscissa of radius about one and two-third times as long as the transverse cubital nervure (the inner side of the areolet); hind wings with a closed discoidal cell and two marginal cells defined by subobsolete hyaline nervures. Abdomen shorter than the thorax, the plate of first segment long trapezoidal more than twice as long as wide, with the hind angles slightly rounded, the surface, especially in apical third, delicately sculptured with oblong punctures; second segment about as long as the third; somewhat coarsely aciculated, with a median ridge about as long as the third; third and following segments smooth, the fourth and fifth segments equal, united a little longer than third, sixth segment a little shorter than fifth; the seventh very short.

Hab.—Canobie Lake, N. H. (Bred from *Ephyra pendulmaria*.)

(35) *Protapanteles tortricis*, n. sp.

♀.—Length 1.8 to 2 mm.; ovipositor clavate, half the length of abdomen. Black, subopaque, clothed with a somewhat dense, greyish pubescence; head in front and the pro- and meso-thorax minutely punctulate; scutellum polished, feebly, sparsely, microscopically punctate; metathorax not long, finely wrinkled; mesopleura smooth, but pubescent; man-



dibles ferruginous; palpi and tegulæ white; antennæ much longer than the body, entirely black; legs, except coxæ and other noted exceptions, rufo-ferruginous; coxæ black, hind femora toward tips outwardly obfuscated, tips of their tibiæ and tarsi black, the basal joint of tarsi about as long as joints 2-4 united. Wings hyaline, the stigma, costa and post-stigmal veins brown, the internal veins pale or subhyaline, first abscissa of radius equal to the transverse cubital nervure. Abdomen as long as the thorax, black, with the lateral membranous margins of the first dorsal segment, and the first ventral segment at sides, rufo-piceous; first and second segments rugose, the third, except at apex, finely longitudinally aciculated, especially at the middle, somewhat smoother towards the sides; plate of first segment slightly more than  $1\frac{1}{2}$  times longer than wide at apex, the sides nearly parallel; the second segment slightly shorter than the third, with lateral oblique furrows, widely separated at base: fourth and following segments very short, smooth.

♂.—Length 1.2 mm. Black, shining, impunctate; metathorax feebly wrinkled, shining; plate of first abdominal segment and the second longitudinally aciculated, the third, except very narrowly at extreme base, as well as the following, smooth, shining; the plate of first segment is fully twice as long as wide, the second segment being longer than the third; while the middle and hind pairs of legs are brown, with their trochanters and extreme base of their tibiæ, yellowish.

Hab.—Canobie Lake, N. H. (Bred from an unknown Tortricid larva feeding on *Comptonia asplenifolia*.)

(36) *Microplitis hyphantiæ*, n. sp.

♀, ♂.—Length 3 to 3.5 mm. Opaque black, pubescent; the middle of the mesopleura and the abdomen smooth and shining; two basal joints of antennæ, the mandibles and the mouth-parts, the tegulæ, and all legs, including coxæ, brownish-yellow, the posterior tarsi sometimes more or less subfuscous; flagellum brown-black.

Mesonotum minutely or finely scabrous, with a very delicate, nearly obsolete median carina, which does not quite attain the anterior margin and which on account of the pubescence is apt to be overlooked; mesosternal furrow long, broad and crenulate; metathorax coarsely rugose and more coarsely reticulated on the posterior face, with a prominent median carina. Wings faintly tinged with fuscous, the areolet large, the first branch of radius not or scarcely longer than the first transverse cubital nervure, or the inner side of the areolet, the recurrent nervure not longer than the length of the second discoidal cell, the transverse median nervure joins the first discoidal cell at about its basal third. Abdomen oval, polished, with the plate of the first segment in ♀ broad, trapezoidal, only a little longer than wide at apex, shagreened; in ♂ this plate is somewhat longer with the sides slightly curved.

Hab.—Champaign, Ill. (Prof. S. A. Forbes), and Cambridge, Mass.

This species was first sent me by Prof. Forbes, who reared it from the larva of *Hyphantia cunea*. Dr. Dimmock reports having bred it from an undetermined noctuid larva feeding on Apple leaves.

As I have described above two species of *Microgasterines* in genera not yet characterized, I give here my table of the genera of the subfamily *Microgasterinæ*, taken from my forthcoming Monograph on the North American Braconidæ.

## TABLE OF GENERA.

- Marginal cell incomplete or wholly wanting..... 2  
 Marginal cell completely closed.  
 Front wings with two submarginal cells; antennæ 16-jointed.  
 (1) *Ecclites* Först.
2. Marginal cell for the most part entirely absent with only the first abscissa of radius present.... 3  
 Marginal cell not entirely wanting with the radius present but shortened.  
 Antennæ 20-jointed; metanotum not strongly areolated, the radius not geniculate; hind part of cubitus emerging from the first discoidal cell.....(2) *Acœlius* Hal.  
 Antennæ 21-jointed; metanotum strongly areolated, the radius geniculate; hind part of cubitus emerging from the first discoidal cell... (3) *Dirrhope* Först.  
 Antennæ 13-14-jointed in ♀, in ♂ 14-16-jointed; metanotum not areolated; radius geniculate, the areolet incomplete but in position quadrate; hind part of cubitus interstitial with the fore part..... (4) *Elasmosoma* Ruthe.  
 ? = *Neoneurus* Hal.
3. Front wings with 3 submarginal cells, although the second or the areolet is sometimes open behind and therefore confluent with the third..... 4  
 Front wings without or at the most with only 2 submarginal cells, the areolet not defined.  
 Front wings without submarginal cells, the first and second submarginal cells and the first and second discoidal cells confluent; mesonotum with a large fovea in front of the scutellum; antennæ 21-jointed; hind coxæ very long, cylindrical.  
 (5) *Cœlothorax* Ashm., n. g.  
 Front wings with 2 submarginal cells, the discoidal cells distinct, separated; mesonotum normal; antennæ 14-jointed; hind wings without a radius or cubitus..... (6) *Mirax* Hal.
4. Antennæ 18-jointed.  
 Second submarginal cell or the areolet completely closed. .... 6  
 Second submarginal cell open behind and confluent with the third.

- Clypeus entirely separated from the face by a distinct grooved line between the clypeal foveæ..... 5  
 Clypeus not entirely separated from the face, the grooved line between the clypeal foveæ wanting.

Metathorax with a median carina.

Second abdominal segment not separated from the third by a deep transverse furrow; ovipositor never prominent, at the most sub-exserted; hypopygium acutely plow-share shaped.

(7) *Apanteles* Först.

Second abdominal segment separated from the third by a deep transverse furrow; ovipositor very long, always longly exerted; hypopygium not so acute.

(8) *Pseudapanteles* Ashm., n. g.

Metathorax without trace of a median carina, smooth or alutaceous and without areas, rarely with a slight median impression posteriorly which at the most is indistinctly margined behind.

(9) *Protapanteles* Ashm., n. g.

Metathorax with an areola or closed median area, ovipositor always prominent.....(*Urogaster*).

5. Metathorax with a distinct median carina.

Ovipositor never prominent... ..(*Apanteles*).

Ovipositor very long, always prominent.....(*Pseudapanteles*).

Metathorax without a median carina or a median area.

Ovipositor very long.....(*Protapanteles*).

Metathorax areolated or always with a distinct median area or areola.

Ovipositor always prominent.....(10) *Urogaster*.

6. Clypeus not entirely separated from the face..... 7

Clypeus entirely separated from the face.

Metathorax with a more or less distinct median area, areolet very small; second abdominal segment much shorter than the third.....(11) *Hypomicrogaster* Ashm., n. g.

Metathorax with a prominent median carina; areolet not small; second abdominal segment usually longer than the third or subequal.

Second abdominal segment separated from the third by a deep transverse furrow.

Mesosternal furrow long, crenulate, abdomen very long, the sides parallel; plate of first segment oblong quadrate, as wide as the second; ovipositor long; last tarsal joint long and stout, the pulvillus large, longer than the claws.

(12) *Hygroplitis* Thoms.

Mesosternal furrow wanting, or shallowly impressed, smooth; abdomen not especially elongate, the sides never parallel; plate of first segment usually trapezoidal, ovipositor long; last tarsal joint and the pulvillus normal.... Microgaster Latr.

7. Hind tibial spurs very long, the inner spur fully two-thirds the length of the basal joint of tarsus; plate of first segment very narrow, linear.....(13) Protomicroplitis Ashm., n. g.  
Hind tibial spurs short, the inner spur scarcely one-third the length of the basal joint of tarsus; plate of first segment variable.

(14) Microplitis Först.

(41) *Aphidius ribis*, n. sp.

♀.—Length 2 mm. Luteous; vertex and occiput, thorax *above* and ovipositor, black; flagellum, except base of first joint, brown-black; dorsal abdominal segments 2-4, the apical half of segment 5, and a spot on apex of segment 6, reddish-brown.

Antennæ 15-jointed, reaching to the middle of abdomen, very slightly thickened toward tips; flagellar joints 1-3 subequal, about four times as long as thick, or possibly slightly longer, the following joints very gradually thickening and shortening to the last, the fourth joint being about three times as long as thick, the penultimate only a little more than twice as long as thick, the last, the longest joint, almost as long as the two preceding united. Metathorax smooth, with median and lateral carinæ. Wings hyaline, the veins pale, tinged with brownish. Abdomen long, lanceolate, one-third longer than the head and thorax united.

♂.—Agrees with the female, except that the antennæ are longer than the body, filiform, 18-jointed, the flagellum black, the joints all delicately fluted, subequal in length, on an average about  $2\frac{1}{2}$  times as long as thick, except the last, which is nearly twice as long as the preceding, with sometimes an indistinct suture dividing it into two joints; mesopleura blackish; while the abdomen, except petiole, is mostly brown.

Hab.—Cambridge, Mass. (Bred from *Aphis ribis*.)

FAMILY ICHNEUMONIDÆ.

(47) *Hypotherentes geometræ*, n. sp.

♂.—Length 4.5 mm. Black; scape, except a lateral stripe outwardly, pedicel, ring-joint, fore femora, except tips, the middle femora and the tibiæ, except tips, and hind coxæ and femora, ferruginous; mandibles, palpi, tegulæ, anterior and middle legs, except as noted, hind trochanters, knees, a band on middle of hind tibiæ, tibial spurs, basal half of first joint of hind tarsi and sutures of following joints, white; hind tibiæ, with a black annulus near base, and their apical one-third, black; hind tarsi, except as already noted, fuscous; flagellum brown-black.

Head transverse, closely punctate, the face with sparse glittering or silvery pubescence; eyes large, extending almost to base of mandibles

and leaving only a linear space between; clypeus not separated from face, except slightly at sides. Thorax closely punctate, without distinct parapsidal furrows; the mesopleura concave beneath the wings; metathorax with the areola and petiolar area confluent, the lateral basal areas complete, the lateral middle areas open outwardly, the longitudinal carina being absent, the angular area or third pleural area distinct, but small; spiracles broadly oval. Wings hyaline, the stigma and veins, except the subcostal, which is white, are dark brown; areolet petiolate; transverse median nervure in hind wings straight, not broken. Abdomen fusiform, petiolate, and very finely coriaceous, about as long as the head and thorax united, black, with the apical edge of the petiole, the foveolæ of second segment and its apical two-thirds, the third segment, except at extreme base along the suture. and the following segments along the lateral ventral edges, as well as the venter, ferruginous; the petiole is as long as the hind coxæ and trochanters combined, the spiracles small, round and placed at its apical third, and from them extend a delicate carina to tip of segment; the third segment is about two-thirds the length of the second, wider than long; the fourth is scarcely two-thirds the length of the third, while the following are still shorter.

Hab.—Arlington, Mass. (Bred from an unknown Geometrid larva on *Betula alba*.)

(49) *Ischnoscopus synchloræ*, n. sp.

♂.—Length 5.2 mm. Head, thorax, antennæ, except the scape, hind tibiæ, except a narrow annulus at base, and tarsi, except a narrow annulus at base, black; scape, abdomen and rest of legs, except as noted below, rufous; mandibles, palpi, tegulæ, anterior coxæ and trochanters, their tibiæ outwardly and tarsi, middle knees, a streak on their tibiæ outwardly, as well as spurs and tarsi, white. Wings hyaline, the stigma and nervures brown.

Hab.—Canobie Lake, N. H. (Bred from larva of *Synchlora* sp., the old name for *Aplodes*.)

(50) *Mesochorus tachinæ*, n. sp.

♀.—Length 4.5 mm. Steinmaticum, the occiput surrounding the foramen; thorax, except posternum and anterior part of pronotum, and first and second abdominal segments, black; head, except anterior orbits and mouth-parts, which are white, antennæ, except toward tips, legs, and abdomen from apex of second segment, including the sheaths of ovipositor, honey-yellow; tegulæ, anterior coxæ and trochanters, white. Metathorax polished, delicately, subobsoletely areolated, the middle area very narrow. Wings hyaline, the stigma and veins brown, the costal vein toward base, a spot between stigma and parastigma and the post-stigmal vein, white. Abdomen smooth, the petiole twice as long as second segment, with only two slight grooves above, just in front of the spiracles, the third segment very slightly shorter than the second, the fourth about

one-third as long as the third, the fifth half the length of fourth, the following retracted, the ovipositor as long as the basal joint of hind tarsi; the longer spur of hind tibia only half as long as the basal joint of tarsus.

Hab.—Canobie Lake, N. H. (Bred from a puparium of a Tachinid fly which is parasitic on an unknown Tortricid larva.)

This species comes nearest to *Mesochorus basilis* Cr.

(53) *Neoeryma lophyri*, n. sp. (*Neoeryma* n. n. for *Eryma* Först. preoccupied.)

♀.—Length 7 mm. Black, finely microscopically punctate; face below antennæ produced into two points towards base of each antenna, the clypeus, mandibles, short space below mandibles and eyes, palpi, tegulæ, a point before and a short line beneath scutellums, basal half of posterior tibiæ and apical margins of abdominal segments (very narrow on the short terminal segment), white; legs red, middle tarsi, extreme tips of hind femora, apical half of their tibiæ and their tarsi black; wings hyaline, the stigma and nervures black.

♂.—Agrees well with female except the propectus and anterior coxæ and trochanters are white; the mesopectus is rufous and connected with a white longitudinal band on the lower part of the pleura which extends forward at a slight elevation and terminates before attaining the thorax, thus leaving a black triangular space between it and the fore part of the rufous mesopectus.

Hab.—Canobie Lake, N. H. (Bred from saw-fly larva, *Lophyrus* sp.)

(54) *Sychnoportus rufopectus*, n. sp.

♂.—Length 5 mm. Black, shining; head below ocelli opaque, metathorax opaque; mesopectus obscure rufous; mandibles, palpi, tegulæ, anterior coxæ and trochanters, second joint of hind trochanters, basal two-thirds of hind tibiæ, except a spot toward base outwardly, and extreme apical edges of abdominal segments 4-7, white, rest of legs rufous; wings hyaline, the stigma and nervure black, the areolet wanting; metathorax areolated; abdominal segments 1-3 shagreened.

Hab.—Canobie Lake, N. H. (Bred from an unknown Tenthredinid larva.)

(57) *Phæogenes phycidis*, n. sp.

♀.—Length 9 mm. Rufo-ferruginous; scape and pedicel above, flagellar joints 1-6 and 13-25, tips of hind femora, tips of their tibiæ and extreme apex of abdomen, black; flagellar joints 7-12, the tegulæ and a spot beneath, yellowish-white; head above, face and thorax minutely, sparsely punctate; metathorax completely areolated, the areas finely transversely rugulose; abdomen polished, the segments at the most very indistinctly and sparsely microscopically punctate, the petiole above towards apex perfectly smooth, impunctate, the gastrocæli transversely shallowly defined, the surface from them to the base very finely aciculated.

Head large, quadrate; flagellar joints 1-3 subequal, scarcely three times

as long as thick at apex. Wings hyaline, the stigma and veins brown-black.

Hab.—Canobie Lake, N. H. (Bred from larva of *Phycis rubrifasciella*.)

(59) *Acrobela tachinæ*, n. sp.

♀.—Length 1.8 mm. Head and thorax black, shining; scape of antennæ, legs, including coxæ and abdomen, brownish-yellow, or pale ferruginous; flagellum opaque, black; palpi whitish; labrum, mandibles, except teeth and a spot on cheeks at base of mandibles, honey-yellow; wings hyaline, the stigma and nervures brown.

Head transverse, polished, a little wider than the thorax, emarginated behind, the temples as wide as the eyes, the face and labrum with some whitish hair; antennæ longer than body, the first joint of flagellum a little longer than the second, the following gradually becoming shorter. Mesonotum, with distinct parapsidal furrows and the median lobe, with a median impressed line; scutellum smooth, subconvex, with a crenate fovea at base; metathorax rugose, sparsely pubescent; wings hyaline, the stigma elongate, thickened, wider than the first abscissa of radius, the radius originating considerably before its middle; second abscissa of radius about one-half longer than the first transverse cubitus, the second transverse cubitus scarcely half the length of the first; recurrent nervure joining the first submarginal cell before its apex; submedian cell a little longer than the median; abdomen much shorter than the thorax, subpetiolated, the first, second and third segments shagreened, the following smooth, shining; ovipositor black, scarcely visible beyond tip of abdomen.

Hab.—Canobie Lake, N. H. (Bred from a Tachinid puparium from an unknown Geometrid larva.)

(69) *Asphragis pulcherrimus*, n. sp.

♀.—Length 7 mm.; ovipositor 5 mm. Black, shining; clypeus, a line beneath eyes, mouth-parts, a dot on anterior orbits opposite the antennæ, line at summit of eyes, tegulæ, a short line before, a cuneiform mark on anterior margin of mesonotum, but widest and broadly separated at the indications of the parapsidal furrows, and the coxæ and trochanters more or less, white; the scutellum, mesopleura, most of the metapleura, and legs, except as noted below, red; antennæ black towards base, gradually becoming paler towards apex, being a light brown or brownish-yellow from the seventh joint, the flagellar joints 1-5 tinged with ferruginous at tips; anterior coxæ with a black spot at base behind, their trochanters blackish at base; middle coxæ mostly black behind and with a black streak at sides, their trochanters blackish at base; hind coxæ mostly black, with two white streaks outwardly, their trochanters black at base; middle femora at extreme base and their tibiæ at extreme apex, narrowly black; hind femora at base and apex, their tibiæ, except narrowly at base and at the middle outwardly, and their tarsi, except narrowly at base, black. Wings hyaline, the stigma and veins black; the areolet wanting. Abdomen

microscopically transversely aciculated, with the apical margins of dorsal segments 1 to 5, more or less narrowly white; venter white, with lateral black spots on segments 1-4.

♂.—Length 6 mm. Face, anterior orbits, cheeks, mouth-parts, sides of thorax, except the mesopleura superiorly, which is tinged with red, the coxæ and trochanters, and dorsal abdominal segments 2-5 at extreme apex, white; mandibles and hind coxæ streaked within and without with black, their trochanters and femora at base narrowly black; hind tibiæ at apex and their tarsi, except basally, which are whitish. fuscous. Abdomen almost smooth, without the microscopic transverse aciculations noted in the female.

Hab.—Canobie Lake, N. H. (Bred from an unknown Tortricid larva.)

125

APRIL 1, 1897.

President Marlatt in the chair and Messrs. Ashmead, Patten, Gill, Schwarz, Motter, Pratt, Johnson, Benton, Kenyon, Busck, Banks, and Howard also present.

—Under the head of "Exhibition of specimens and short notes," Mr. Johnson showed *Tribolium madens*, a species which had been sent to him from Montana in mill products. This is the first record of such a habit in this northern species, and he also said that he had found the previously unknown larva of this species. He further showed a parasite of *Gelechia cereal-lela* caught in the act of oviposition. Mr. Ashmead determined this as probably a species of *Dibrachys* or *Catoloccus*.

—Mr. Schwarz showed specimens of *Trigonoscuta pilosa*, a maritime species collected by Mr. Hubbard at Palm Springs, Cal., and stated that Mr. Ulke possesses specimens of *Cercyon fimbriatum* which may also come from this locality. This latter species is also maritime, and Mr. Hubbard's finding tends to substantiate the theory that the Colorado desert was formerly an arm of the sea.

—Mr. Schwarz also showed a fragment of a specimen of a Dynastid genus new to North America and apparently allied to *Golopha*. This was found in the great mesquite forest south of Tucson, by Mr. H. Brown. He discussed the entomological evidence in regard to the supposed tropical character of the fauna of the lower Colorado Valley, and showed that, while many new