

macula Schaus I have made the type of *Episibine*; *dicolon* Sepp, *plugma* Sepp, *norba* Druce, and *copac* Schaus belong to *Euclea*; *sulla* Schaus becomes the type of *Protalima*; *determinata* Walk., *rufa* Butl., and *varia* Walk. are clearly not *Sibine*; the latter probably is *Euclea*, and others will have to be examined.

In discussion Mr. Ashmead suggested the possibility of splitting the genus into two genera by reason of the marked difference exhibited by the larvæ, suggesting that careful study of the genitalia would demonstrate corresponding generic differences in the adult insects. He illustrated this by reference to Hymenoptera, and stated that the chief objection to the use of genitalia as a means of separation was the extraordinary difficulty of making the studies and the vast amount of time necessary for such work.

Dr. Dyar then presented a second paper, entitled :

A DIVISION OF THE GENUS SPHINGICAMPA WALSH WITH
REMARKS ON THE LARVÆ.

By HARRISON G. DYAR.

Our species of *Sphingicampa* are obviously separable into two groups or genera, in one of which the antennæ of the female are pectinated, in the other simple. The first group contains *bicolor* Harr., which is the type of *Sphingicampa*, the second the remaining species. The types of the other genera of the *Citheroniidæ* have been specified by Kirby. *Adelocephala* H. S. has type *cadmus* and *Orthorene* Boisd. the same. Boisduval states that both sexes have the antennæ pectinated and therefore these names cannot be applied to the second group. There remains only the genus *Sissphinx* Hübn. (not *Sissisphinx*, as written by Kirby), type *molina*. This has the antennæ of the female simple and, though the male frequently has the outline of the wings waved and the larva is unusually modified, we may refer our species to this genus, rather than create a new one on slight characters.

Genus *Adelocephala* H.-S.

(=*Sphingicampa* Walsh, =*Orthorene* Boisd.)

A. cadmus H.-S. According to Boisduval (Ann. ent. soc. Belg., xv, 82, 1872), the female has the antennæ pectinated. The larva has the subdorsal spines equal on all the segments. Boisduval says: "Le premier anneau garni de pointes acérées de longueur médiocre, les deux anneaux suivants munis de longues

épines dentelées et les autres hérissés de pointes longues, chochues, recourbées en arrière et de longueur égale."

A. bicolor Harr. The larva has been fully described by Walsh (Proc. Bost. soc. nat. hist., ix, 292, 1863, and Proc. ent. soc. Phil., iii, 425, 1864), Jewett (Pap. ii, 138 and 144, 1882) and Packard (Proc. Am. phil. soc., xxx, 137, 1893) and referred to without name by Siewers (Can. ent. x, 85, 1878). It varies remarkably in the subdorsal silver horns which are usually unequally developed on successive segments, but occasionally revert to the generalized condition and are equal on all segments.

Genus *Syssphinx* Hübn.

(=Psephopæctes G. & R., =Ceroderes Boisd.)

S. molina Stoll. This larva is the most highly modified of any of the group. According to the figures of Stoll (Suppl. Cram. Pap. exot. pl. 22 fig. 4) and Sepp (Surin. V Lind. iii, pl. 118) it is humped up at joints 5 and 12 in a peculiar attitude and the horns are nearly absent. The subdorsal thoracic pairs are short, wholly or partly red, and the single dorsal one on joint 12 is reduced to a granule. Otherwise the larva is nearly smooth, though the dorsal surface of joints 12 and 13, which forms an oblique plane, is roughened with granules.

Boisduval remarks (Ann. ent. soc. Belg., xv, 82, 1872) that a specimen before him had the horns long, black, and recurved; but possibly this is another species distinct from *molina*. It is not stated that the larvæ were bred.

S. bisecta Lint. Jewett remarks (Pap. ii, 40, note) that a larva obtained by hush beating in company with *A. bicolor* larvæ had no silver horns, but only the rudiments on one segment. Otherwise it closely resembled *bicolor* and was supposed to be a larval variation till it was bred.

S. heiligbrodti Harv. An unbred larva, which I am inclined to refer to this species, was received from San Antonio, Texas. Another specimen is in the collection of the National Museum, received from Dr. Dugès in Mexico.

Head conic, somewhat triangular, but flat at the vertex, flattened also before and at the sides, the clypeus small, shield-shaped, both it and the paraclypeal pieces coarsely roughened, the head surface punctate-shagreened; green, a white stripe from before ocelli to vertex of each lobe, edged before and behind by a darker green than the ground color; antennæ and labrum white; width 5 mm. Body cylindrical, feet large with coarsely granular shields; the anal shields large, triangular. Joint 2 contractile, cervical shield small, smooth, weak, a row of large, conic granules on the anterior edge with patches of smaller ones below on the sides. Subdorsal horns of meso- and metathorax (tubercles ia+ib and iia+iib) long, recurved, slightly dentate with

small granules; single horn of joint 12 stouter and with larger pointed granules. Subdorsally and laterally on joints 5 to 12 a stout, pointed, recurved, short horn, silvery white without, red within, less than one-third as long as the thoracic horns; a similar, smaller pair on joints 12 and 13 anteriorly; a small, scarcely silvery horn subventrally on joints 5 to 12. Dorsally a few large, sparse granules, principally in one transverse row posteriorly on each segment; many granules subventrally, more pointed than the dorsal ones. Anal plate semi-elliptical, not furcate behind (as in *bicolor*), densely granular around the margin with a double or triple row of white granules, the two most posterior of which are large and erect; centrally on the plate are about seven rather remote granules. The granules are all larger and fewer than in *A. bicolor*. Color green, except the silvery horns and white granules, the thoracic horns tinged with brown. A broad, white, substigmatal band on joints 5 to 12, edged with dark red above and yellow below.

S. anthonilis H.-S. Boisduval remarks: "La chenille est entièrement noire et pourvue de longues pointes d'égale longueur toutes dirigées en arrière, comme celles d'un hérisson lorsqu'il marche. Les épines de la colerette sont bien prononcées mais beaucoup plus courtes que les autres." Evidently a generalized form.

S. brevis Walk. Boisduval remarks: "La chenille est fort jolie; elle est d'un vert jaune avec des pointes couleur d'or très brillantes de longueur médiocre recourbées et dirigées en arrière, dont celles du second et du troisième anneau sont dentelées ainsi que celles qui se trouve au milieu de l'avant dernier, laquelle a un peu la forme d'une queue recourbée. La colerette n'a pas de pointes proprement dites; elles sont remplacées par les petits tubercules coniques." It is a pity that Boisduval's manuscript name *chrysacantha* could not have been used for this species.

S. leucantha Boisd. The author says: "Les chenilles . . . paraissent être vertes; elles sont munies de pointes blanchâtres à sommet noir, de longueur égale, dirigées en arrière, dont celles du second et du troisième anneau, ainsi que celle qui se trouve au milieu de l'avant dernier sont un peu dentelées et un peu plus grosses. La colerette est garnie d'une rangée de petites pointes assez saillantes."

S. argyracantha Boisd. Said to be a variety of *S. crocata* Boisd., described on the same page. Two larvæ bearing this name from Mr. Ruscheweyh, Buenos Aires, Argentina, agree in general with Boisduval's brief description except that the long thoracic and anal horns appear to have been green, not silvery, a point which Boisduval omits to mention. The head is conic triangular, flat before, densely granular shagreened, the paraclypeal pieces nearly obliterated; two narrow, blackish brown lines on

each lobe from ocelli and from before antennæ to vertex ; width, 4 mm. Doubly paired horns on joints 3 and 4 and single dorsal one on joint 12 long, recurved, with slight granules toward base, larger on the anal horn. The upright subdorsal, silver thorns are nearly half as long as the thoracic horns, subequal. Silvery granules large and sparse, only about 10 in the row on anterior edge of cervical shield and rim of anal plate ; of the latter, the two behind are erect and rather remote. The center of the shield has about 5 granules. Coloration destroyed in the specimens.

S. subangulata H.-S. Concerning this larva Boisduval was only able to state that "Les épines ou pointes sont noires, assez longues et dentelées sou le second et le troisième anneau ; la colerette est aussi garnie de pointes roides."

The curious Notodontian genus *Crinodes* H. S. (= *Astyliis* Boisd.), the larvæ of which are covered with long, recurved black horns so that Boisduval placed them in the *Citheroniidæ*, needs further investigation.

General discussion relating particularly to the larvæ of these moths followed, which was participated in by Messrs. Chittenden, Gill, Ashmead, and others, Mr. Ashmead stating that the larva, when first received by the Museum, was successfully photographed by Mr. Smiley. A discussion followed on the popular names assigned to some of these larvæ, and particularly to the larva of *Citheronia regalis*.

A paper sent for reading before the Society by Prof. J. M. Aldrich, of the University of Idaho, was read by the Secretary. It was entitled "Sketch of the Recent Flea War in Germany," and gave in a humorous vein an account of a controversy relative to certain Diptera supposed to furnish a connecting link between the fleas and the Phoridæ. The outcome of the whole matter is the description of several new species of Phoridæ and Borboridæ, and as none of the new forms sustain any close relationship to the fleas, the origin of the latter was left as much in the dark as ever.

FEBRUARY 8, 1900.

The 149th regular meeting was held at the residence of Mr. Schwarz, 230 N. J. ave. N.W. President Gill in the chair and