



## ANACRONEURIA MARSHALLI (PLECOPTERA: PERLIDAE), A NEW STONEFLY FROM ARGENTINA, AND TWO NEW RECORDS FROM ECUADOR

Bill P. Stark

Box 4045, Department of Biology, Mississippi College, Clinton, Mississippi, U.S.A. 39058

E-mail: stark@mc.edu

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### ABSTRACT

*Anacroneuria marshalli*, a previously unknown stonefly species, is described from a single male specimen collected in Salta, Argentina, and new records are given for *A. camposi* (Banks) and *A. kondratieffi* Stark, two Ecuadorian species known only from holotype specimens.

**Keywords:** Plecoptera, Perlidae, *Anacroneuria*, Argentina, Ecuador, new species

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### INTRODUCTION

Studies of *Anacroneuria* material continue to reveal previously undescribed species on a regular basis with three such studies published in recent months (De Ribeiro & Froehlich 2007; Froehlich 2007; Zúñiga et al. 2007). These recent additions bring the number of recognized species in this large genus to more than 300 (Stark unpublished) with no apparent end in sight. One of the areas which appears to be understudied in this regard lies along the eastern slope of the Andes in northwestern Argentina (Orce 2003). Although this argument could reasonably be extended for all of Argentina, at least 18 *Anacroneuria* species have been reported for the northeastern provinces of Entre Rios and Misiones (Froehlich 2002; Navas 1918, 1923), whereas in the western region only four species are known (Froehlich 2002; Navas 1919, 1921; Orce 2003). Most of the records for Argentina are for species previously described from Brazil (Froehlich 2002) and only eight are for species with Argentine type localities.

In addition to the recognition of new species, virtually any study of *Anacroneuria* material will produce new distribution records, frequently for species known from few specimens. Such is the case for the collection on which this study is based, wherein a small number of Ecuadorian specimens includes representatives of *Anacroneuria camposi* (Banks) and *A. kondratieffi* Stark, each previously

known only from the holotype specimen. Material for this study was loaned by the University of Guelph Insect Collection, Guelph, Ontario, Canada (UGIC), and the holotype and other specimens are deposited there.

### RESULTS AND DISCUSSION

#### *Anacroneuria camposi* (Banks)

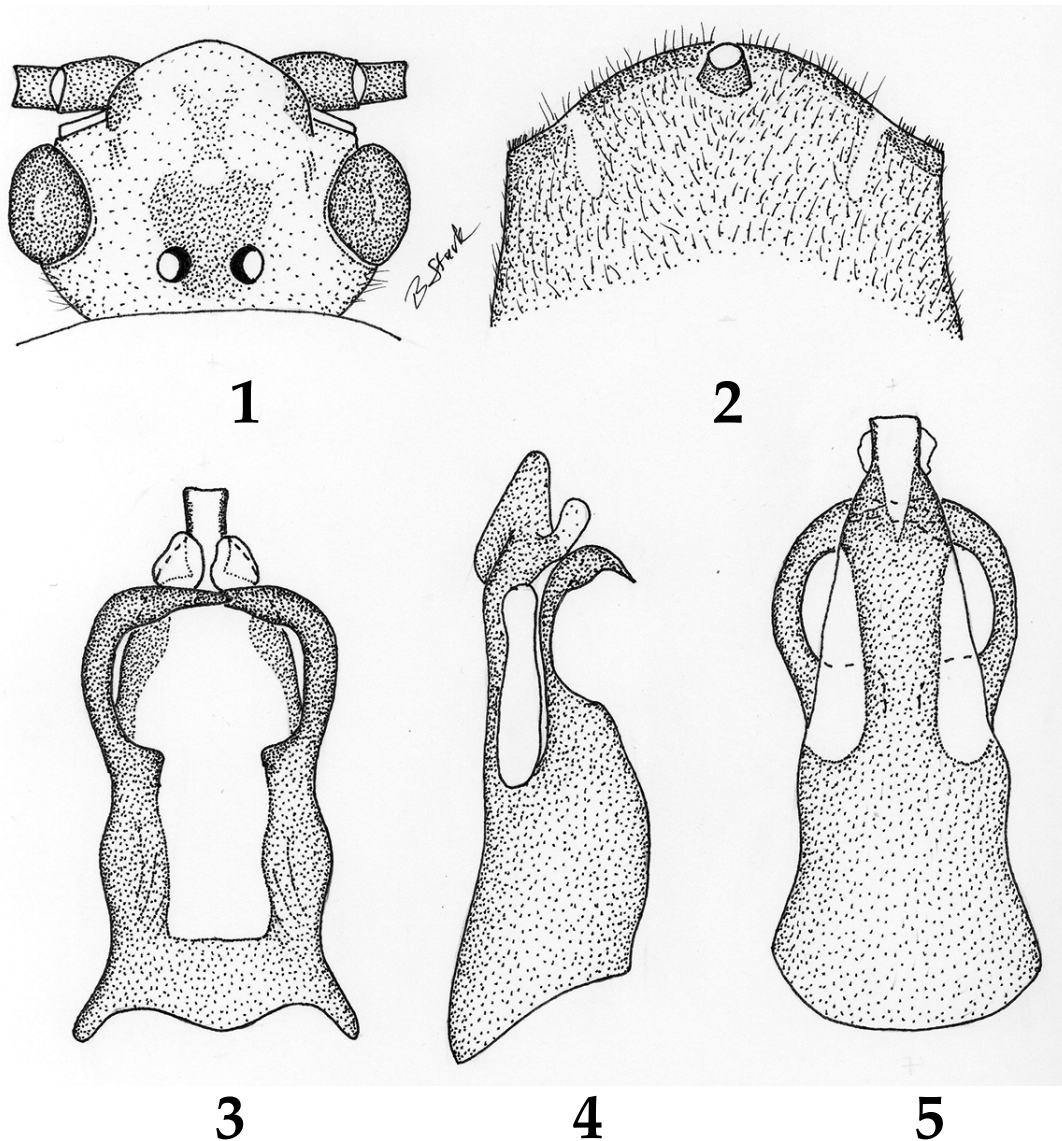
*Neoperla camposi* Banks, 1920:322. Holotype male (Museum of Comparative Zoology), Pifo [Pichincha], Ecuador

*Anacroneuria camposi*: Stark, 2001:8. Redescription

*Anacroneuria camposi*: Stark & Zúñiga, 2003:233.

**Material examined.** Ecuador: Napo, Baeza, 2000 m, 1-10 March 1979, S.A. Marshall, 1 ♂ (UGIC).

**Remarks.** Stark (2001) and Stark & Zúñiga (2003) both show details of the internal male genitalia for this species. The current specimen has a modified hammer like that of the holotype and the epiproct tip is subtly notched, slightly more so than is shown for the holotype (Stark & Zúñiga 2003). Three female specimens collected with the Napo male are too small to represent this species and lack distinctive characters which would permit their identification beyond genus level.



Figs. 1-5. *Anacroneuria marshalli* structures. 1. Head, partially reconstructed, 2. Male abdominal sternum 9, 3. Male aedeagus, ventral aspect, 4. Male aedeagus, lateral aspect, 5. Male aedeagus, dorsal aspect.

***Anacroneuria kondratieffi* Stark**

*Anacroneuria kondratieffi* Stark, 2001:23. Holotype male (United States National Museum), Rio Palenque Biological Station, Los Rios, Ecuador

**Material examined.** Ecuador: Pichincha, 47 km S Sto. Domingo, Rio Palenque Station, 17-25 February 1979, S.A. Marshall, 1 ♂ pinned (UGIC).

**Remarks.** Although the labels for the holotype and

the new specimen indicate separate provinces are involved, apparently both specimens were collected from the Rio Palenque Biological Station.

***Anacroneuria marshalli* sp. nov.**  
(Figs. 1-5)

**Material examined.** Holotype ♂ from Argentina, Salta, 15 km W Chicoana, Canyado Gotera, February 1992, S.A. Marshall (UGIC).

**Adult habitus.** General color brown patterned with yellow. Head and pronotum damaged, partially obscuring pattern; head with dark quadrangular area over ocelli extending forward to M-line; M-line represented by pale oval area; pale brown pigment extends forward of M-line and darker pigment occurs on lappets (Fig. 1). Pronotum apparently almost uniformly brown. Wing membrane pale brown, veins amber except R-vein dark brown. Legs brown with narrow, black, apical femoral band.

**Male.** Forewing length 8 mm. Hammer a short, wide thimble shaped structure with basal diameter greater than height (Fig. 2). Aedeagal apex a simple scoop-shaped structure with truncate tip and low V-shaped dorsal keel (Figs. 3-5). Hooks chelate, ventral membranous lobes well developed.

**Female.** Unknown.

**Larva.** Unknown.

**Etymology.** The patronym honors Stephen Marshall, collector of the holotype.

**Diagnosis.** *Anacroneuria marshalli* appears to be part of a complex of Andean species including *A. montera* Stark & Sivec, *A. canchi* Stark & Sivec, and *A. pastaza* Stark (Stark & Sivec 1998; Stark 2001). The former species has a distinctive large dark area covering the posterior half of the head, and the aedeagal apex is turned sharply ventrad beyond the hooks, whereas the latter species is generally similar to *A. marshalli* in pigment pattern but lacks chelate hooks, has a broader aedeagal apex and the hammer is much "taller" than in the new species. Although *A. canchi* has chelate hooks, it also has a much shorter aedeagal tip which barely projects beyond the hooks, and the apex is also angled sharply ventrad. This species also has a narrow, inclined plane type of hammer rather than the short thimble shape found in *A. marshalli*.

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