In the introductory chapter, a brief description of the major characteristics and general facies of insects as well as a synopsis of the major orders is given and in subsequent chapters, topics considered of greatest interest to persons with little background in entomology are drawn from all phases of the field. As would be expected, major emphasis is given to the structural and behavioristic adaptations of insects to various modes of life; the subjects presented run the gamut from oviposition to insects as they affect man and his economy.

The twenty plates of black and white photographs are excellent for the most part, although a few could have been selected with a little more care. For example, those dealing with insects and pollination (plate XIV) show very little detail and could have been chosen to reveal more of the actual mechanisms of both plants and insects involved in pollen transfer. Some of the insects appearing in various photographs are obviously posed, such as the male of the Hercules beetle transporting its "inamorata" (plate XIX), but the greatest weakness of the work is in the quality of the text figures which, although they convey the idea the author wished to express, appear to some extent hastily done and in several cases are actually rather poor.

A glossary of common names of the insects mentioned in the text and their Latin equivalents is provided as well as an index, but although Mr. Bastin refers by name to many of the authors whose work he has cited throughout the book, no bibliography of any sort has been been included. This is unfortunate since it is obvious that the author is widely read in the various aspects of entomology and could have appended an excellent list of selected references with very little additional work.

Aside from these weaknesses, the book is well worth reading, especially by the interested layman, for the information it contains as well as for the very fine literary style in which the information is presented.—MARIUS S. WASBAUER, *Department of Entomology and Parasitology, University of California, Berkeley.*

TWO NEW BRACONID PARASITES OF THE AVOCADO LOOPER
(Hymenoptera: Braconidae)

C. F. W. MUESEBECK
United States National Museum

Descriptions of the following new species of braconid parasites of the so-called avocado looper. *Sabulodes caberata* Guénée, have been requested in order that names may be available for use in biological papers.

Meteorus tersus Muesebeck, new species

Very similar to *M. dimidiatus* (Cresson), from which it may be distinguished, however, by its clear hyaline wings, by the

absence of a conspicuous pale spot at the base of the stigma, and by its shorter ovipositor.

Female.—Length about 3.5 mm. Face about as long as its narrowest width, faintly transversely aciculate; ocellocular line fully twice as long as diameter of an ocellus; antennae about as long as the body, usually 29- or 30-segmented; mesonotal lobes largely smooth and shining but middle lobe with some minute and faint setigerous punctures; a small, weakly rugulose area at apex of middle lobe; propodeum rugose reticulate, the dorsal face convex and a little longer than posterior face; second abscissa of radius usually twice as long as first; recurrent vein entering extreme base of second cubital cell; nervellus shorter than basal abscissa of basella. Abdominal petiole without dorsal fossae; ventral margins of first tergite widely separated at base of segment, converging and virtually touching at a point midway between base and the spiracles, and then diverging again to posterior margin of segment; petiole smooth, postpetiole finely longitudinally striate; second and following tergites smooth and polished; ovipositor sheath about as long as hind femur, much shorter than hind tibia.

Brownish yellow varied with black or piceous; head brownish yellow with a large blackish spot covering middle of frons and vertex and extending upon occiput; thoracic pleura and sternum usually pale, the dorsum usually blackish but with a brownish-yellow area on mesoscutum behind middle lobe; propodeum blackish, also abdomen except second tergite and the extreme apex which are brownish yellow; wings clear hyaline without a suggestion of discoloration; legs brownish yellow, the middle and hind tibiae and tarsi and apices of hind femora more or less infuscated.

Male.—Essentially like the female but with the antennae usually 31- or 32-segmented and the face slightly wider than long.

Type locality.—CARLSBAD, SAN DIEGO COUNTY, CALIFORNIA. *Type.*—U. S. National Museum No. 62560.

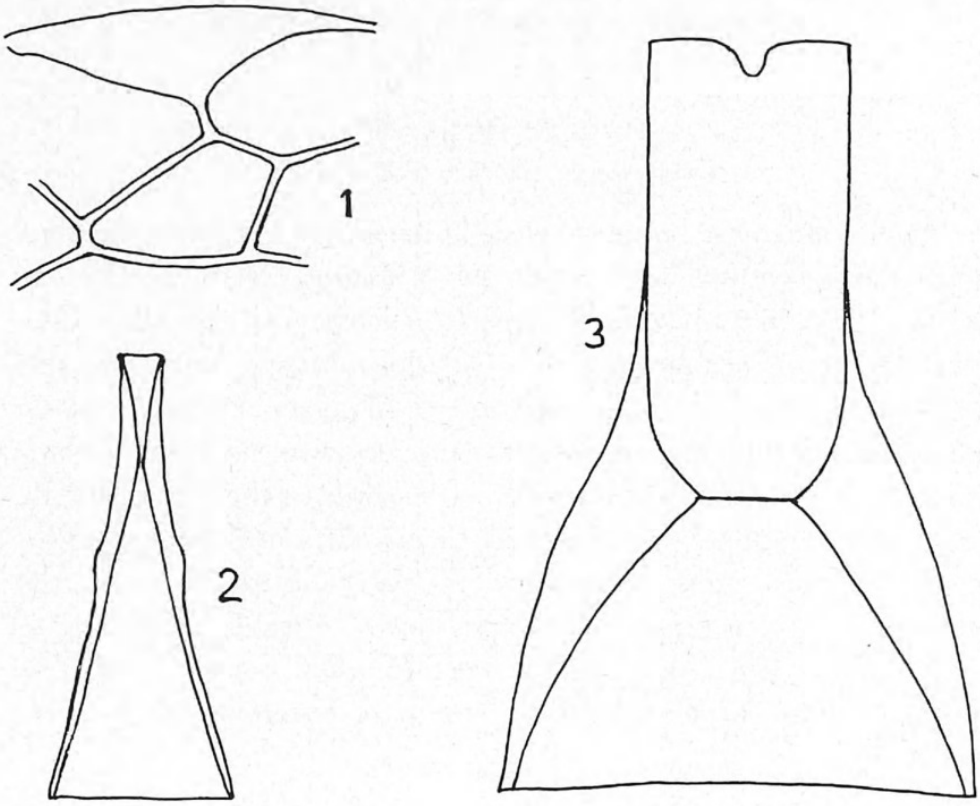
Described from thirteen females and ten males reared from *Sabulodes caberata* (Guénée) August 27, 1954, by C. A. Fleschner. Paratypes are deposited in the California Academy of Sciences.

Apanteles caberatae Muesebeck, new species

Runs to *phigaliae* Muesebeck in my key to the North American species (1921, Proc. U. S. Nat. Mus., vol. 58, p. 494) and appears to resemble that species more closely than any other described form. It may be easily distinguished from it, however, by its long second tergite and by being considerably larger. Furthermore, the cocoons of the new species are pure white, unfluted and solitary, whereas in *phigaliae* they are brown, longitudinally fluted and gregarious.

Female.—Length about 3 mm. Antenna fully as long as the body; face at narrowest point slightly broader than long, closely but very shallowly punctate; mesoscutum shining, covered with closely placed, very

shallow punctures; disc of scutellum smooth and shining with only a few scattered, very shallow punctures; propodeum smooth and shining but with a number of short striae radiating from middle of posterior margin; first abscissa of radius perpendicular to anterior margin of wing, a little longer than intercubitus and joining the latter in a distinct though obtuse angle; hind coxa with a large, flattened, punctate area on outer upper edge toward base; inner calcarium of hind tibia longer than outer and distinctly more than half as long as metatarsus. Abdomen rather narrow; first tergite parallel-sided to near apex where it is gradually rounded off, distinctly a little narrower at apex than at base, more than twice as long as broad at apex, smooth and polished on basal two-thirds, finely longitudinally sculptured on apical third; second tergite fully as long as third, with sharply impressed, oblique, lateral grooves setting off a large



EXPLANATION OF FIGURES

Fig. 1, Stigma and second cubital cell of *Meteorus tersus*. Fig. 2, Venter of first abdominal segment of *Meteorus tersus*. Fig. 3, Outline of first and second tergites of *Apanteles caberatae*.

subtriangular median plate that is much longer than broad at base and twice as broad at posterior margin as at base, its surface very weakly, irregularly roughened and shining; following tergites smooth and shining; ovipositor sheath barely surpassing apex of last dorsal abdominal segment.

Black; lateral margins of first and second tergites and basal two-thirds of venter of abdomen brownish; sometimes third tergite a little brownish laterally; tegulae black; wings hyaline, stigma and veins brown;

legs brownish yellow, anterior and middle coxae basally, and hind coxae entirely except sometimes toward apices, black; hind femora and tibiae at apices and the hind tarsi infuscated.

Male.—Like the female in all essential particulars.

Type locality.—CARLSBAD, SAN DIEGO COUNTY, CALIFORNIA.

Type.—U. S. National Museum No. 62561.

Described from five females and nine males reared from *Sabulodes caberata* (Guénée) by J. C. Hall and C. A. Fleschner. Paratypes are in the California Academy of Sciences.

XYLOCOPA RUFINA UTILIZING MEXICAN CEDAR TIMBERS FOR NESTING PURPOSES

(Hymenoptera: Apoidea)

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During this past January, while in the state of Chiapas, Mexico, limited observations were made on *Xylocopa rufina* Maidl, one of the poorly known Central American carpenter bees. At Simojovel and the Finca Inapila, near Yajalon, this carpenter bee was actively nesting in sound structural Mexican Cedar, *Cedrela mexicana.* At the former locality, the bee was nesting in some numbers in the ceiling beams of a patio while at the Finca Inapila several burrows were found in vertical door frames. The entrances of the burrows were located on the vertical surface with the burrow always curving inward and upward, usually some six to eight inches. The only previous nesting wood reported for this species was an unidentified pine stump at Uruapan, Michoacan, Mexico.[2]

[1] These observations were made during and as an adjunct to an Associates in Tropical Biogeography, University of California sponsored expedition.

[2] P. D. Hurd, **The Carpenter Bees of California,** Bull. Calif. Insect Survey, 4(2):58.

BOOK REVIEW

MOSQUITOES, THEIR BIONOMICS AND RELATION TO DISEASE. By William R. Horsfall. The Ronald Press Company, New York, 723 pages. 1955. $16.00.

The author of this extensive compilation is to be congratulated for his courage in attempting to review the voluminous literature on mosquito bionomics and relation to disease. An introductory statement to the bibli-