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ABERRANT WING PIGMENTATION IN *LIBELLULA LUCTUOSA*
SPECIMENS FROM OHIOEric G. Chapman¹, Stephen W. Chordas III² and Robert C. Glotzhober³

ABSTRACT

Over the past few years we obtained three female *Libellula luctuosa* specimens, all collected in northeast Ohio, which exhibited unusually reduced wing pigmentation. The individuals were extremely difficult to identify as most keys rely heavily upon wing pigmentation for identification of many *Libellula* species. A description of this aberrant wing pigmentation and a photograph are provided.

As most odonate enthusiasts know, the Widow Skimmer (*Libellula luctuosa* Burmeister 1839) is a common (often abundant) species found around lentic habitats throughout much of North America. It can often be immediately recognized in the field by the distinctive large black band covering the basal portion of the wings. Most keys rely largely upon this characteristic to separate *L. luctuosa* from other *Libellula* species. Needham and Westfall (1955) separates *L. luctuosa* in the first couplet by stating "basal third of both fore and hind wings covered full width by blackish band; wing tips clear." An example of this typical *L. luctuosa* wing pattern is illustrated in Figure 1. Until recently, these characteristics, although sometimes slightly to highly variable, usually worked for us to identify Ohio *L. luctuosa* specimens.

During the latter part of 1996 and again in 1997, we collected a total of three female *L. luctuosa* specimens (all from northeast Ohio) that had remarkably aberrant wing pigmentation patterns. These specimens were nearly devoid of the black basal wing band and had distinctively darkened wing tips (Figure 2). This pigmentation is almost opposite of the key characteristics as stated in Needham and Westfall (1955) and we had great difficulty identifying the specimens using this key. We have found that it is not uncommon to find female *L. luctuosa* specimens with a faint to distinctive darkening at the wing tips, but never before had we observed any Ohio specimens in which the basal black bands were mostly absent. We tentatively identified the specimens as *L. luctuosa* strictly based on characteristics listed in the *Libellula* adult measurements table of Needham and Westfall (1955). We then sent the specimens to Sidney Dunkle (Collin County Community College, Plano, Texas) who verified their identification as *L. luctuosa* and stated that the specimens had the least amount of basal wing pigmentation that he had ever seen for this species.

A few points stand out about these specimens. They are not teneral individuals, suggesting that their wing pigmentation (Figure 2) represents their

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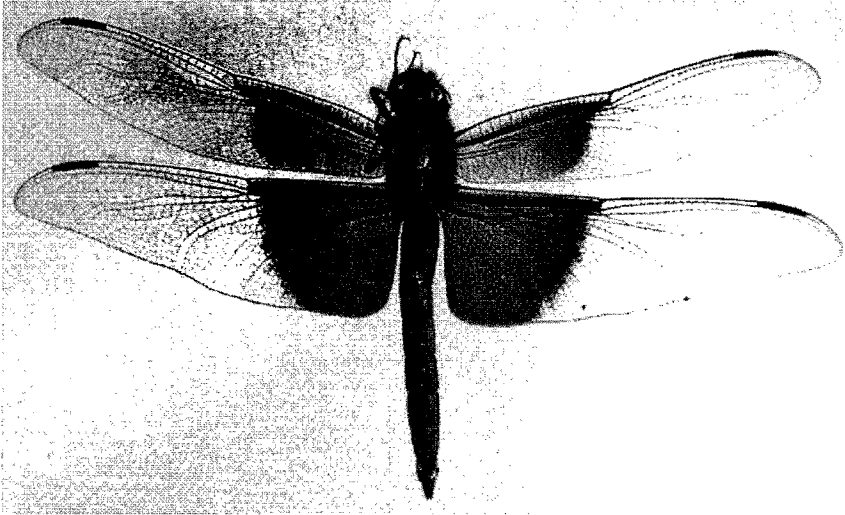


Figure 1. *Libellula luctuosa* specimen with typical wing pigmentation, collected from Stark County, Ohio, July 1990.

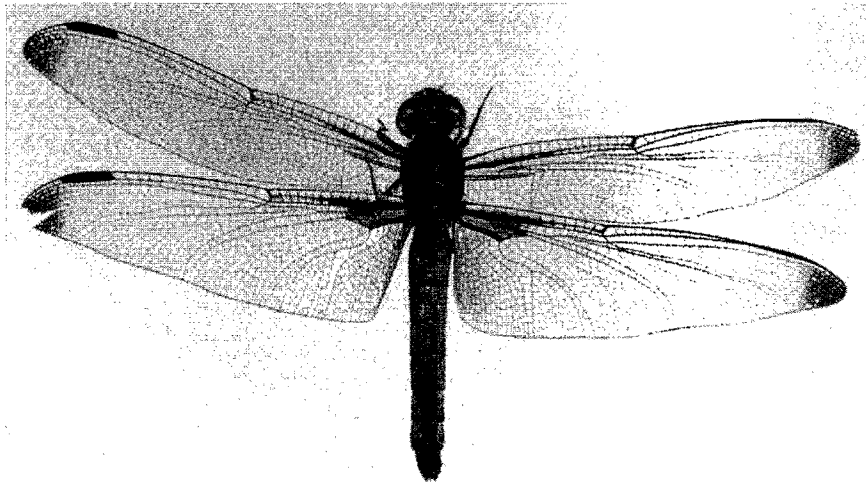


Figure 2. *Libellula luctuosa* specimen with aberrant wing pigmentation, collected from Mahoning County, Ohio, September 1996.

Table 1. Collection and repository information of the aberrant *L. luctuosa* specimens.

State / County / Township	Date / Collector	Collection location	Repository
Ohio / Mahoning / Smith	1-September-1996 / Eric Chapman	Lake Park State Wildlife Area, off Lake Park Road : N40 55'08" : 81 04'32"	Private collection of Eric Chapman
Ohio / Columbiana / Franklin	1-September-1996 / Steve W. Chordas III	Nancy Run off Foundry Hill Road, 1.5 km south of Yellow Creek Church Road : N40 39'58" : W80 51'38"	Arkansas State University Museum of Zoology (ASUMZ)
Ohio / Lake / Concord	30-August-1997 / Ed Binic	Girdled Road Reservation, Lake Metroparks : N41 38'54" : W81 10'32"	Ohio Historical Society Collections

mature wing pattern, they are all female and two of the three specimens were collected on the same day approximately 40 km apart (in northeast Ohio) (Table 1). These individuals are obviously very uncommon but represent such a large deviation from the normal wing patterns, which are often used as the sole key character for specific identification, that they merit reporting here.

ACKNOWLEDGMENTS

We thank Sidney Dunkel for verifying the identification of our aberrant specimens and for providing valuable input concerning the variability of wing patterns in *L. luctuosa*. We thank Janna M. Thompson (Janna Thompson Designs, Columbus, Ohio) for her computer graphic expertise used in digitally producing the wing pigmentation figures. Finally we thank the Ohio Division of Wildlife and their wildlife diversity and endangered species program for supporting the Odonata of Ohio project (conducted by the Ohio Odonata Society), through which the aberrant specimens were obtained.

LITERATURE CITED

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