Notes on some North American Callimomidae (Hym. Chalc.)

(Callimomid Studies 3.)

$\mathbf{b}\mathbf{y}$

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1. Callimome texanum n. sp. Fig. 1, 2.

 \circ . Head and thorax blue, face with brassy tinge, vertex and thorax violaceous and greenish shining. Eyes red. Antennæ with scape yellow beneath, flagellum dark brown. Thorax coarsely punctured, scutellum with a distinct cross furrow, behind which it is very finely sculptured. Wings hyaline, the veins



Fig. 1. Callimome texanum n. sp. 9 Radial vein.

light brown, the radial vein surrounded by a cloud, which is reaching $\frac{1}{4}$ of the breadth of the wing. Femora violaceous, knees, tibiæ, and tarsi of the two first pairs of legs yellow, hind tibiæ brownish in the middle, hind tarsi whitish. Hind femora serrate, with a distinct tooth. Abdomen violaceous, with purple tinge om the 4th and 5th segments. Ovipositor $^{2}/_{3}$ longer than the body. Length of body 3,2—3,8 mm, length of ovipositor 5,0—6,2 mm. Ovipositor: hind femur = 4,7—5,8.



Fig. 2 Callimome texanum n. sp. 9 Hind femur.

 δ . Similar to the \circ , the cloud of the fore wings generally smaller, and the hind tibiæ metallic. Length of body 2,8—3,2 mm.

Type locality: St. Rita Mts., Arizona.

Host: Cynips howardiana Kinsey in litt., possibly C. plumbea Weld, on Quercus oblongifolia.

Type: U. S. Nat. Mus. No. 41764.

It is closely allied to *C. fullawayi* Huber, but easily distinguished by the color, which is blue and violaceous, while in *fullawayi* it is generally green, and in the length of the ovipositor. The size of the tooth on the hind femur is equal on all the specimens of my collection, while Mr. A. B. G a h a n has stated to me, that in *fullawayi* it is quite variable in size, ranging from very distinct to quite absent in some females and almost lacking in the males. Therefore I have not established a new genus for these two species, as it originally was my purpose to do.

This species I have received from Professor, Dr. Alfred C. Kinsey in a series of specimens from the type locality as well as from Texas, reared from *Cynips bella* Bassett var. on *Quercus grisea*, and from Alpine Texas from *Disholcaspis globulus* Fitch var. on Q. grisea.

2. Glyphomerus stigma (F).

Ashland, Oregon, Diplolepis opaca Kins. on Rosa sp. (Kinsey).

Mc. Cloud, California, D. polita Kins. on Rosa sp. (Kinsey).

3. Megastigmus piceae Rohwer.

1915, Canad. Ent. v. 47 p. 97, f. 13, ♀ ô.

Of this species, which is very alike the European species af the *abietis*-group, but distinct from them, were bred 71. \mathcal{P} and 59 & 4.-19. VI. 1929 from the seeds af Abies arizonica from Arizona. The seeds, producing this species, were received from the forest seed merchant Johs. R a f n of Copenhagen, among several hundreds of proofs from varial parts of the world, for which I am this gentleman very much obliged.

4. M. pinus Parfitt.

1857, The Zoologist v. 15 p. 5543, 9.

1913, Crosby, Ann. Ent. Soc. Amer. v. 6 p. 161, f. 4, 8. This species seems to be very common; my breedings are as follows (likewise from seeds received from Mr. Rafn):

Colorado, Abies concolor 1927-28, 1 9 3. VII 1928. Oregon, A. grandis. 1927–28, 3 3 5.–24. I. 1929.

California, A. concolor 1928-29, 1 8 9. VI. 1929 and 3 9 8. II.-21. III. 1930.

Washington, A. grandis 1928-29, 2 2 8 4.-20. VI. 1929.

Oregon, A. magnifica 1928-29, 7 9 4 8 7.-22. VI. 1929 and 3 9 1 8 26. III.-28. IV. 1930.

Washington, Picea sitkaensis 1928–29, 1 & 9. VI. 1929.

 $1 \ 22 \ 3$ were found by me in the windows of R a fn & Søn's ware house in the years 1928 and 1929.

5. M. pinus crosbyi nov. var. 9.

1913 Crosby, Ann. Ent. Soc. Amer. v. 6 p. 162, 9.

The yellow ring around the eyes broader, and with an irregular band from the eyes, going behind the ocelli, interrupted in the middle. The yellow spot on the prothorax very large, only leaving back a smaller, irregular black margin in front and sides. Hind femur quite yellow, without a brown stripe on the outside. 15^{*}

Colorado, Abies concolor 1927—28, 1 \Im 8. I. 1929 (type, in my collection).

Washington, A. concolor 1928–29, 1 & 29. V. 1929.

26 $\,^{\circ}$ were found in the windows of R a f n & S ø n's ware house 1928. Crosby supposed, that this form was a new species, but as it is only little different from the spicies described by P a r f it t, and as the male seems to be quite identical with the males of that species, and the two forms were bred from the same seeds, I can only establish it as a new variety.

6. M. pinus marginatus nov. var. 3.

Differs from the δ of *M*. *pinus* by the coloration of the abdomen, which has the hind margins of the dorsal segments brown and the lateral margins of the dorsal segments and the hind margins of the ventral segments slight brown.

Oregon, Abies grandis 1927—28, 1 & 26. XII. 1928 (type, in my collection).

7. M. rafni Hffmr. Fig. 3, 8.

1929, Ent. Medd. v. 16 p. 331, 7, f. 13, 9.

Head yellow with a small black ring on the occiput. Eyes red, ocelli also, fine black surrounded. Antennæ with



Fig. 3. Megastigmus rafni Hffmr. J Radial knob.

scape yellow and flagellum brownish yellow. Pronotum yellow with a backwards pointed black spot in front. The back of the pronotum faint greenish. Mesonotum in front broadly black, behind yellowish, on the border of the black color faint brownish. Parapsidal furrows in front finely black. Scutellum yellow, near the middle with a fine black cross line. Axillæ yellow, on the outside broadly black, the furrow between scutellum and axillæ black behind. Metanotum and propodeum yellow and black colored. The sides and underside of the thorax as well as the legs quite yellow. Top of head and thorax with long hairs. Wings hyaline, subcostal vein brown, the other veins yellowish, radial knob brownish black and oval. Abdomen yellow, the 4 first segments broadly black on the hind margin. Length of body 2,8—3,5 mm.

Colorado, Abies concolor 1927—28, $3 \ \ 1 \ \ \delta \ 6$.—24. X. 1929, besides the type material.

California, A. concolor 1928-29, 1 & 29. IV. 1929. Colorado, A. concolor 1928-29. 9 9 1 & 14.-23. VII. 1929.

8. M. spermotrophus Wachtl.

1893, Wien. Ent. Zeit. v. 12 p. 24 f. 1-3, 98.

Colorado, Abies concolor 1927—28, 5 4 17.—22. I. 1929 and 1 3. IX. 1929.

Oregon, A. grandis 1927—28, 5 $\,^{\circ}$ 6 $\,^{\circ}$ 10.—26. I. 1929 and 2 $\,^{\circ}$ 1 $\,^{\circ}$ 20. VII.—8. IX. 1929.

Washington, A. grandis 1928–29, 3 & 20.–22. VI. 1929.

Oregon, A. magnifica 1928-29, 1 & 27. VI. 1929 and 1 & 26. III. 1930.

Washington, *Pseudotsuga Douglasii* 1928—29, 43 ♀ 31 ♂ 4.—17. VI. 1929 and 7 ♀ 3 ♂ 21. III.—19. IV. 1930.

British Columbia, *P. Douglasii* 1928—29 11 9 1 8 14.—17. VI. 1929.

The three species, M. pinus, M. rafni and M. spermotrophus, emerge in three times, in the summer of the first year, in the following winter by room temperature, and in a smaller number in the next summer. \circ . Head quite honey yellow with exception of the occiput. Thorax more uniform brown as in *M. spermotrophus*, propodeum more or less black. The first abdominal segments with dark hind margins. Ovipositor as long as abdomen with $^{2}/_{5}$ of the thorax. Otherwise as in *M. spermotrophus*. Length of body 2,1-2,3 mm, length of ovipositor 1,3-1,4 mm.

 δ . As the \circ , length of body 2,0–2,4 mm.

Of this variety, which can only be distinguished by the shorter ovipositor and the smaller size, I have bred 7 $\,^{\circ}$ and 2 $\,^{\circ}$ from the seeds of *Tsuga canadensis* from Canada 22. VI.—9.VII. 1929 and 3 $\,^{\circ}$ from the seeds of *Abies amabilis* from Washington 20.—27. VI. 1929.

10. M. tsugae Crosby.

1913, Ann. Ent. Soc. Amer. v. 6 p. 162, f. 5, 9.

Washington, *Abies amabilis* 1928—29, 3 ♀ 20.—27. VI. 1929.

Haslev, 29. IV. 1930.