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## THE FEMALE OF *PALTOTHEMIS CYANOSOMA* GARRISON (ODONATA:LIBELLULIDAE)

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**González-Soriano, E.** 2005. The female of *Paltothemis cyanosoma* Garrison (Odonata: Libellulidae). *Folia Entomol. Mex.*, 44 (Supl. 1): 107-110.

**ABSTRACT.** The female of *Paltothemis cyanosoma* Garrison is described and illustrated. A key to separate all species of *Paltothemis* is given.

**KEY WORDS:** Odonata, Anisoptera, Libellulidae, *Paltothemis cyanosoma*, female description.

**González-Soriano, E.** 2005. La hembra de *Paltothemis cyanosoma* Garrison (Odonata: Libellulidae). *Folia Entomol. Mex.*, 44 (Supl. 1): 107-110.

**RESUMEN.** Se describe e ilustra la hembra de *Paltothemis cyanosoma* Garrison. Se proporciona una clave para separar las especies conocidas de *Paltothemis*.

**PALABRAS CLAVE:** Odonata, Anisoptera, Libellulidae, *Paltothemis cyanosoma*, descripción de la hembra.

The genus *Paltothemis* Karsch has been included within the subfamily Trithemistinae (Bridges, 1993), although its taxonomic affinities within the group remain unclear. The genus has a particular distributional pattern with one widely distributed species: *P. lineatipes* Karsch (ranging from southwestern USA to Panama) and two species with restricted distributions: *P. cyanosoma* Garrison, a species apparently endemic to western Mexico, and *P. nicolae* Hellebuyck, a recently described species restricted to the highlands of El Salvador (Hellebuyck, 2002). *Paltothemis cyanosoma* is known from only a few specimens and from a few localities in Mexico (Garrison, 1973; González, 1993). In this paper I describe the unknown female sex of *P. cyanosoma* and

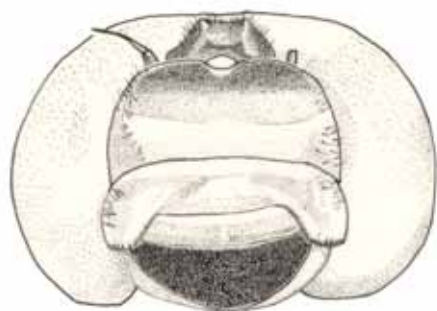
compare it with those of *P. lineatipes* and *P. nicolae*.

### DESCRIPTION OF THE FEMALE

#### *Paltothemis cyanosoma* Garrison

**Material:** MEXICO, Jalisco state: El Tuito, Mpio. Cabo Corrientes 2 ♀♀, 4 km N & 6 km E of El Tuito, on road to El Coale 20.34278 N 105 31888 W, 860 masl. 25/11/1990. E. González Soriano leg.

**Head.** Labium tawny, dark brown mesally; base of mandibles yellow, black anteapically, with red tips; labrum dark brown almost black, anteclypeus grayish, postclypeus olive green; frons tawny, dark brown at top (Fig. 1), dark color ex-



1



2

FIGURES 1-2. Head of *Palthotemis cyanosoma* (Fig.1) and *P. lineatipes* ( Fig.. 2); frontal view.

tending laterobasally from base of antennae down below; vertex dark brown, with pale spot between lateral cones; antennae black; occiput dark olive green, posterior margin conspicuously convex and with tuff of short golden hairs.

**Thorax.** Brown, prothorax pale brown with dark brown stripes at middle lobe, posterior lobe

dark brown; pterothorax dark brown with an incomplete “T” shape stripe on mesepisternum and with an additional tawny spot above middle part of humeral suture; a complete pale stripe on most part of mesepimeron connected above with a pale transverse stripe running below superior margin of pleurite; a short pale oblique stripe on metepisternum just above spiracle; a fully developed pale stripe covering most of metepimeron.

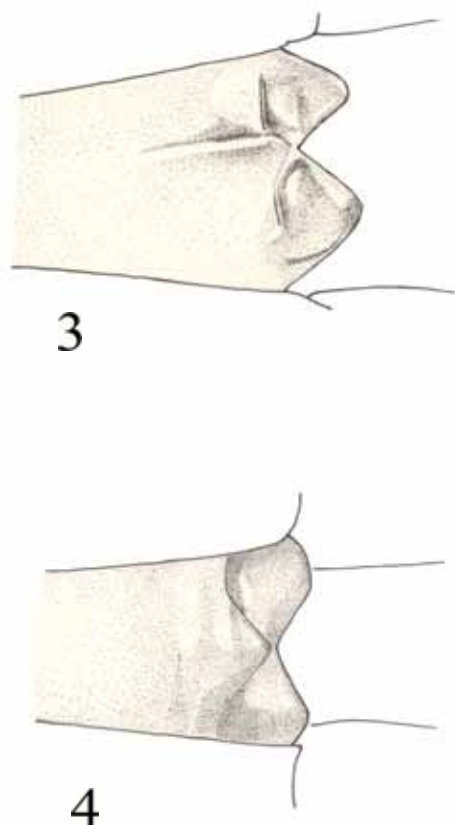
**Venational characters** (those for second female in parentheses): 12:16½ /15 ½:12 FW, 11:10/11:12 HW (11:12½/12 ½:11 FW and 12:9/10:11 HW); LFW triangle 2-celled, RFW triangle 3-celled; HW triangle 1-celled; HW sub-triangle 3-celled; 3 cell rows in discoidal field in all wings (2 cell rows in all wings); arculus between first and second antennodal in all wings; one cubito-anal vein in all wings.

**Abdomen.** Dark brown with yellow spots and stripes as follows: 1-3 yellow laterally, segs.4-9 with both dorsolateral and lateral yellow stripes gradually reduced apically, 9 with vestigial lateral spot, 10 with a dorsal spot only, cercus dark brown to almost black. Vulvar lamina with a conspicuous “V” incision (Fig. 3).

**Measurements.** Body length (in mm incl. cerci): 48-51, abdomen: 32-34, hind wing 41-45, cerci 1.39-1.64, pterostigmata: 3.97-4.14 FW (N=2).

**Diagnosis.** Females of *P. cyanosoma* can be separated from those of both *P. lineatipes* and *P. nicolae* by the color of labrum, which is black in *P. cyanosoma* (Fig. 1) and pale in both *P. nicolae* and *P. lineatipes* (Fig. 2). Both *P. cyanosoma* and *P. nicolae* have a deep “V” shaped vulvar lamina but the angle is smaller than 90° (Fig. 3) in *P. cyanosoma* and larger than 98° in *P. nicolae* (see for comparison Fig. 16 of Hellebuyck, 2002). Females of *P. lineatipes* have a shallow incision which tends to be more “U” shaped (see Fig. 4).

**Biological notes.** *P. cyanosoma* was found at two separate sites during field collections. One of



FIGURES 3-4. Vulvar lamina of *Paltothemis cyanosoma* (Fig. 3) and *P. lineatipes* ( Fig.4); ventral view.

the sites is a river close to the locality of Acahuzotla, Guerrero (17° 23' N, 99° 27' W). The stream is shallow, with several exposed rocks. The site is surrounded by tropical deciduous forest. Other odonates collected were *Hetaerina americana* (Fabricius), *H. occisa* Selys, *Argia oculata* Hagen in Selys, *A. oenea* Hagen in Selys, *A. pallens* Calvert, *A. pulla* Hagen in Selys and *A. tezpi* Calvert, *Enallagma semicirculare* Selys,

*Telebasis salva* (Hagen), *Anax walsinghami* McLachlan, *Erythrodiplax basifusca* (Calvert), *E. funerea* (Hagen), *Dythemis nigrescens* Hagen, *Progomphus clendoni* Calvert, *Phyllogomphoides pacificus* (Selys) and *Phyllogomphoides* sp. nov.

The second spot is located in Jalisco state, near El Tuito. Here *P. cyanosoma* was found at a small, exposed stream surrounded by transitional pine-oak forest at low altitude (860 m asl). At this site *P. cyanosoma* coexists with the common and widespread *P. lineatipes*. Other odonates found here are *Hetaerina capitalis* Selys, *Argia* nr. *chelata* Calvert; *A. oculata*, *A. oenea*, *A. ulmeca* Calvert, the rare *Protoneura rojiza* González, *Dythemis maya* Calvert, *Libellula croceipennis* Selys and the rare *Macrothemis ultima* González. At both sites males of *P. cyanosoma* perched on exposed rocks at sunny spots, similar to habits described for *P. lineatipes* (Dunkle, 1978). *P. nicolae* differs also in its habits from these two species: “a forest species that prefers shaded clear cold water creeks with rocky bottoms intermixed with fine sand and pebbles” (Hellebuyck, 2002).

#### KEY TO *PALTOHEMIS*

1. Frons metallic purple in males and dark brown in females; body dark in males; hind wing without a basal spot; labrum black (eastern Mexico) . . . . . *P. cyanosoma*
- 1'. Frons red or iridescent blue in both males and females; body pale (orange or yellow orange) in males; hind wing with an orange or orange brown spot; labrum pale . . . . . 2
- 2(1'). Abdomen of males patterned with orange and dark brown . HW in males (and also in some females) suffused with an orange coloration. Vulvar lamina with a shallow incision and with lobes relatively wide (USA to northern South America) . . . . . *P. lineatipes*
- 2'. Abdomen of males patterned with gray and

González-Soriano: *The female of Paltothermis cyanosoma*

brown. HW in males with a large basal orange-brown spot. Vulvar lamina with a deep incision and with lobes subtriangular (El Salvador) .

..... *P. nicolae*

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I dedicate this paper to the memory of Alicia Rodríguez Palafox, an enthusiastic entomologist and friend who always had a smile for all of us even in difficult times. This is for you *Alice*. . .

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