(i. e. the Mantoidea, Phasmoidea and Phylloidea). The Mantieformia approach very closely to the Neuroptera in some respects, and I am by no means certain that the Mantieformia do not represent an intermediate stage between the Neuroptera and the Platyptera.

While I would not insist upon a Platyptero-Mantieformia (or an Embioideo-Mantiformia) line of descent, it is nevertheless true that the Embioidea present many points of similarity to the Mantieformia, and are undoubtedly the more primitively organized of the two. It is not claimed, however, that the Mantieformia are the descendents of the Embioidea, but merely that the Embioidea have departed but little from the ancestral forms common to the to two groups — at least so far as their general structure is concerned. On this account, the fact that no Embioidea have been found earlier than the Tertiary period, while the Mantieformia are geologically much older, has no particular weight. Since the preservation of fossil remains is wholly a matter of chance, it is small wonder that the geological record of the ancestry of such rare insects as the Embioidea is very incomplete, and this would in all probability account for the fact that we know of no fossil ancestral forms connecting them with the Mantieformia. The Blattieformia (Blattoidea and Isoptera) are very closely related to the Mantieformia, and doubtless branched off very near the origin of the Mantieformia line. It must ce admitted, however, that until we have at our disposal more information concerning the anatomical details of a large number of intermediate forms (wheter living or fossil), the discussion of the lines of descent leading from the lower pterygote forms must be regarded as too highly speculative, to be of any great practical value.

By way of summary, the principal points brought out in the present paper may be briefly stated as followes. The marked similarity of structure between insects of the apterygote order Myrientomata and the pterygote order Platyptera would indicate that there has been a Myriento-Platyptera line of descent leading from the ancestors of the Apterygota to those of the Pterygota. Similary, there are indications of a Dicelluro-Dermaptera and a Dicelluro-Coleoptera line of descent from ancestors resembling the Japygidae to the ancestors of the Dermaptera and Coleoptera. To these may be added a Thysanuro-Ephemeroidea line from the ancestors of the Thysanura to those of the mayflies. These, and other lines which will doubtless be added to them, would indicate that the Pterygota are in a sence a „polyphyletic" group, derived, not through one line, but through several lines of descent.

---

## *Notes on some parasites of sugar cane insects in Java with descriptions of new-Hymenoptera Chalcidoidea.*)*

By **A. A. Girault,** Nelson (Cairus), N. Queensland. Australia.

Herr P. van der Goot, Entomologist of the Experiment Station of the Java Sugarcane Industry at Pasoeroean, Java, was kind enough to send to me for identification a number of egg-parasites of sugarcane insects upon part of which I report in the following pages.

*) Contribution No. 9, Entomological Laboratory, Bureau of Sugar Experiment Stations, Bundaberg, Queensland.

Bogen XVIII der „Zeitschr. f. wiss. Ins.-Biologie", Druck vom 20. November 1915.

1. *Gonatocerus bifasciativentris* new species.

Female: — Length, 1.20 mm.

Black and golden yellow and belonging to the group of species with graceful fore wings, the abdomen as in *rivalis*, the ovipositor exserted for a length equal to a third that of the abdomen. Funicle and club, the propodeum, cephalic third or less of mesoscutum, cephalic half of parapside (making two triangular spots on each side), a subquadrate spot at base of scutellum at the meson, immediate base of abdomen, exserted valves of the ovipositor and a broad black band just distad of center of abdomen, in the dorsal aspect sometimes narrowly divided into two stripes, velvely black. Pedicel yellow, suffused with dusky, the scape yellow, dusky along dorsal and ventral edges. Mesopleurum black. Fore wings with about 21 lines of discal cilia; marginal vein long for the genus; posterior wings with a paired line of discal cilia around each margin. Funicle of antenna with no globular joints, all longer than wide, 1 and 2 subequal, smallest, 3 somewhat longer, subequal to the pedicel, 4, 5 and 6 subequal, longest, 7 only sligthly shorter than 6 while 8 shortens. Fore wings fumated slightly along distal margin.

(From many specimens, $^2/_3$: inch objective, 1: inch optic, Bausch and Lomb.)

Male: — The same but the abdomen sometimes with three black stripes. Longest funicle joints nearly thrice their own width. (From 8 specimens, the same magnification.)

Though colored somewhat like the Australian *cingulatus* and *comptei*, this species resembles in habits *spinozai* and *bicolor* of Australia and *rivalis* of North America because of the more slender abdomen, the exserted ovipositor and the absence of globate joints in the antennal funicle. But it is quite slender. Eight males and fifty-four females.

Habitat: Java.

Host: Eggs of a leafhopper embedded in the leaves of sugar cane.

Types: In the Queensland Museum, Brisbane, 1 ♂, 16 ♀'s on a slide in xylol-balsam.

2. *Trichogramma minutum* (Riley).

Four males, eleven females of this species reared from the eggs of *Chilo infuscatellum* Sn.

3. A New Genus of Omphaline Eulophidae. *Omphalini.*

*Parachrysocharis* new genus.

Female: — Like *Chrysocharis* Foerster but the postmarginal vein absent; antennae slender, three funicle and club joints, the third club joint terminating in a spur. Stigmal vein long. Thorax without grooves, the parapsidal furrows complete.

Male: — The same but the funicle 4-jointed, three club joints, 10 antennal joints. Antennae clothed with long, fine hairs.

Type: *Parachrysocharis javensis* new species.

I. *Parachrysocharis javensis* new species.

Female: — Length, 1.25 mm.

Black, the base of the abdomen rather broadly, the ventral half of the thorax and the legs golden yellow; venation and antennae dusky

yellow; face also mostly golden yellow. Funicle joints all longer than wide, subequal and each barely longer than the pedicel; scape and pedicel paler.

(From nine specimens, the same magnification.)

Male: — The same.

(From three specimens, the same magnification.)

Described from three males, nine females, reared from leafhopper eggs on the leaves of sugar cane, the host probably *Flata affinis*; each egg holds on parasite. The hosts turn black.

Habitat: Java.

Host: *Flata affinis* (teste P. van der Goot).

Types: In the Queensland Museum, Brisbane, 1 ♂, 2 ♀'s on a slide in xylol-balsam.

4. *Cyrtogaster javensis* new species.

Female: — Length, 1.90 mm.

Dark metallic blue, the scutum reflecting greenish. Wings hyaline; legs white, the antennae yellowish, the latter with three ring-joints, each larger than the on preceding, the funicle joints subquadrate and more or less subequal. Postmarginal vein distinctly longer than the long stigmal. Coxae concolorous. Parapsidal furrows half complete from cephalad. Punctate, the propodeum reticulated, with a median carina. Abdomen slender. Five funicles, three club joints, the club wider than the cylindrical funicle. Mandibles 4-dentate, the outer tooth acute. Scutellum smoother toward apex.

(From 10 specimens, the same magnification.)

Male: — Not known.

Described from ten females reared from the eggs of an unknown moth on the leaves of sugar cane.

Habitat: Java.

Host: Lepidopterous eggs (probably Bombycidae).

Types: In the Queensland Museum, Brisbane, three feemales on tags, three pins and a slide with two others.

## Kleinere Original-Beiträge.

**Widerstandsfähigkeit der Eierkokons der Fangheuschrecken (Mantodeen).** In einer Mitteilung über die Verschleppung von Fangheuschrecken durch Schifferverkehr (Zeitschr. f. wissensch. Insektenbiol. Bd. XI, Heft 3/4, 1915, S. 98) spricht Werner (Wien) die Ansicht aus, daß die Eierkokons der Mantodeen, weil von wabig-schaumiger Struktur, weniger resistent seien, als die Eierkokons der Blattodeen. Das veranlaßt mich, eine Beobachtung mitzuteilen, die ich im Jahre 1900 in Genf gemacht habe.

Ende April des genannten Jahres erhielt ich mehrere Eierkokons von *Mantis religiosa* aus Sierre (Kanton Wallis). Die meisten wurden zu Zuchtversuchen in ein Glasgefäß gebracht und in Zimmertemperatur gehalten. Am 25. Juli fanden sich in dem Glasgefäß eine lebende und eine tote *Mantis*-Larve. Erstere ging noch an demselben Tage ein, weitere Larven schlüpften nicht aus.

Einen besonders gut entwickelten Kokon, den ich für die Aufstellung einer Biologie verwenden wollte, brachte ich, um die Eier abzutöten, in ein Reagenzglas und dieses etwa 5 Minuten offen in kochendes Wasser. Dann klebte ich den Kokon an einen Stein und befestigte diesen in einem Insektenkasten, dessen Inhalt ich durch ein Gemisch von Benzin und Kreosot gegen Raubinsekten zu schützen suchte. Am 25. Juli waren aus diesem Kokon 16 *Mantis*-Larven ausgeschlüpft, von denen eine lebte. Die Aufzucht mißlang, am 27. Juli war das Tier tot.