

***PRCTONEURA DUNKLEI* SPEC. NOV.
FROM THE DOMINICAN REPUBLIC, WEST INDIES
(ZYGOPTERA: PROTONEURIDAE)**

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P. dunklei sp. n. (holotype ♂ in tandem with allotype ♀: Dominican Republic, La Vega Province, Arroyo Ana Marie, 8-VI-1989; deposited in the Florida State Collection of Arthropods, Gainesville) is described and compared with its close relative, *P. sanguinipes* Westfall.

INTRODUCTION

In 1964 WESTFALL recorded *Protoneura viridis* from the Dominican Republic and in 1987 he described the endemic *P. sanguinipes*. Here, I describe a third species which brings the total number of Hispaniolan protoneurids to three. The larva is unknown.

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Figures 1-4

Material. — **Holotype** ♂ (No. 1): Dominican Republic, La Vega Province, Arroyo Ana Marie, 10.9 km SW of Autopiste Duarte on road to Jarabacoa, on grounds of "Centro Vacacional Turisto Racquet Club" about 0.7 km N of entrance, 8 June 1989, Jerrell J. Daigle (JJD) leg.; — **Allotype** ♀ (No. 2): taken in tandem with holotype; — **Paratypes** (26 ♂, 12 ♀): same data as holotype, 5 ♂, 5 ♀ (Nos 3-12), — same data as holotype but 9 June 1989, 20 ♂, 4 ♀ (Nos 13-36) JJD or Sidney W. Dunkle (SWD) leg.; — stream 5.0km SE of Jarabacoa on road to Constanza, La Vega Province, 29 May 1989, 3 ♀ (Nos 37-39), JJD leg.; — 1 ♂ (No. 40) Dajabon Province, Villa Anacaono, 3 June 1986, R. Miller & L. Stange leg. (formerly *P. sanguinipes* paratype No. 798).

The holotype, allotype, and paratype No. 40 are deposited in the Florida State Collection of Arthropods (FSCA) in Gainesville, Florida. Paratypes Nos 3-4 are in the U.S. National Museum. The remaining paratypes are in the collections of Jerrell J. Daigle and Sidney W. Dunkle.

Etymology. — The species is named for Dr Sidney W. Dunkle in honor of his extensive contributions to the knowledge of Odonata.

MALE (holotype). — Head: Eyes in life blue dorsally, green ventrally. Top of head entirely metallic purple; anterior surface of frons, anteclypeus, genae, postclypeus, and labrum dark purple; labium light tan; rear of head black.

Thorax: Prothorax metallic purple; mesothorax metallic purple, metathorax bright yellow with upper half of metepisternum and wide stripe on metapleural suture metallic purple; a black line between metacoxae becoming broader and bifurcating posteriorly on venter of metathorax, overlaid with white pruinosity.

Legs. — Coxae purple; femora black with apical red ring on mesofemora and metafemora; tibia red, black externally, armature black.

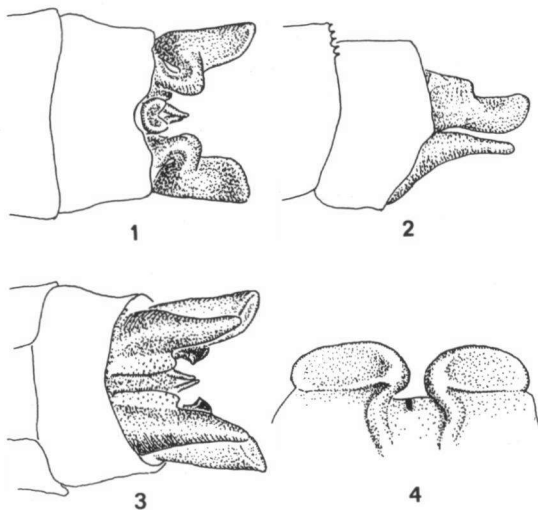
Wings. — Similar to *P. sanguinipes*. 14 postnodal crossveins in forewings, 12 in hind with the 12th not continuous to M1. Pterostigma and veins dark brown.

Abdomen: Metallic black with dull yellow lateral areas on 1-6, decreasing posteriorly, and with obscure pale basal rings on 3-7; 7 and 8 darker becoming yellow white ventrally; 9 black with two dorsal, small basal plum spots; 10 similar to 9 with only one small pale basal spot.

Cerci (Figs 1-3) similar to *P. sanguinipes*. Viewed dorsally, black cerci broad at base with small, membranous purple area (Fig. 1); cerci diverging the same as paraprocts with a large decumbent medial tooth; viewed laterally, cerci constricted at about half their length, apical half about twice as long as high, convex (Fig. 2); hollowed out medially; conical paraprocts gradually tapering to blunt tip (Fig. 3).

Measurements (mm): Total length including cerci 38.0, abdomen 33.0, and hindwing 20.0.

FEMALE (allotype). — Head: Eyes in life black dorsally, green ventrally. Top of head as in holotype, except metallic red replacing metallic purple, and with yellow band across front of frons connecting with yellow genae. — Prothorax:



Figs 1-4. *Protoneura dunklei* sp. n.: (1) Abdominal segment 10 and caudal appendages of holotype male in dorsal view; — (2) Same in left lateral view; — (3) Same in ventral view; — (4) mesostigmal plates of a paratype female in dorsal view.

metallic green. — Synthorax: coloration as in holotype except metallic green replacing metallic purple; lateral tips of mesostigmal plates yellow, mesostigmal plates elongate-oval, and elevated, especially so medially (Fig. 4). — Legs: Dull yellow except black extensor surface of femora, distal flexor surfaces of femora, and flexor surfaces of tibiae. — Abdomen: As in holotype but with more extensive yellow on 8, 9, and ovipositor. — Wings: As in holotype except 13 postnodal crossveins in forewings, 11 in hindwings.

Measurements (mm): Total length including cerci 36.0, abdomen 30.0, and hindwing 22.0.

VARIATION AMONG PARATYPES. — The paratypes are similar to the holotype and allotype. The total length of ♂ ranges from 38-39, ♀ 36-37; abdomen of ♂ 32-33, ♀ 30-31; hindwing of ♂ 19-20, ♀ 22. Postnodal crossveins of the forewing of ♂ 12-15, ♀ 13-14; hindwings of ♂ 11-12, ♀ 11-13.

COMPARISON WITH *PROTONEURA SANGUINIPES*

P. dunklei is most similar to *P. sanguinipes*, but is a larger and darker species. Males of the former are easily differentiated by their mostly purple thorax, mostly black abdominal segments 2 and 3, and mostly black femora. The respective areas in male *P. sanguinipes* are mostly metallic red. The apical half of the cerci is about twice as long as high in *P. dunklei*; in *P. sanguinipes*, this structure is shorter. The paraprocts of *P. dunklei* are stouter and linear. In *P. sanguinipes*, these structures are more acute and slightly sinuate. Females of these congeners are essentially identical in coloration. In female *P. dunklei*, the mesostigmal plates are distinctly farther apart (Fig. 4).

BIOLOGY

The habitat appears to be the seepage headwaters of small, forested montane streams. Males perched 10-12 feet high on the tips of leaves and branches of shrubs located in sunny openings along densely shaded streamsides. Tandem pairs hovered over muddy masses of fibrous roots near the water's edge but none was observed ovipositing. Other companion odonates were *Hypolestes clara* (Calv.), *Protoneura viridis* Westfall, and *Telebasis vulnerata* (Hag.). A few *Dythemis rufinervis* (Burm.) and a single male *Progomphus zephyrus* Needham were collected at the type locality. *P. sanguinipes* seems to be a lowland species and has not been collected with *P. dunklei*, although *P. viridis* occurs with both species.

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