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ON THE OVIPOSITION HABITS OF STILBULA CYNIPIFORMIS ROSSI (HYMEN., EUCHARIDAE).

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In 1921, W. R. Thompson *en passant* discovered the presence of a number of adult *Stilbula cynipiformis* on bushes and weeds in a small plain on the banks of the Gapeau River, near Montrieux (Var), France. At Dr. Thompson's instigation the writer returned to this spot during the following years to look for these adults and to discover, if possible, something anent their biology.

It was found that this species passes its larval stage as a parasite in cocoons of the ant *Camponotus aethiops* (Ent. News, XLIII, No. 1, p. 1, Jan., 1932). It was not known where or how oviposition took place and this was discovered in the following manner: In 1935, Mr. C. P. Clausen, who has published several articles on the manner of oviposition of various interesting species of parasitic Hymenoptera, advised us that the method of procedure to discover this was to spot a flying female and follow her to her destination. Accordingly, at the next opportunity (August 12, 1936), we betook ourselves to the spot where the adults were known to occur and, surely enough, we soon observed a female flying by. It was easy to follow her and we observed that she alighted on the fruit pods of a small composite plant, *Picris hieracioides* L. var. *spinulosa* Gussone. There was another female already on this plant apparently dead in place at the termination of oviposition. A quick survey soon brought to light other scattered plants of this rather uncommon species and on most of them were live females ovipositing and many females dead in place and stuck fast to the outer surface of the pod after the termination of oviposition.

To oviposit, the female takes a vertical position on the side of the fruit pod, holding on with her feet, her head directed upwards; she then lifts her abdomen, places the point on the bracts, and thrusts the ovipositor into the fruit pod between or through the bracts. She remains in this position apparently

until all her eggs are laid or at least a big mass of them and, as we said before, often dies with her ovipositor still inserted into the fruit pod of the host plant.

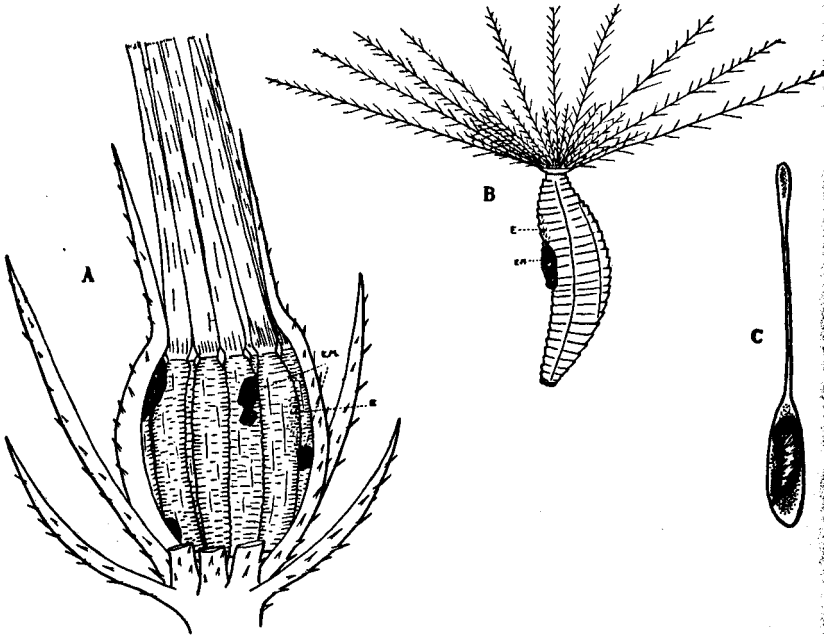

FIG. 1.—A, a fruit pod of *Picris hieracioides* L. var. *spinulosa* Gussone with some of the outer bracts removed to show egg bundles of *Stilbula cynipiformis* Rossi. *E. M.*, egg masses; *E*, individual scattered eggs (the individual eggs are not drawn to scale); B, a seed of *P. hieracioides* var. *spinulosa* after discharge from the capitule, bearing a mass of eggs of S. *cynipiformis;* C, an egg of *S. cynipiformis* showing the fully developed larva inside. Age of egg about 2–3 weeks.

The eggs are laid in enormous "bundles" of several thousands under the bracts of the fruit pod (Fig. A), some masses clinging to the bracts of the pod, others to the outer layer of seeds. Sometimes in the vicinity of an egg "bundle" there are a few scattered eggs attached to a seed or seeds.

The egg (Fig. C) is of the stalked form characteristic of the family, and, in those in which incubation is complete, the highly pigmented larva lies with its head at the base of the stalk. The stalk is approximately twice the length of the egg body.

The stalks of the eggs seem to be intertwined around one another in the middle of the bundle so that the bundle is held together by this method. We surmise that a single one of the

larger bundles is the entire oviposition product of a single female; it is not impossible that such a bundle contains 10,000–15,000 eggs.

A number of these fruit pods were brought in to the laboratory for observation. As the pods opened up a few days later, it was observed that some of the whitish egg masses had changed to a dark blue color. Each egg, when examined under the microscope, was observed to contain a fully developed larva. As the fruit pod opens and the circular plumes on each seed deploy and bear the seed away, some egg masses cling to a seed (Fig. B) and some remain attached to the inner surface of the bracts. It is not unlikely that those which are carried away by the seeds are eventually taken by the ants into their nests, where the larvae hatch out and parasitize the ant larvae or pupae.

No eggs have hatched up to the present writing (September 10, 1936); on the contrary, a number of the masses have apparently dried up completely, at all events the eggs on the periphery of the bundle have done so.

A further visit to the same spot on September 3, revealed that there were freshly deposited eggs in some of the later-ripening heads of *Picris* while the older heads from whence the seeds had gone still bore many bundles of apparently dried-up eggs.

ATAENIUS CHAPINI, SP. N., FROM MEXICO (COLEOPTERA, SCARABAEIDAE).

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While checking through the published descriptions of the species with a view to a revision at a much later date, I have at one time or another occasion to examine nearly all the descriptions published to date of the American species of *Ataenius* and have found no description (including my own earlier descriptions) which is really satisfactory. All are too brief, and in no case are they accompanied by figures of the male genitalia, though in a few instances, Fall (1930), the general form of this structure is mentioned. While engaged in the exasperating business of puzzling over the descriptions of the usual too laconic systematist, I have been able to make a list of the more important specific characters which apply to one species or another of this large genus and have thought that the presentation of such a list might have a small part in ridding future describers of *Ataenius* of their taciturnity. In the genus *Ataenius* a description of the exact distribution of the punctures of various sclerites is often essential, and vague statements such as "punctures moderately dense at sides" are definitely inadequate.