

REMARKABLE OBSERVATIONS BY YOUNG JAPANESE LEPIDOPTERISTS

As a result of the transition of general interests from mere collecting to life-history observation, there have been many excellent reports by younger Japanese butterfly hobbyists. I will introduce herewith some of their remarkable observations.

1) FOUR CONSECUTIVE GENERATIONS OF *POLYGONIA C-AUREUM* REARED BY THE AID OF THE RICHARD TECHNIQUE.

Ikuo Hayano, a medical student in Yokohama, applied the Richard Technique (*Lep. News*, vol. 2: p. 74) to the securing of eggs of *P. c-aureum* (Linné) in July 1950 and got the second generation in August, the 3rd in September, and the 4th in November. The November adults are now hibernating in a cage and probably will produce spring broods. Among many notable results obtained, the most interesting is that the wing patterns of the broods are not uniform. "*Forma aest.*" occurs side by side with "*forma autumn*". This reminds us of Frohawk's observation in form *hutchinsoni* of *P. c-album* and de Nicéville's experiment on forms of *Melanitis leda*. Mr. Hayano is trying to find the elements which affect the wing patterns and the biological differences, if any, such as in mating or hibernating.

2) POSITION OF ANTENNAE IN HIBERNATING *EUREMA HECABE* AS AFFECTED BY WEATHER AND TEMPERATURE.

Masayuki Takeda, a junior high student in Tochi-gi-ken, observed in the winters of 1948-50 the life of hibernating *E. hecabe* (Linné). Among many valuable observations, the most noteworthy is that the antennae of wintering *hecabe* are exclusively sensitive to weather and temperature. For instance, in December the position of the antennae at night (10-11 p.m.) is affected by weather and temperature at that specific time, while in January the same is affected by weather and highest temperature of preceding day time (10 a.m.-2 p.m.). For example, the antennal position at December nights are as follows:

- a) Exposed, parallel with the costal margin of folded wings, if weather is fine and temperature stands at above 8° C.
- b) Club-parts only exposed out of folded wings, if fine and between 5°-8° C., cloudy and above 4° C. or rainy and above 5° C.
- c) Concealed completely between folded wings in ♀♀ and club-parts half exposed in ♂♂, if fine and below 5° C., cloudy and below 4° C., rainy and below 5° C. or snowy (or with heavy wind) at any degree.

3) DISCOVERY OF TRUE ANT-GUEST LARVA *NYPHANDA FUSCA*.

Fumiaki Nagayama, an assistant of a veterinary laboratory in Tokyo, found the long-sought-for larvae of *N. fusca* Brem. & Grey in July 1948. In co-operation with Takeo Ishizawa and the writer, he succeeded in a complete survey of this fascinating symbiosis of caterpillars and ants. The larvae are fed orally by the host-ants by the latter's disgorging of liquid foods. This feeding habit is only comparable to that of the East African lycaenid *Euliphyra mirifica* Holl. observed by C. O. Farquharson, as far as I know. A detailed account of my notes on *Nymphanda* has been sent to Mr. A. H. Clark in Washington with some figures and photographs. The Australian *Pseudodipsas myrmecophila* and African *Axiocerses harpax* (Fab.) (both lycaenids) have been suspected as excretophagus-myrmeconenous but not yet confirmed.

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A LIVING SIPHON

I wonder if it is a common practice for moths to convert themselves into living siphons, by drawing up water through the maxillary tube and pumping it straight through the body. I watched a moth, later identified as *Venusia cambrica* Cort, perform this stunt while perched head down inside a pail partly filled with water. I watched the insect long enough to assure myself that there was no mistake, as to what it was doing, and it was still going strong when I put a stop to the performance.

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