THE USE OF BAIT TO ATTRACT BUTTERFLIES

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A question was presented in a recent issue of the *Lepidopterist's News* (vol. 5: p. 16) concerning the use of bait to attract butterflies. Since many rhopalocerists have neglected this method of collecting, it was felt that some notes on the experiences I have had might be of interest.

Almost any sugaring mixture which will attract moths is equally attractive to many species of butterflies. However, a mixture of mashed rotten bananas and canned crushed pineapple, to which are added sugar and beer, has produced best results. This is left to ferment for a day before using.

A sugaring trail should be selected in an area where the desired species of butterflies occur. A patch of bark, about eight inches in diameter and approximately shoulder high on the trunk of a fairly large tree, is painted with the mixture. A cheap paintbrush is most practical for this purpose. Because of the higher evaporation rate during the daytime, it may be necessary to repaint the trees at regular intervals. The trunk should be free of limbs or nearby branches so that an insect net can be swung freely. The butterflies which are attracted to the bait rarely become inebriated to the extent that they can be collected directly into a cyanide bottle. Therefore, it is almost always necessary to catch them in a net.

The baited trees should be visited frequently, with a minimum of noise or quick movements, as butterflies are easily frightened. A little practice and observation will soon enable the collector to catch specimens. It will be noted that many butterflies are attracted only at certain times of the day. Also, the method of jumping off the tree varies with each species so that some may drop earthward and consequently require an upswing of the net, while others jump directly off in a horizontal direction and require a side sweep.

The advantages of baiting are: 1) it tends to concentrate the specimens for collecting; 2) it attracts many woodland species to a place where they can be more easily collected; and 3) high flying forms, rapidly flying forms, or extremely wary species can be more easily collected. On good collecting days, I have caught as many as 300 specimens of assorted species of *Nymphalis, Polygonia, Limenitis,* and *Asterocampa* in a single afternoon. These forms are usually among the more difficult butterflies to collect in series.

All of the species which have been attracted to this bait belong to the Nymphalididae and Satyridae; no members of the other families have been observed on the sugaring mixtures. The following butterflies have been collected.

Lethe p. portlandia Fab., *L. p. anthedon* Clark, *L. creola* Skin., *L. e. eurydice* Joh. and *appalachia* R. Cherm. are all attracted to sugaring mixtures. They usually sit head downward and are often easily frightened. The best time of the day to collect members of this genus seems to extend from late afternoon to dusk.

Euptychia cymela Cram. and *E. hermes sosybia* Fab. are attracted to sugaring mixtures, but only sparingly. *E. gemma* Hbn. rarely will sit on trees, but often will alight near the ground where the drops of the sugaring mixture have fallen. These species may be attracted during any time of the day, but seem to prefer late afternoon.

Minois a. alope Fab., *M. a. nephele* Kirby, and *M. a. carolina* Ch. & Ch. will often be attracted to drops of the mixture which fall to the ground; more rarely they will sit on the tree trunk. They seem to be most frequent in the morning or towards evening, although occasional specimens will be found during the afternoon.

Limenitis a. arthemis Drury and *L. a. astyanax* Fab. are readily attracted to sugaring mixtures throughout the day and are very easily collected. However, I have seen only one specimen of *L. archippus* Cram. sitting on the bait, although the species has been relatively common in many areas collected.

Nymphalis j-album Bdv & Lec. and *N. antiopa* L. are commonly attracted to this bait and, though wary, can be collected with relative ease. They seem to fly at almost any time during the day. The same is true of *Vanessa atalanta* L., although the other species of this genus are not normally attracted.

The use of sugaring mixtures provides an excellent method for collecting members of the genus *Polygonia.* All of the eastern species will come to bait at almost any time during the day. Although they are extremely wary, a little practice soon provides the collector with a fine series.

Asterocampa c. clyton Bdv. & Lec., *A. c. flora* Edw., *A. c. louisa* Stall. & Turn., *A. leilia cocles* Lint., *A. c. celtis* Bdv. & Lec. and *A. c. antonio* Edw. are easily collected by using sugaring mixtures. They usually sit head downwards on the tree and require a quick upswing of the net. They are equally abundant at almost any time during the day.

Eunica tatila tatilista Kaye and *Myscelia ethusa* Bdv. are readily attracted to bait on trees in jungle hammocks at almost any time during the day. They are extremely wary, and the trees must be approached cautiously in order to avoid disturbing them. Since they sit head downwards, they require a rapid upsweep of the net.

Anaea a. andria Scud. and *A. aidea floridalis* Johns. & Comst. are frequently attracted to bait, but are usually extremely difficult to approach and collect.

In addition to sugaring mixtures, a few other possible baits should be experimented with. Decaying fruit such as pears, apples, and watermelon have been seen to attract butterflies. If these are placed systematically, they provide additional sources for specimens.

Feces on the ground have also been observed to attract many butterflies. In fact, I have collected a large series of *Speyeria diana* Cram. around the dung of deer in the middle of a road. It also seems to attract *Papilio philenor* L., *Phyciodes tharos* Dru., *Eurema nicippe* Cram., and *Erynnis martialis* Scud. Manure piles also attract these same species.

The use of sugaring mixtures and other possible baits afford an additional technique in collecting butterflies. It is hoped that it will be used more extensively, particularly in the West, where it might be effective in attracting certain groups which are needed in series for systematic work. Also, experimentation with various baits is a form of research which both the amateur and professional can do, and contributes to the knowledge of the feeding habits of butterflies.

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