

India. . . . I do not think any work has been done on it in India". It may be of interest in this connexion to quote Dr. C. P. Clausen, of the Division of Biological Control, Riverside, California, from correspondence dated September 11, 1951: "With regard to the importation of *Cryptolcemus* into India I find upon referring to my card files that there is a notation on the card stating simply 'Howard 1898'. I have not yet been able to locate any publication by Howard on this date containing the record mentioned and it is very possible that the information was obtained from the files of his correspondence which I had occasion to examine and which contained records of many shipments that were not reported in publications".

During a stay in the United States, one of us (M. P.) had occasion to look into certain index cards in the Division of Foreign Parasite Introduction, U.S. Department of Agriculture, Washington, D.C., by permission of Dr. C. P. Clausen, and found a list of parasites and predators imported into India at various times. *C. montrouzieri* was included in the list as imported into India in 1898, with the comment, "not established"; this is the file of cards to which Dr. Clausen refers to above.

Although it seems almost certain that this predator was imported into India towards the end of the last century, it is not known who introduced it and at whose instance. The only evidence of its importation into India is the comment on the index card referred to above. However, it is very well established around Bangalore; and it is strange that this important predator has been unnoticed in India for so many years. Studies on its biology, ecology, host-range and possibilities of mass-rearing and liberation in places where it does not exist, etc., are in progress and will be published elsewhere.

We are indebted for identification of the predator to Dr. E. A. Chapin, of the U.S. Department of Agriculture, Washington, D.C., through the courtesy of Dr. C. P. Clausen and Dr. C. F. W. Muesebeck.

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¹ Essig, E. O., "Insects of Western North America", 415 (Macmillan Co., New York, 1926).

² Williams, Francis X., "Handbook of Insects and other Invertebrates of Hawaiian Sugarcane Fields", 185 (Hawaiian Sugar Planters Association, Honolulu, Hawaii, 1931).

Variation in the Number of Joints of the Two Antennae in Individuals of *Bracon* spp. (Braconidae, Hymenoptera)

THERE have been numerous records in the literature of teratological insect specimens; but, so far as we are aware, no reference occurs of an insect possessing antennae with unequal number of joints on the two sides, affecting its bilateral symmetry.

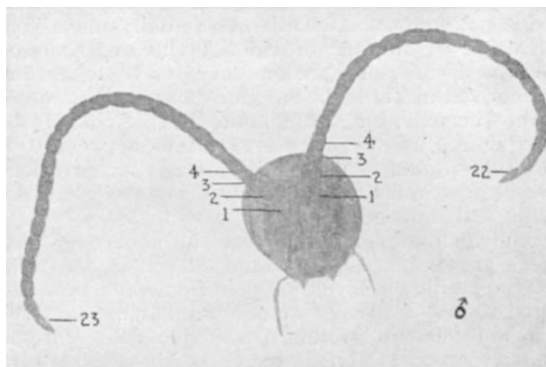
Muesebeck¹, Lal² and Cherian and Margabandhu³ regard the number of antennal joints as one of the important characters in the determination of *Bracon hebetor* Say and *B. brevicornis* Wesm. In the course of examination of a number of these parasites reared on *Corcyra cephalonica* Staint. in mass cultures here, a few specimens were found showing the unique feature that pairs of antennae of the same insect possessed different numbers of joints. A similar

Specimen No.	Name	Sex	Antennal joints
1	<i>Bracon</i> sp. on <i>Corcyra cephalonica</i> Staint.	Female	16 and 17
2	" "	"	17 " 18
3	" "	Male	22 " 23*
4	" "	"	21 " 23
5	" "	"	23 " 24
6	" "	Female	16 " 17
7	<i>Bracon</i> sp. on <i>Adisura atkinsoni</i> Moore	Female	26 " 27

* See photo.

instance was also noticed in the case of another species of *Bracon* reared on *Adisura atkinsoni* Moore (the Lablab pod-borer).

The difference noted in the antennal joints of the insects is shown in the accompanying table. In each case, there is a difference of one joint in the antennae of the two sides, excepting specimen No. 4, in which the difference is two. This finding led to an examination of naturally occurring *Bracon* specimens collected from food-grain go-downs around Bangalore, and also from *Corcyra*-rearing cupboards in the *Trichogramma* Parasite Laboratory at Mandya. The specimens showing difference in the number of antennal joints were found to be the more common. Further, a similar difference was also noted in *Bracon brevicornis*, Wesm., on *Nephantis serinopa*, Meyr., received from the Government entomologist, Coimbatore. In all these cases, the difference noted was one joint.



Head with the antennae of *Bracon* sp. on *Corcyra cephalonica* St. The numbers indicate the number of antennal joints

These observations are of interest since the number of antennal joints forms one of the important taxonomic characters in the determination of many species of insects; and differences in the number of antennal joints in the same specimen vitiate the use of this character.

The accompanying photograph was made by Mr. P. Raghuram, artist of the Department. Our thanks are due to Mr. B. Krishna Murti, Government entomologist, for critically examining the slides and for constructive criticism.

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¹ Muesebeck, C. F. W., *Proc. U.S. Nat. Mus.*, 67, 1 (1925).

² Lal, K. B., *Ind. J. Ent.*, 8, (1), 85 (1946).

³ Cherian, M. C., and Margabandhu, V., *J. Bomb. Nat. Hist. Soc.*, 48, (2), 335 (1949).