

**STATUS OF *PHILOGENIA LEONORA* WESTFALL & CUMMING
(ZYGOPTERA: MEGAPODAGRIONIDAE)**

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P. leonora has recently been considered a junior synonym of *P. championi* Calvert (M.L. MAY, 1979, *Cuad Cienc., Panama* 1: 1-52; G.H. BICK & J.C. BICK, 1988, *Odonatologica* 17: 9-32). In this note marked differences in the male caudal appendages of these 2 taxa are illustrated, and *leonora* is resurrected as a valid sp.

INTRODUCTION

WESTFALL & CUMMING (1956) described *Philogenia leonora* based on two males collected on Barro Colorado Island, Panama. They compared the new species to *P. carrillica* Calvert but not explicitly to other related species. MAY (1979), however, indicated that *leonora* is synonymous with *championi*, a species known from the western highlands of Panama and from adjacent Costa Rica; this opinion was based on a personal communication from M.J. Westfall. BICK & BICK (1988) followed MAY (1979) in relegating *leonora* to synonymy. However, S.W. Dunkle (pers. comm., 1985) studied specimens of both taxa and concluded that they are distinct. Further examination, including the holotypes of both species, has convinced me that his opinion is correct, and here I illustrate the diagnostic distinctions between males of these species (the female of *championi* is undescribed).

DIFFERENTIATION OF *P. LEONORA* FROM *P. CHAMPIONI*

The two species are generally similar in coloration (CALVERT, 1901-1908; WESTFALL & CUMMING, 1956), and both become quite dark and develop

extensive pruinescence with age. Also, the penes are similar and, in common with other members of the genus, offer no diagnostic characters. As with most male *Philogenia*, the principal differences are in the male caudal appendages, as illustrated in Figure 1. The most striking feature of *leonora* is the abrupt, 90° upward bend of each inferior appendage just anterior to its apex; this appears to be unique within the genus, although several other species display a much more gradual upward curve (CALVERT, 1924; BICK & BICK, 1988). Also, these appendages in *leonora* have the finger-like terminal process much shorter than in *championi* and directed dorsally rather than caudally. In profile the superior appendages of *leonora* are shorter and much more strongly tapered than those of *championi*, while in dorsal view they appear more rounded at the apex and have a less pronounced medial prominence.

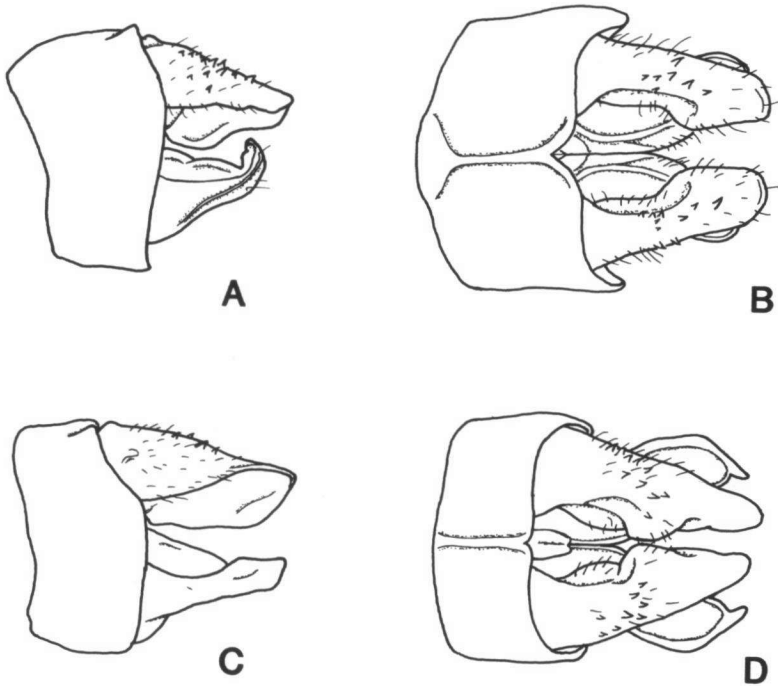


Fig. 1. Lateral and dorsal views of male caudal appendages and 10th abdominal segment: (A, B) *Philogenia leonora*; — (C, D) *P. championi*.

The distinctive characters noted above apparently are subject to little variation. They are as illustrated (Fig. 1B) in two specimens of *championi* from Costa Rica, Puntarenas Prov., San Vito, in my collection and the Florida State Collection of Arthropods; the holotype, in the British Museum, Natural History, and the other

specimens illustrated by CALVERT (1902-1908, 1924), are essentially similar, although in the holotype the ventroapical corner of each superior appendage is slightly more angular and the outer margin of each inferior appendage is bent more sharply, causing the terminal process to project slightly more mediad. A series of 17 male specimens of *leonora*, including the holotype, all from Panama, Barro Colorado Island, were likewise virtually identical in the form of their appendages (Fig. 1A).

On this basis I conclude that *leonora* is a valid species. It keys to *championi* in the key to males of BICK & BICK (1988). The latter is easily modified to accommodate *leonora* as follows:

- 3 In ventral view, distal halves of inferior appendages convergent; in lateral view, inferior with a small, subapical tooth *terraba*
 3' Without the above combination of characters 3A
 3A In lateral view, inferior appendage bent 90° upward just anterior to apex *leonora*
 3A' Inferior appendages not bent sharply upward, at most curving gradually upward apically 4

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