

## A CASE OF ALBINISM IN EPHEMEROPTERA<sup>1,2</sup>

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**ABSTRACT:** A large sample of several hundred *Hexagenia bilineata* adults from Lake Blackshear, Georgia, yielded one female albino. This is the first reported case of albinism in the order Ephemeroptera.

An albino adult female of the burrowing mayfly *Hexagenia bilineata* (Say) was collected from Georgia: Sumter Co., Marina on Lake Blackshear at Hwy. 280, VIII-19-1983. The abnormal individual was taken with a sample of several hundred normal individuals of the same species. The albino differed from the remainder of this population only in color. *Hexagenia bilineata* is a highly distinct, relatively dark, well-patterned species of Ephemeridae. It possesses black eyes, extensive brown to black body maculation, anterior and discal crossveins in the fore and hind wings broadly marginated with brown to black infuscation, and a diffuse band of color (ranging from brown to purplish black) along the distal margin of the hind wing (Spieth 1941). Our albinic specimen is totally devoid of pigment throughout the body, head (including compound eyes), legs, and caudal filaments. Its wings show the only indication of any pigments, with veins ranging from white to light yellow-tan and a light infuscation at the distal margin of the hind wing. The wing membrane is clear and crossveins are not marginated.

True albinism is rare among Insecta in general. Full or partial albinic mutants and variants, however, continue to be reported in the Lepidoptera (e.g., Gall and Schweitzer 1983, Shapiro 1977) and have been well-documented in some Orthoptera species (e.g., Chamberlain 1982, Dearn 1977). Albinism has been very rarely reported in Coleoptera and Hemiptera. Although albinism is presumed or demonstrated to be genetically based, there is some evidence of pathological induced albinism, at least in some Lepidoptera (Sellier 1978).

To the best of our knowledge this report represents the first known case of albinism in mayflies. Our discussions with other ephemeropterists confirm this. The basis of this albinism is unknown, but may be an individual genetic abnormality, obviously occurring with little frequency. It is not related to postembryonic ecdysial events. Although mayflies are

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often temporarily colorless as larvae immediately after each larval ecdysis, adult color patterns are set to a certain degree even prior to emergence from the subimago, with little molt-related variation. We have never seen a white, white-eyed "teneral" adult.

## LITERATURE CITED

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The following Opinions have been published by the International Commission on Zoological Nomenclature in the *Bulletin of Zoological Nomenclature*, volume 42, part 1, on 2 April, 1985:

*Opinion No.*

- 1288 (p. 17) *Sphinx tipuliformis* Clerck, 1759 (Insecta, Lepidoptera): conserved.
- 1290 (p. 21) *Leptinotarsa* Chevrollet, 1837 (Insecta, Coleoptera): conserved.
- 1293 (p. 29) *Scolia quinquecincta* Fabricius, 1793 is the type species of *Heterelis* Costa, 1887 (Insecta, Hymenoptera).
- 1297 (p. 39) *Xenocrepis pura* Mayr, 1904 designated as type species of *Xenocrepis* Foerster, 1856 (Insecta, Hymenoptera).

## Direction 116

- (p. 41) PAPILIONIDAE Latreille, [1802] (Insecta, Lepidoptera): revision of Official List entry.

The Commission regrets that it cannot supply separates of Opinions.

R.V. MELVILLE, Secretary