

OVIPOSITIONAL RESPONSE OF *EUREMA NICIPPE* (PIERIDAE) TO
PHYLLANTHUS TENELLUS (EUPHORBIACEAE)

The host plants for *Eurema* spp. are mostly members of the legume subfamilies Mimosoidae and Caesalpinoidae. Most of the other members of the pierid subfamily Coliadinae feed on other plants in the legume family (Fabaceae) (Howe 1975, The butterflies of North America, Doubleday, New York). All records associated with *Eurema* larvae in the collection at the University of Florida are for various species of *Cassia* (Caesalpinoidae) (Habeck, unpubl. data). Thus I was surprised to observe adult female *Eurema nicippe* (Cramer) alight in a dense patch of the exotic Euphorbiaceae *Phyllanthus tenellus* Roxb. and display what appeared to be ovipositional behavior. During a three-hour period (0930–1230 h) on 7 October 1985 near Gainesville, Florida, I observed 46 instances of this behavior; I expected to find eggs on the *Phyllanthus* stems visited by the butterflies, and actually found 6 eggs. These were kept in petri dishes with fresh *Phyllanthus*; hatching larvae did not feed and wandered around the dishes. When offered leaves of *Cassia chamaecrista* L. (partridge-pea) three days later they immediately began feeding.

The leaves and growth form of *Phyllanthus tenellus*, a frequent weed of moist, shaded disturbed ground, strikingly resemble a usual host plant in northern Florida, *Cassia chamaecrista* (pers. observ. and Kimball 1965, The Lepidoptera of Florida, Division of Plant Industry, Florida). *Cassia chamaecrista* has pinately compound leaves, while the small leaves of *Phyllanthus tenellus* are closely arranged in a single plane along elongate side branchlets. This suggests that *E. nicippe* locates its host plant first by sight, but that because oviposition is infrequent on this incorrect host plant, secondary chemotactic responses are involved.

Another common host of *Eurema* spp. (including *E. nicippe*) in Florida is *Aeschynomene americana* L. (joint vetch), also a legume, but a distant relative of *Cassia*. Few of the other legume species are used by *Eurema* spp. The morphology of *A. americana* also strongly resembles that of *Cassia chamaecrista*. I propose that *Aeschynomene* has become a regular host plant of *Eurema* because of continued ovipositional mistakes on this common plant, and the taxonomic relatedness of *Aeschynomene* and *Cassia*. Could *Phyllanthus* eventually become a host plant for *Eurema nicippe*? If taxonomic relatedness is necessary for host switching to occur, probably not. But if biochemical similarity or an altered detoxifying system are possible, then host switching across wider taxonomic barriers might occur. If not, an improved host recognition in *Eurema* butterflies should evolve.

Within the genus *Cassia* there is a great variety of leaf morphologies. This diversity in leaf morphology could have evolved in response to the several genera and many species of *Cassia*-feeding pierids that rely on visual clues for host finding.

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