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OBSERVATIONS ON FOODPLANT RECORDS FOR *PAPILIO GLAUCUS* (PAPILIONIDAE)

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Numerous investigators have contributed to a large body of diverse data regarding the choice of ovipositional sites and larval foodplant records for the *Papilio glaucus* L. group of swallowtails. These data have been compiled and summarized by Brower (1958). The field observations described herein were made during the summers of 1968–1971. These observations add still another family of plants to the list of known ovipositional choices for *Papilio glaucus*, the Eastern Tiger Swallowtail, and clarify the records for two genera of plants found in communities associated with populations of *P. glaucus* in southwestern Virginia.

During the summers of 1968–1970 more than 12 observations of oviposition were noted on *Prunus serotina* Ehrhart (Wild Cherry) in Giles and Montgomery Counties, Virginia. Other observations during this time include 6 larvae collected from *P. serotina*. Although *Prunus virginiana* L. (Choke Cherry) is found in the same locality, larvae reared in the laboratory, when given a choice, rejected *P. virginiana* in favor of *P. serotina*. In this test two groups of second instar larvae (10 progeny from each of two females) were placed in rearing dishes containing both species of *Prunus*. During the subsequent 48-hour period no feeding damage was observed on *P. virginiana*. However, the larvae moved about freely and were observed to feed on *P. serotina*. Assuming that these plants are equally acceptable one would expect feeding damage to have occurred on *P. virginiana* and that the larvae would be distributed equally among the two plant species. These observations (20 on *P. serotina*: 0 on *P. virginiana*) differ significantly from the expected (chi-square test).

In contrast, larvae of *P. glaucus* readily fed on both *Magnolia acuminata*

L. (Cucumber-Tree) and *P. serotina* when both plants were placed in the same dish. Similarly, observations regarding the ovipositional behavior of *P. glaucus* have also been made on *M. acuminata.* On two occasions in the field, females displayed apparent oviposition on this species; moreover, one of the butterflies appeared to have laid at least 10 eggs in various parts of the tree. Because these butterflies chose the uppermost branches, it was impossible to determine that eggs had actually been deposited. However, during these observations, the entire sequence of ovipositional behavior was normal. Additional evidence that *M. acuminata* is an acceptable foodplant comes from one of the author's (MPL) laboratory studies. In the course of rearing *P. glaucus, M. acuminata* was frequently used to elicit oviposition and larvae were reared successfully on this deciduous tree.

Clark & Clark (1951) indicate that *Magnolia* is a favorite food-plant for *P. glaucus* in the southeast; however, neither they nor Brower (1958) identifies the species of *Magnolia.* This seems to be a fairly important gap in the data for many magnolias are evergreens, while *P. glaucus* feeds on deciduous trees. The Cucumber-Tree, *M. acuminata,* is a deciduous tree and seems to fall into the general feeding pattern of *P. glaucus.*

During the summer of 1971 one of the authors (MAA) brought a larva into the laboratory from the wild. It was assumed that the larva was *P. cresphontes* Cramer because it had been located on the hop tree, *Ptelea trifoliata* L. (Rutaceae). Subsequently the authors verified that this was a fourth instar larva of *P. glaucus.* A systematic search of *Ptelea* at the same site, the Sinking Creek area in the vicinity of State Route 700 (Giles Co., Virginia), failed to locate other *P. glaucus* larvae. Further, species of plants which are known to be acceptable ovipositional sites for *P. glaucus* larvae were absent from this locality. Orange dog larvae of *P. cresphontes,* however, were found repeatedly.

A second locality, Spruce Run Valley (Giles Co., Virginia), was also examined to determine the relative frequency of *Ptelea*-feeding. *Ptelea* is abundant along the mouth of this creek; most of the plants are saplings and can be examined rather carefully. Again one *P. glaucus* larva (fourth instar) was collected from *Ptelea.* This larva was also taken to the laboratory and reared on *Ptelea.* One additional case of a *P. glaucus* larva on *Ptelea* has been observed (D.A. West, pers. comm.). It seems unlikely that the occurrence of either of the larvae discovered by the authors could be due to larval migration. The second larva, like the first, was in an area lacking known and suitable ovipositional sites. Finally, in order to obtain some additional information, two *P. glaucus* larvae (both in the third instar) collected from *P. serotina* were transferred to *Ptelea* in the laboratory. All four *P. glaucus* larvae appeared to develop normally and typical prepupal behavior was observed. The four larvae pupated; of these, one died and three are presently in diapause.

As reported in the literature (Dethier, 1937, 1941, 1953; Hamamura, 1959; Thorsteinson, 1958, 1960), lepidopterous larvae often require specific stimuli to elicit feeding. Moreover, unsatisfactory food plants, those lacking appropriate chemotactic or gustatory stimuli, or possessing repellants, are frequently rejected; thus *P. trifoliata* seems to provide the necessary "token stimulus" and nutritional value for the development of *P. glaucus* larvae. Yet, it seems that the apparent use of *P. trifoliata* as an ovipositional site is not particularly frequent for our extensive search for larvae produced only two. It is probable that the apparent use of these plants as an ovipositional choice is of relatively recent origin since the observations of *P. glaucus* on numerous other deciduous trees has not escaped observation (Brower, 1958; Clark & Clark, 1951). Nevertheless, in this part of Virginia some females may use *Ptelea* on a regular basis, for the trees are found scattered throughout the valleys of Giles and Montgomery Counties, Virginia.

At this time no conclusions can be reached as to the significance of the *Ptelea*-feeding observations. The nature of the foodplant preferences, i.e. whether they are induced or hereditary (Jermy et al., 1968), cannot be determined without observations from carefully controlled experiments. As Jermy et al. (1968) point out, the use of field-collected larval populations for analyses of feeding preferences may result in faulty conclusions. Thus it would seem that further field observations should be undertaken and that a clarification of the alternative hypotheses for foodplant preferences is warranted.

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THE LARVA OF *CHAMYRIS CERINTHA* (TREITSCHKE) (NOCTUIDAE)

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The larva of *Chamyris cerintha* (Treitschke) previously was described by Coquillett (1881), Forbes (1954), and Crumb (1956). In all instances, the descriptions primarily dealt with general body structure and color. The notes and illustrations in this paper are designed to describe the caterpillar of *C. cerintha* more thoroughly, especially in respect to the mouthparts and chaetotaxy. This is done to further document morphological structures of the larvae of the Noctuidae that I think are of key taxonomic importance, as briefly explained earlier (Godfrey, 1971). In addition, a habitus drawing of the caterpillar (Fig. 1) is provided to facilitate identification of the species.

The illustrations were drawn to scale by a grid system. The scale lines represent 0.5 mm for all figures unless designated differently. The terminology and abbreviations are consistent with those used earlier (Godfrey, 1970).

General. Head about 2.5 mm wide. Total length about 32 mm. Abdominal prolegs present on third through sixth segments. Head smooth. Body extensively covered with minute granules. Dorsal abdominal setae simple, very long. Dorsal setae on seventh abdominal segment 6–10 times height of seventh abdominal spiracle; setae on eighth segment 19 times height of spiracle on seventh segment. Dorsal setae on abdominal segments eight and nine borne on distinct tubercles.

Head (Fig. 2). Epicranial suture 1.6 times longer than height of frons. Distance from frontal seta (F-1) to frontoclypeal suture 0.5 times distance between F-1's. Adfrontal puncture (AFa) and second adfrontal seta (AF-2) posterior to apex of frons. Anterior setae (A 1-3) forming obtuse angle. Lateral seta (L) slightly caudal