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## *Anacroneuria starki*, a New Species from Nicaragua (Plecoptera: Perlidae)

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### Abstract

*Anacroneuria starki* Fenoglio and Morisi sp. n. from Zelaya, Nicaragua, is described for adult male and female. The description is supported by original drawings and relationships with closely related species are discussed.

**Keywords:** *Anacroneuria*, new species, Plecoptera, Perlidae, Neotropics.

### Introduction

The genus *Anacroneuria* (Klapálek) is the only representative of the stonefly fauna in lower Central America. This group presents a widespread neotropical distribution and, after a period of sporadic studies and observations, recent works have shown its great diversity (Stark, 1994, 1995, 1998; Stark et al., 1999). Maes (1988) reports *Anacroneuria flavominuta* Jewett and *A. nigrocinta* Pictet and another undescribed species for the Nicaraguan fauna, moreover in a recent work on Costa Rican and Panamanian faunas Stark (1998) reports *Anacroneuria curiosa* Stark, *A. holzenthali* Stark and *A. planicollis* Klapálek for Nicaragua.

On the occasion of a collaboration with U.Po.Nic. (Universidad Popular de Nicaragua), we have been able to collect ourselves or to obtain a certain number of samples from different localities from J.M. Maes of the Entomological Museum of León, several of which are new for science.

### Methods

In this work 22 specimens have been examined and described from Cerro Saslaya, Zelaya district, Nicaragua. All specimens have been captured with light traps. The external anatomical details, such as pronotal and head sculpture, male hammer and female subgenital plate characteristics, have been observed, photographed and drawn

to an enlargement of 15–25×. The aedeagus has been extracted after detaching the abdomen and putting it in a solution of KOH, brought to the boiling point. Subsequently, it has been photographed and drawn dorsally, ventrally and laterally at 90×.

*Anacroneuria starki* sp. n. (Figs. 1–6)

*Adult habitus*

Head yellow with pale brown trapezoidal pattern in the area between eyes and ocelli. Median pronotal stripe yellow, conspicuous midlateral stripes brown with irregular external edge and pale margins (Fig. 1). Wing membrane brown, veins brown.

*Male*

Forewing length 11–13 mm. Aedeagus with apex bifurcate and subequal in length to shoulders; ventral membranous lobes obscure or poorly developed; hooks slender (Figs. 2, 3, 4); total length 0.9 mm. Hammer a low rounded mound (Fig. 5).

*Female*

Forewing length 13 mm. Subgenital plate four lobed: internal lobes subtriangular with rounded tips, the external ones more largely rounded; mesal notch deep and U-shaped, lateral notches wider and shallow. Transverse sclerite of sternum 9 absent, mesal sclerite subrectangular in shape, densely and heavily setose; lateral sclerites minutely hairy (Fig. 6).

*Nymph*

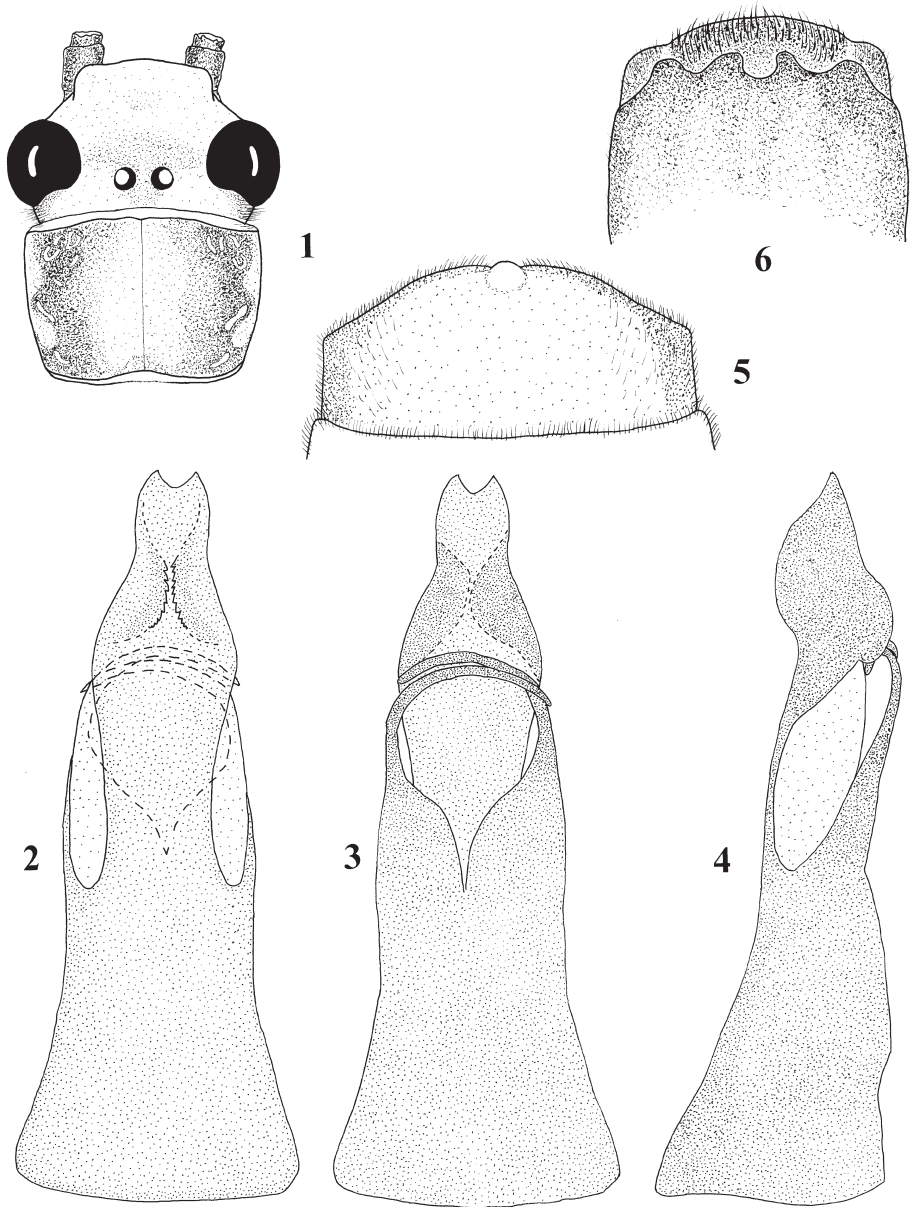
Unknown.

*Affinities*

On the basis of male sexual characters *A. starki* seems more related to *A. hacha* Stark but has a different head and pronotal patterns: in *A. starki*, the head brown pattern connects the eyes in front of the ocelli but doesn't extend to the anterior margin; this latter is noticeably straighter. Moreover, the pronotal pattern lacks a median brown stripe. The two species have a similar structure of aedeagus but *A. starki* presents a more deeply notched and parallel sided apex; in addition its hammer is quite larger.

The new species can be inserted in the provisional key published by Stark (1998) as follows:

- 8 Forewing length 7–13 mm ..... 9
- Forewing length at least 14 mm ..... 10
- 9 Aedeagal apex trilobed, lateral lobes small, hooks chelate ..... *perplexa* Stark
- Aedeagal apex simple, hooks slender ..... 9'
- 9' Aedeagal apex straight, dorsal keel inconspicuous ..... *varilla* Stark, part.
- Aedeagal apex deeply notched, dorsal keel well developed ..... *starki* sp. n.



Figures 1–6. *Anacroneuria starki* sp. n. (1) Head and pronotum; (2–4) Aedeagus, dorsal, ventral, lateral; (5) Male sternum 9; (6) Female sternum 8 and 9.

*Derivatio nominis*

The name honors Bill Stark for his great work on Perlidae and especially on this neotropical group.

**Material studied**

Holotype ♂, 5 paratypes ♂♂ and 16 paratypes ♀♀: Cerro Saslaya, Zelaya, Nicaragua (13.44 N, 85.01 W), altitude 700 meters, IV 1996, J.M. Maes. Holotype and 1 paratype ♀ are deposited in the Natural History Civic Museum of Carmagnola (Italy), remaining paratypes in the Entomological Museum of Leon (Nicaragua) and in the author's collection.

*Habitat*

In the slopes of Cerro Saslaya, in which *A. starki* has been found, there is a tropical humid mountain forest, with many small brooks. Unfortunately, this area seems threatened by a progressive deforestation, that has already reached some near sites.

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