

- PLATT, A. P. & J. C. GREENFIELD, JR. 1971. Inter-specific hybridization between *Limenitis arthemis astyanax* and *L. archippus* (Nymphalidae). *J. Lepid. Soc.* 24: 278-284.
- REMINGTON, C. L. 1958. Genetics of populations of Lepidoptera. *Proc. Tenth Int. Congr. Entomol.* 2: 787-805.
- . 1968. Suture-zones of hybrid interaction between recently joined biotas. *Evol. Biol.* 2: 321-428.
- SCUDDER, S. H. 1889. The butterflies of the eastern United States and Canada, with special reference to New England. Vol. 1. Publ. by the author, Cambridge, Mass. pp. 250-305.
- SHAPIRO, A. M. & J. D. BIGGS. 1968. A hybrid *Limenitis* from New York. *J. Res. Lepid.* 7: 149-152.
- SIMPSON, R. G. & D. PETTUS. 1976. Records of *Limenitis* hybrids from Colorado. *J. Res. Lepid.* 15(3): 163-168.

Journal of the Lepidopterists' Society
32(4), 1978, 303-304

TAENIDIA INTEGERRIMA, A NEW FOODPLANT RECORD FOR
PAPILIO POLYXENES (PAPILIONIDAE)

Host plants recorded for the larval stages of *Papilio polyxenes* Fabricius include a wide variety of species in the family Umbelliferae. Although the dominant foodplants in the northeastern United States are plants naturalized from Europe, e.g., *Daucus carota* Linnaeus and *Anethum graveolens* L. (Tyler, 1975, The Swallowtail Butterflies of North America, Naturegraph Publishers, Heraldsburg, CA), a number of endemic species have been documented as foodplants. Tietz (1972, An Index to the Described Life Histories, Early Stages, and Hosts of the Macrolepidoptera of the Continental United States and Canada, A. C. Allen, Sarasota, FL) lists *Cicuta bulbifera* L., *Cicuta maculata* L., *Angelica atropurpurea* L., *Osmorhiza claytoni* (Michx.), *Osmorhiza longistylis* (Torr.), *Oxypolis filiformis* (L.), *Spermolepis divaricata* (L.), *Ptilimnium capillaceum* (Michx.), and *Sium suave* Walt. among the native umbellifers; *Cryptotaenia canadensis* (L.) has recently been reported as a foodplant as well (Scriber and Finke, 1978, *J. Lepid. Soc.* 32: 236-238). The majority of these species are characteristically found in rich damp woods (*Osmorhiza* spp.) or wet thickets and swamps.

The native umbellifer *Taenidia integerrima* (L.) Drude (yellow pimpernel), hitherto unrecorded as a host plant for *P. polyxenes* but reported as a host plant of the recently described sibling species *P. joanae* (Heitzman, 1973, *J. Res. Lepid.* 12: 1-10), is a plant of dry, gravelly slopes and rocky hillsides (Fernald, 1950, *Gray's Manual of Botany*, 8th ed., American Book Co., NY). On June 22, 1977, one fifth instar larva of *P. polyxenes* was found feeding in a patch of *T. integerrima* growing on a dry, exposed slope bordering a road which cuts through Coy Glen, a forested area 3 km west of Ithaca, Tompkins Co., New York. Two additional fifth instar caterpillars were found in the same patch two days later. All three caterpillars were collected and reared to pupation on *T. integerrima* collected from the Coy Glen site. Pupation was virtually synchronous on June 24, 1977, indicating that the caterpillars may have developed from eggs laid at approximately the same time, possibly by a single female. On July 2, 1977, one adult male ichneumonid, *Trogus pennator* (Fabr.), a well-known parasitoid of *P. polyxenes* (Heinrich, 1964, *Canad. Ent. Suppl.* 29: 807-853), emerged from each of the three pupae.

Scriber (1975, doctoral dissertation, Cornell University) reports that, under laboratory conditions, *T. integerrima* supports the growth of *P. polyxenes* as well as (or better than) most of its commoner foodplants. Moreover, females confined over the plant oviposit freely on it (M. Berenbaum and M. Rausher, pers. obs.). The dearth of records for *P. polyxenes* on yellow pimpernel in the wild is therefore intriguing. Habitat unsuitability might be one explanation. *P. polyxenes* does not normally fly in deep woods (Tyler, 1975, *op. cit.*), where *T. integerrima* is found, and thus is not likely to encounter the plant. In this particular instance, the plants were growing along a road cut through thick woods approximately 0.4 km from an open field supporting a luxuriant growth of *Conium maculatum*, a well-documented host plant for *P. polyxenes* (Tietz, 1972, *op. cit.*). Road cuts are known to act as flyways for *P. polyxenes* (Heitzman, 1973, *op. cit.*) and, in this case, might have directed an ovipositing female out of open field habitat into deep woods, where she might otherwise not fly.

Especially interesting with respect to these findings are two other reports of *P. polyxenes* on plants in heavily wooded areas. Scriber and Finke (1978, *op. cit.*) observed an oviposition on *Cryptotaenia canadensis* growing in a narrow wooded strip in an otherwise open residential area, and Rehr (1973, *J. Lep. Soc.* 27: 237-238) reported the occurrence of *P. polyxenes* larvae on another deepwoods plant, *Thaspium barbinode* (Michx.), which was growing along a road cut on a dry bank. *T. barbinode*, like *Taenidia integerrima*, is a purported host of the newly described *P. joanae* (Tyler, 1973, *op. cit.*). In view of the ability of *P. polyxenes* to exploit both *P. joanae* hostplants and habitat, and given the enormous variability in both larval and adult coloration within the species (M. Berenbaum, W. Blau, L. Contardo and P. P. Feeny, pers. obs.), it might well be premature to assign species status to *P. joanae* without first examining the extent to which habitat has contributed to reproductive isolation in areas where *P. joanae* is reported to occur.

I thank Ken Sandlan of the Cornell University Entomology Department for identifying the ichneumonids (deposited along with the *P. polyxenes* chrysalids in Cornell University Collection Lot 1023, Sublot 41a) and W. Blau and P. P. Feeny of the Department of Ecology and Systematics at Cornell for confirming the identification of the caterpillars. This work was supported in part by N.S.F. Research Grant DEB 76-20114 A01 to P. P. Feeny.

M. BERENBAUM, *Department of Entomology, 110 Insectary, Cornell University, Ithaca, NY 14853*

MID-VALVAL FLEXION IN THE LEFT VALVA OF ASYMMETRIC GENITALIA OF *ERYNNIS* (HESPERIIDAE)

The left and right sides of *Erynnis* (*Erynnides*) Burns genitalia often differ grossly in shape (Burns, 1964, *Univ. Calif. Pub. Entomol.* 34). On a hilltop at Red Rocks, Jefferson Co., Colorado on 21 June 1973, I noticed that the male of a copulating pair of *E. pacuvius* (Lintner) seemed to squeeze the female's abdomen repeatedly with his valvae for several minutes before copulation ended. A copulating pair of *E. persius* (Scudder) was then found, and was observed more closely. Mating lasted 38 minutes, and during the last 25 min. at least, the male scraped his left valva