

CONFIRMATION OF A DISPUTED FOODPLANT OF
PAPILIO GLAUCUS (PAPILIONIDAE)

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Although reported as a polyphagous species, feeding on more than 13 families, 21 genera, and 34 species of plants, *Papilio glaucus* L. does appear to have different foodplant preferences in different regions over its range (Brower, 1958; Remington, 1968).

Because foodplant records in the literature are frequently suspect (Brower, 1958; Shields, Emmel, & Breedlove, 1970), I feel it important to verify a single, very early observation by Sir John Abbot, who recorded *P. glaucus* feeding on hop tree, *Ptelea trifoliata* (Rutaceae). This observation was made in Georgia and was reported in his manuscripts (Abbot, 1792–1804), which have been cited by Boisduval & LeConte (1833), D'Urban (1857) and Scudder (1889). I have been unable to find any other recorded observations of *P. glaucus* on *Ptelea*.

My observation was made on 5 July 1971, in the Cornell Plantations near Ithaca, New York. A very early second instar larva was found resting on a leaflet approximately six feet off the ground. This larva was taken back to the laboratory and reared for positive identification through all of its stadia on leaves from this plant. This wafer ash (hop tree) is in the open and is maintained as part of the Plantation.

Within the rest of the *P. glaucus* group, Kendall (1957, 1964) reported finding *Papilio multicaudatus* Kirby larvae on *Ptelea trifoliata* in Texas, confirming Behr's (1884) observation in California. Comstock (1927) reported *Ptelea baldwinii* as a foodplant for *Papilio rutulus* Boisduval in California. This hop tree has been incorrectly interpreted as 'hop' (*Humulus*) since that time (see Brower, 1958), and perhaps such confusion is responsible also for the rather unlikely records of *P. glaucus* feeding on *Humulus lupulus* (e.g. Scudder, 1889; Teitz, 1952). Possibly the 'ash,' *Fraxinus trifoliata*, referred to by Couper (1874) as a foodplant of *P. glaucus*, was also in reality the wafer ash, *Ptelea trifoliata*.

I feel that my observation of *P. glaucus* on Rutaceae is interesting from the standpoint of the 'synergistic co-evolution' of the Papilionidae and their foodplants (Slansky, in press). Unlike related smooth, green, eye-spotted larvae in Asia (*Papilio bianor* Cram. group) which feed on Rutaceae (Jordan, 1908), the *P. glaucus* group and the *Papilio troilus* L. group are both believed to have arisen in the New World and to have

fed originally on Lauraceae and Magnoliaceae before expanding their foodplant diets (Forbes, 1932, 1958; Munroe, 1960).

Having both the essential oils of the Umbelliferae and the alkaloids of the Aristolochiaceae and Magnoliales (including Magnoliaceae, Lauraceae, and Annonaceae), the Rutaceae seem to have played a key role in much of the co-evolution of the Papilionidae and their foodplants (Dethier, 1941; Ehrlich & Raven, 1965). Whether or not this *P. glaucus*-Rutaceae interaction is some relic from the phylogenetic past of *P. glaucus*, or a secondary consequence of its polyphagous habit, is unknown.

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