The Aberholz Technique for Attracting Tropical Skippers (Hesperidae)

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Skippers (Hesperidae) constitute a large component of tropical butterfly communities. In South America, sites in mature lowland tropical forest may contain several hundred species. Although some species, especially those favoring clearings and heavily disturbed forests, may be locally common, most forest skippers occur at low population densities, as is generally true for tropical butterflies (Ebert 1980). Their swift, erratic flight is difficult to follow, and oftentimes, they are extremely wary. Thus, collecting and photographing forest skippers is difficult.

Various methods overcome the problem of sampling species that are otherwise rare and wary. Some butterflies are attracted to traps baited with rotting animals, excrement, decaying fruit, or pheromones. Others seek mud or sweaty clothes, presumably attracted to the sodium chloride. Malaise and light traps also may sample otherwise scarce species, and colored pieces of cloth, paper or plastic can be effective in drawing high-flying species to the ground. Some butterflies, such as Lithomeone and Danaus, seek pyroli- zidine alkaloids, whether in the sector of Asteraceae or in decaying heliotrope plants (Dorcatagurae).

Most skippers are not attracted to bait traps, show no interest in colored rag or plastic, and generally are not collected in Malaise and light traps. Only a small percentage of skippers sip moisture at mud and most of these are males. Flowering shrubs or trees, which are heavily frequented by both sexes, are very scarce or patchy in South American rain forests and usually occur 20-45 m above the ground in the canopy.

It has been observed repeatedly, however, that many hesperid species visit fresh bird droppings in the interior of the forest (mostly upon leaves or the ground) or on rocks, stones, or sand on river banks. Further, a number of otherwise scarce skippers congregate in the neighborhood of army-ant (Formicidae: Ectomymrmex) swarms in southeastern Peru (Lamas 1985), where they feed on ant (Formicidae) droppings. Taking advantage of these peculiar congregations, first described by Zikias (1929) for Brazilian skippers, we have collected some species that are poorly represented in collections. Unfortunately, the thick underbrush and wariness of these skippers makes it difficult to approach them.

The purpose of this note is to report a new method, which we name the "Aberholz Technique," for attracting skippers in Neotropical rain forests. It was devised and successfully used by our good friend David Aberholz in Bordonia, Brazil and eastern Ecuador. After he described the method to us in 1980, we experimented with it at Pektiras, Manu National Park; at Tambopata, Tambopata-Candamo Reserve Zone; and at Parque del Huall National Sanctuary, in southeastern Peru (see Erwin 1980, 1981, Lamas 1985, Lamas et al. 1981 for location and description of the two former sites). We summarize our observations and those of Aberholz.

The Aberholz Technique

We placed small (ca. 1 cm²), approximately square, pieces of toilet or tissue paper, wetted with saliva, on the upper surfaces of exposed, broad leaves, or on cleared patch of ground. The groups of papers have a rough resemblance to fresh bird droppings and attract many species of skippers. Nymphidadae (Carriacutricidae, Pyrgophylinae, Adelphae, Neunamiinae, Catopidae, Hesperidae, etc.), Memphiinae, Heliconia, Pyranthea, and Alcithiane (Euxes- linae, Incisalia, Thrasoe), and Fritillariae (Dismorphia) Octo insects, including small flies, wasps and other insects, visited the paper too. We also placed smaller pieces of wetted sand on sand at river banks, where only skippers and a few flies were attracted. We experimented with white, sky blue, light green, and light pink colored pieces of paper, without perceiving any differences in attractiveness. The exact shape of the paper did not seem to matter much either.
A skipper, on discovering a piece of paper, landed quickly upon it, extended its proboscis and probod the wet paper for several seconds before moving to another area (Fig. 1). It remained wary, but was relatively easy to approach because we placed the paper in an exposed site. If the butterfly was collected, we replaced the paper, which usually fell into the river or on the ground, and waited again for dry paper was less attractive to the skippers. Although butterflies investigated paper treated with rain water, they flew off after extending their proboscises. Other liquids, such as urine and sweetened soft drinks, did not work as well as paper. Inside the forest, the paper attracted butterflies even if no ants were present, although with less success. Along river banks, they were effective whenever skipper butterflies were in the area.

Although skippers may use olfactory and/or auditory cues generated by the ants, their prey, and/or the anthills to find and swarm, they appear to locate bird droppings, or their "mines" (the pieces of paper) visually, as shown at the river banks, where no ants or swarms have been observed.


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LITERATURE CITED


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