CODEN SCPLEK ISSN 0351 - 0077

PRIRODOSLOVNI MUZEJ SLOVENIJE

MUSEUM HISTORIAE NATURALIS SLOVENIAE

SCOPOLIA

40

Botanica

Geologica & Palaeontologica

Museologica

25 Zoologica

SCOPOLIA	No 40	pp. 1–64	Ljubljana	Dec. 1998

SCOPOLIA

Glasilo Prirodoslovnega muzeja Slovenije. Izdaja Prirodoslovni muzej Slovenije, sofinancirala sta Ministrstvo za kulturo in Ministrstvo za znanost in tehnologijo. Uredniški odbor: Breda ČINČ-JUHANT, Janez GREGORI (urednik), Huw I. GRIFFITHS (GB), Boris KRYŠTUFEK, Lojze MARINČEK, Ignac SIVEC, Kazimir TARMAN, Nikola TVRTKOVIĆ (HR) in Tone WRABER. Lektorja: Cvetana TAVZES (za slovenščino) in Helena SMOLEJ (za angleščino). Naslov uredništva in uprave: Prirodoslovni muzej Slovenije, 1000 Ljubljana, Prešernova 20. Izideta najmanj dve številki letno, naklada 600 izvodov. Tekoči račun pri LB št. 50100-603-40115. Tisk: Tiskarna Tone Tomšič d. d., Ljubljana.

SCOPOLIA

Journal of the Slovenian Museum of Natural History, Ljubljana, Edited by the Slovenian Museum of Natural History, subsidised by the Ministry of Culture and Ministry of Science and Technology. Editorial Staff: Breda ČINČ-JUHANT, Janez GREGORI (Editor), Huw I. GRIFFITHS (GB), Boris KRYŠTUFEK, Lojze MARINČEK, Ignac SIVEC, Kazimir TARMAN, Nikola TVRTKOVIĆ (HR) and Tone WRABER. Readers: Cvetana TAVZES (for Slovene) and Helana SMOLEJ (for English). Address of the Editorial Office and Administration: Slovenian Museum of Natural History, SI 1000 Ljubljana, Prešernova 20. The Journal appears at least twice a year, 600 copies per issue. Current account at LB No 50100-603-40115. Printed by Tiskarna Tone Tomšič d. d., Ljubljana.

SCOPOLIA No 40, pp. 1-64, Dec. 1998

Anacroneuria of Peru and Bolivia (Plecoptera: Perlidae)

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Received: 7.10.1998
UDC(UDK) 591.9:595.735(8=6)(045)=111

ABSTRACT – Thirty nine *Anacroneuria* KLAPÁLEK species are recorded from Peru and Bolivia. Twenty eight of these species are described as new to science and the remaining are redescribed from type material. Lectotypes are designated for *A. iridescens* KLAPÁLEK and *A. x-nigrum* KLAPÁLEK, and *A. handlirschi* KLAPÁLEK is removed from synonymy with *A. angusticollis* (ENDERLEIN). Four previously described species are considered nomina dubia (*A. coroicana* (NAVÁS), *A. fuscescens* (NAVÁS), *A. latissima* KLAPÁLEK and *A. peruviana* (NAVÁS). A provisional key for males is presented.

Key words: Plecoptera, Perlidae, Anacroneuria, Peru, Bolivia, taxonomy

IZVLEČEK – ROD *ANACRONEURIA* PERUJA IN BOLIVIJE (PLECOPTERA: PERLIDAE) – Na območju Peruja in Bolivije smo ugotovili devetintrideset vrst iz rodu *Anacroneuria* KLAPÁLEK. Osemindvajset vrst je opisanih privič kot nove za znanost, ostale pa so ponovno opisane na osnovi tipskega materiala. . Za vrsti *A. iridescens* KLAPÁLEK in *A. x-nigrum* KLAPÁLEK, sta določena lektotipa, vrsta *A. handlirschi* KLAPÁLEK pa je odstranjena iz sinonimije vrste *A. angusticollis* (ENDERLEIN). Štiri do sedaj opisane vrste uvrščamo med nomina dubia (*A. coroicana* (NAVÁS), *A. fuscescens* (NAVÁS), *A. latissima* KLAPÁLEK and *A. peruviana* (NAVÁS). Predstavljamo tudi ključ za določevanje samcev odraslih osebkov.

Ključne besede: Plecoptera, Perlidae, Anacroneuria, Peru, Bolivija, taksonomija

Sixteen *Anacroneuria* species have been described based partially or entirely on Peruvian and Bolivian specimens (ENDERLEIN 1909, NAVÁS 1915, 1927, KLAPÁLEK 1921, 1922, JEWETT 1959). Unfortunately only two of these, *A. boliviensis* (ENDERLEIN) and *A. variegata* KLAPÁLEK were described in sufficient detail to permit recognition (ZWICK 1973) but Peruvian specimens of the latter species, subsequently redescribed from a Colombian lectotype and placed as a synonym of *A. schmidti* (ENDERLEIN) by ZWICK (1973), have not been located. JEWETT (1959) also reported the occurrence of *A. pehlke* (ENDERLEIN), *A. schmidti* (ENDERLEIN) and *A. ohausiana* (ENDERLEIN) in Peru but these are misidentifications.

In this study 11 of the remaining species are redescribed from types and 28 species new to science are proposed primarily from specimens in the National Museum of Natural History, Washington, DC (USNM). Additional specimens were provided by the California Academy of Sciences, San Francisco, CA (CAS), the Carnegie Museum of Natural History, Pittsburg, PA (CMNH) and Michigan State University, East Lansing, MI (MSU); several type specimens from KLAPÁLEK (1921, 1922) housed in the National Museum Prague (NMP), were studied while on loan to P. Zwick. An unassociated but distinctive female is described with an informal designation.

Type specimens for the following species have not been located during this study. Consequently we are unable to apply these names to *Anacroneuria* populations:

Anacroneuria coroicana (NAVÁS, 1927), type locality probably Coroico, Bolivia rather than Sutchan, Ussuri [Russia] as given by NAVÁS 1927; *Anacroneuria fuscescens* (NAVÁS, 1927), type locality Bolivia; *Anacroneuria latissima* KLAPÁLEK, 1921, type series Chaco, Bolivia and Colombia; *Anacroneuria peruviana* (NAVÁS, 1915), type locality Iquitos, Beloco, Peru.

Provisional Key to Peruvian and Bolivian male *Anacroneuria*

1. Aedeagus without dorsal keel (Figs. 97-98) 2
   Aedeagus with dorsal keel (Figs. 9, 21) 6
2. Aedeagal apex with a median dorsal lobe (Fig. 98) 3
   Aedeagal apex without median dorsal lobe (Fig. 147) 4
3. Aedeagal apex wider than subapical area (Fig. 96) ..... *lupaca*
   Aedeagal apex narrower than subapical area (Fig. 161) ..... *woytkowskii*
4. Aedeagal apex beyond hooks very slender (Fig. 63) 5
   Aedeagal apex broad beyond hooks (Fig. 145) ..... *uru*
5. Aedeagal apex abruptly narrower beyond hooks; area beyond hooks about 1/3 of total length; ventral membranous lobe lobe absent (Fig. 63) ..... *flavicoronata*
   Aedeagal apex gradually narrowed beyond hooks; area beyond hooks less than 1/4 of total length; ventral membranous lobe present (Fig. 79) ..... *handlirschi*
6. Aedeagal keel composed of two ridges joined basally to form U-shaped or vase shaped process (Fig. 60) 7
   Aedeagal keel variable but not U-shaped (Fig. 87) 10
7. Adeagal apex notched, keel wide (Fig. 64) ..... *cuzco*
   Aedeagal apex rounded, keel narrow (Fig. 149) 8
8. Aedeagal apex with prominent ventral membranous lobes (Fig. 148) ..... *vilcabamba*
   Aedeagal apex without ventral membranous lobes (Fig. 118) 9
9. Dorsal aspect of aedeagal apex abruptly widened; forewing length 14 mm (Fig.121) .... *pacaje*
   Dorsal aspect of aedeagal apex gradually narrowed; forewing length less than 11 mm (Fig. 160) ..... *wincha*
10. Aedeagal keel a basally directed triangle (Fig. 87) 11
    Aedeagal keel variable but not a basally directed triangle (Fig. 126) 17
11. Area projecting beyond aedeagal hooks longer than wide (Fig. 90) 12
    Area projecting beyond aedeagal hooks shorter than wide (Fig. 152) 14

12. Area beyond aedeagal hooks less than 1/4 of total length (Fig. 85) ..... *heppneri*
Area beyond aedeagal hooks at least 1/3 of total length (Fig. 90) 13
13. Aedeagal apex with a pair of prominent ventral lobes, hooks scarcely curved (Fig.90) ..... *inca*
Aedeagal apex with a small mesal membranous lobe, hooks strongly curved (Fig. 7) ... *atrinota*
14. Aedeagal hooks scarcely curved (Fig. 152) ..... *vitripennis*
Aedeagal hooks strongly curved (Fig. 105) 15
15. Adeagal apex rounded (Fig. 15) ..... *boliviensis*
Aedeagal apex notched (Fig. 105) 16
16. Aedeagal shoulders bulging, membranous ventral lobe prominent (Fig. 105) ..... *mochica*
Aedeagal shoulders sloping, membranous ventral lobe absent (Fig. 134) ..... *perpusilla*
17. Aedeagal keel with basal arms connected to a mesal stem forming a Y-shaped process (Fig. 36) 18
Aedeagal keel not Y-shaped 23
18. Aedeagal apex simple (Fig. 124) 19
Aedeagal apex with shoulders projecting giving a trilobed appearance (Fig. 1) 21
19. Aedeagal apex nipple like and constricted subapically beyond hooks (Fig. 124) ..... *pachacuti*
Aedeagal apex rounded and without subapical constrictions (Fig. 34) 20
20. Aedeagal body bulging lateral to hooks, apex broad (Fig. 34) ..... *cana*
Aedeagal body without bulged lateral hooks, apex narrowed (Fig. 140) ..... *quechua*
21. Median aedeagal lobe deeply notched, ventral membranous lobes present (Fig. 1) ..... *adamsae*
Median aedeagal lobe unnotched, ventral membranous lobes absent (Fig. 129) 22
22. Median aedeagal lobe truncate, dorsal keel small (Fig. 131) ..... *pakitza*
Median aedeagal lobe rounded, dorsal keel large (Fig. 167) ..... *x-nigrum*
23. Aedeagal apex with shoulders projecting giving a trilobed appearance (Fig. 55) 24
Aedeagal apex simple without projecting shoulders (Fig. 25) 27
24. Ventral membranous aedeagal lobes present (Fig. 53) 25
Ventral membranous aedeagal lobes absent (Fig. 28) 26
25. Aedeagal apex truncate, keel composed of two widely spaced ridges (Fig. 55) ..... *cosnipata*
Aedeagal apex rounded, keel pointed (Fig. 173) ..... *yameo*
26. Aedeagal apex distinctly trilobed, decurved in lateral aspect (Figs. 28, 30) ..... *callanga*
Lateral lobes of aedeagal apex scarcely projecting, apex not decurved (Figs. 174, 176) ... *zwicki*
27. Forewing length at least 15 mm 28
Forewing length less than 13 mm 30
28. Aedeagal apex broadly rounded, shoulders bulbous (Fig. 24) ..... *bulbosa*
Aedeagal apex narrowed, shoulders normal (Fig. 46) 29
29. Lateral margins of aedeagal shoulders much darker than mesal margins, hooks slender, ridges of dorsal keel narrowly separated (Fig. 46) ..... *chipaya*
Lateral margins of aedeagal shoulders about as dark as mesal margins, hooks stout, ridges of dorsal keel fused (Figs. 114, 116) ..... *nazca*
30. Aedeagal apex beyond hooks almost half total length, hooks straight, membranous lobes basal to hooks present (Fig. 73) ..... *flinti*
Aedeagal apex beyond hooks no more than 1/3 total length, hooks curved, basal membranous lobes absent (Fig. 39) 31
31. Ventral membranous aedeagal lobes absent 32
Ventral membranous aedeagal lobes present (Fig. 99) 34
32. Aedeagal apex truncate, scarcely projecting beyond hooks (Fig. 39) ..... *canchi*
Aedeagal apex rounded, distinctly projecting beyond hooks (Fig.19) 33
33. Aedeagal hooks reach shoulders, apex broad, posterior margins of shoulders with wide dark band (Fig.19) ..... *brunneilata*
Aedeagal hooks not reaching shoulders, apex narrowed, posterior margins of shoulders with narrow dark band (Fig. 42) ..... *chavin*

34. Aedeagal keel ridges convergent, parenthesis-like; hooks very dark (Figs.99-100) ..... *moche*
Aedeagal keel ridges divergent; hooks not conspicuosly darkened (Fig. 70) 35
35. Ventral membranous aedeagal lobe large, circular (Fig. 68) ..... *flavifrons*
Ventral membranous aedeagal lobe small, oval or circular (Fig. 12) 36
36. Aedeagal apex rounded, dorsal keel arms widely divergent apically (Fig. 14) ..... *aymara*
Aedeagal apex truncate, dorsal keel arms slightly divergent apically (Fig. 109) ..... *montera*

***Anacroneuria adamsae*, spec.nov.**
Figs. 1-4

Types. Holotype male (pinned) from Peru, Cuzco, Paucartambo, Buenos Aires, km 135, 2150m, 28-29 August 1989, N. Adams, deposited in the National Museum of Natural History.

Description

Adult habitus. Head yellow, pronotal pattern obscured. Wing membrane and veins pale. Femora and tibiae pale.

Male. Forewing length 14 mm. Hammer thimble shaped (Fig. 4). Aedeagal hooks slender and scythe-like. Aedeagal apex multilobed; ventral aspect with a basolateral pair of slender sclerotized lobes, a basomedian pair of membranous lobes and a basal terminal lobe bearing a shallow notch. Dorsal aspect of apical aedeagal lobe with a narrow median keel (Figs. 1-3).

Female. Unknown.

Nymph. Unknown.

Etymology. The matronym honors Nancy Adams of the United States National Museum of Natural History, collector of the type specimen.

Diagnosis. The aedeagus of this species is somewhat similar to that of *A. calanga*. It differs in having prominent, projecting shoulders and a Y-shaped dorsal keel.

***Anacroneuria atrinota* Jewett, 1959**
Figs. 5-9, 22

Anacroneuria atrinota Jewett, 1959:107. Holotype female, Tingo Maria, Peru

Material. Peru: Tingo Maria, 21-31 October 1954, holotype female, allotype male, E. I. Schlinger, E. S. Ross (CAS).

Description

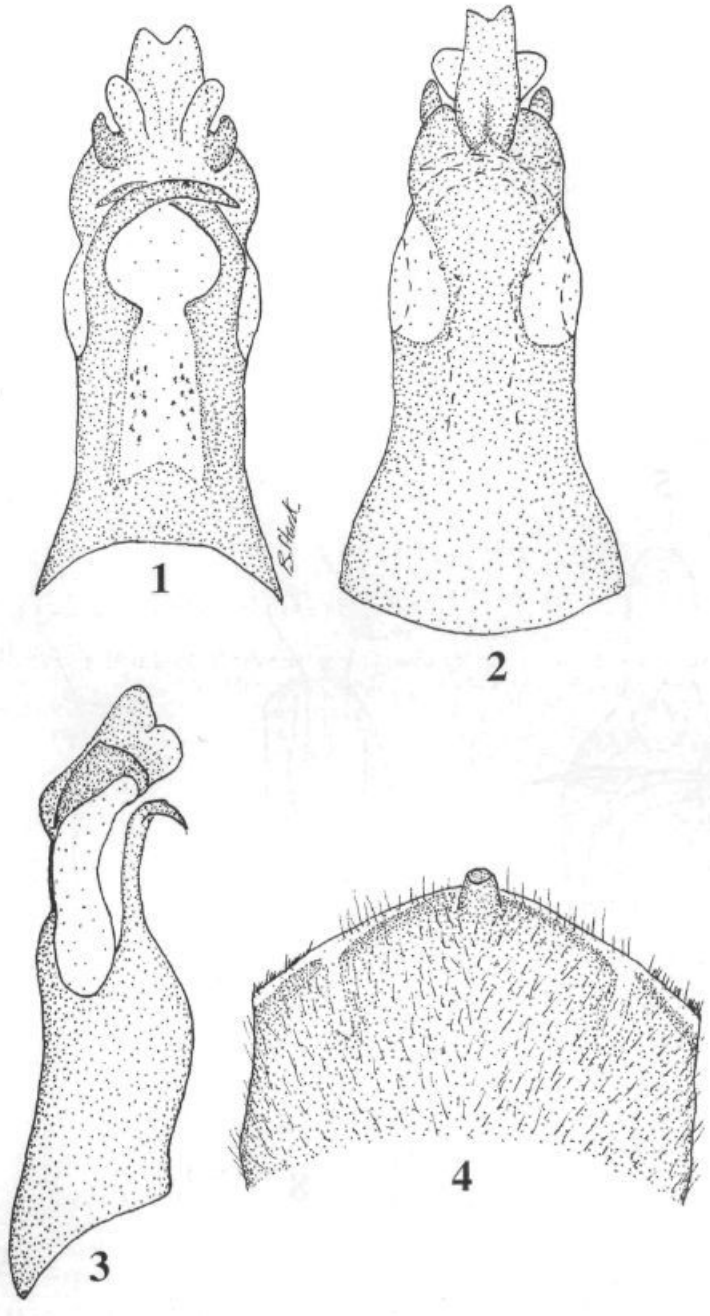
Adult habitus. Head yellow patterned with brown in ocellar region, lappets and anteromesal margin. Pronotum brown with a narrow yellow median band (Fig. 5). Wing membrane and veins brown except for pale costal area.

Male. Forewing length 9.5 mm Hammer long and thimble-like (Fig. 6). Aedeagal hooks stout and strongly keeled on ventroapical margin (Fig. 7). Aedeagal apex slender and rounded; venter with obscure mesal membranous lobes and a V-shaped dorsal keel (Figs. 7-9).

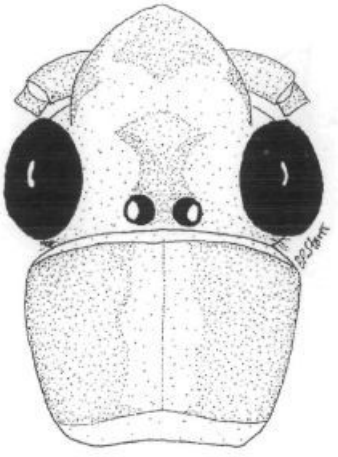
Female. Forewing length 13.5 mm. Subgenital plate four lobed; lateral lobes separated by deep V-shape notches, median V-shaped notch shallow. Median sclerite of sternum 9 trilobed; median lobe with fine short setae, lateral lobes with longer setae. Transverse sclerite straight and sparsely setose at ends (Fig. 22).

Nymph. Unknown.

Diagnosis. This species is similar in aedeagal features to *A. inca* but the latter species has a longer and more slender aedeagal apex in dorsal aspect, the V-shaped keel is less prominent and the ventral membranous lobes are large in comparison to those of *A. atrinota*. See additional comments for *A. heppneri*.



Figs. 1-4. *Anacroneuria adamsae*. 1. Aedeagus, ventral. 2. Aedeagus, dorsal. 3. Aedeagus, lateral. 4. Male 9th sternum.



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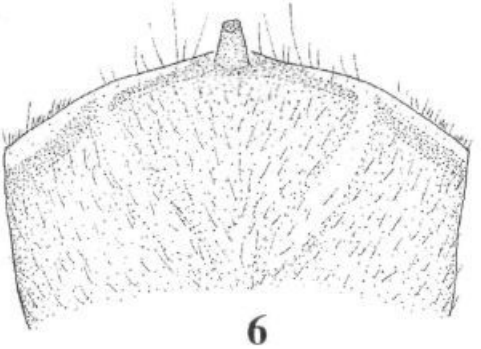

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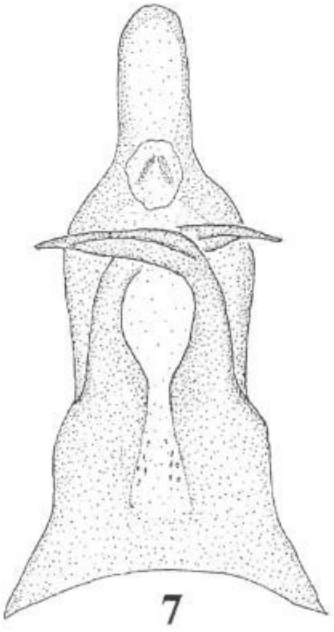

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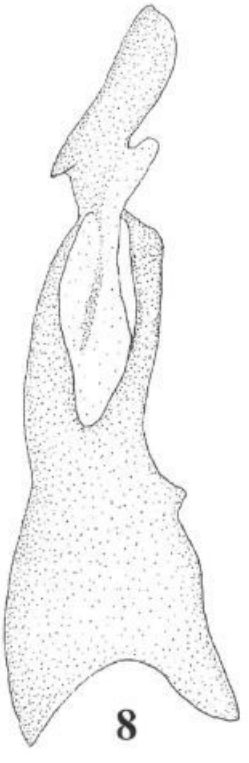

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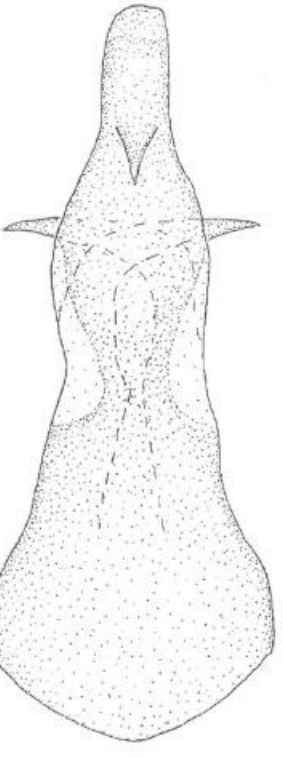

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Figs. 5-9. *Anacroneuria atrinota*. 5. Head and pronotum. 6. Male 9th sternum. 7. Aedeagus, ventral. 8. Aedeagus, lateral. 9. Aedeagus, dorsal.

***Anacroneuria aymara*, spec.nov.**
Figs. 10-14

Types. Holotype male from Peru, Madre de Dios, Manu, Erika, 550 m, 4-6 September 1988, O.S. Flint, N. Adams, deposited in the National Museum of Natural History. Paratypes: Peru: Cuzco, Hacienda Maria, near Cosnipata River, 900 m, 18 March 1952, F. Woytkowski, 1 male (USNM).

Description

Adult habitus. Head pattern mostly brown with pale areas anterolateral to ocelli, along anterior margin and at "M-line." Pronotum brown with scattered rugosities and a pale median band (Fig. 10). Wing membrane pale, veins brown.

Male. Forewing length 9 mm. Hammer slender and cylindrical (Fig. 11). Aedeagal hooks stout and strongly keeled anteroventrally (Fig. 12). Apex short, slender and rounded; venter with a pair of membranous lobes, dorsum with a low, wide keel (Figs. 12-14).

Female. Unknown.

Nymph. Unknown.

Etymology. The species name honors the Aymara people of southern Peru and is used as a noun in apposition.

Diagnosis. The short aedeagal apex and dark head and pronotal pattern are similar to *A. montera*. That species has a truncate rather than rounded aedeagal apex, and the dorsal keel and aedeagal hooks of the two species are also distinct.

***Anacroneuria boliviensis* (Enderlein, 1909)**
Figs. 15-16

Neoperla boliviensis Enderlein, 1909: 408. Lectotype male, Prov. Sara, Bolivia (desig. Zwick, 1973).
Anacroneuria boliviensis: Zwick, 1973:479

No additional material is available for this species. The aedeagus (Figs. 15-16) is similar to that of *A.mochica* (Figs. 105-107) but has a smaller, more sharply pointed dorsal keel and a rounded, rather than notched aedeagal apex. See additional comments for *A. perpusilla.*

***Anacroneuria brunneilata* Jewett, 1959**
Figs. 17-21, 23

Anacroneuria brunneilata Jewett, 1959:112. Holotype female, Tingo Maria, Peru.

Material. Peru:Tingo Maria, 21-31 October 1954, E. I. Schlinger, E. S. Ross, holotype female, allotype male (CAS #8570).

Description

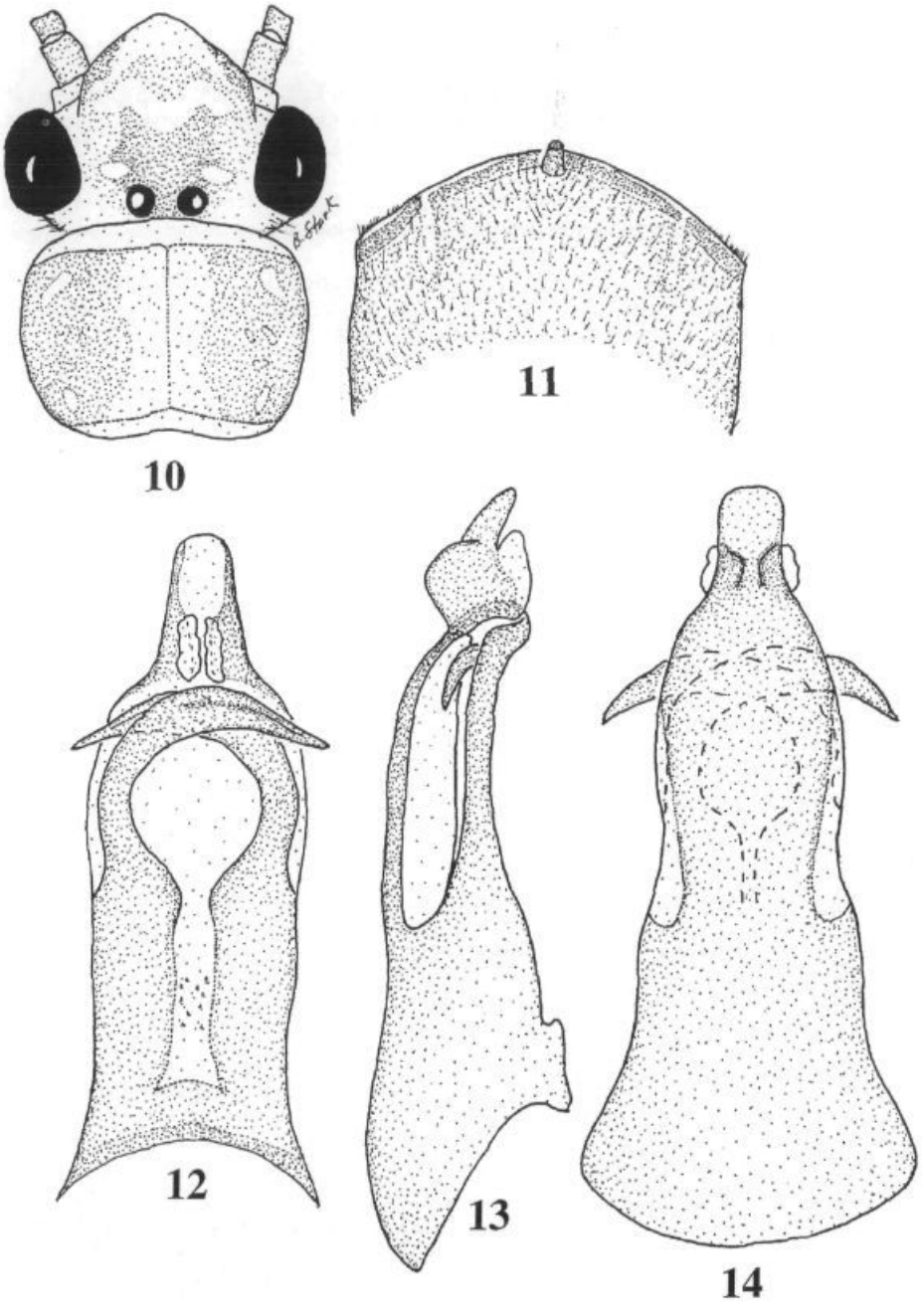
Adult habitus. Head yellow with a small, pale brown spot over ocelli, lappets brown, narrow median pronotal stripe pale, broad lateral stripes brown (Fig. 17). Wing membrane pale brown, veins brown except for pale costal area.

Male. Forewing length 12 mm. Hammer thimble shaped, height subequal to diameter (Fig. 18). Aedeagal apex simple, tip broad, slightly wider than aedeagal body at shoulders; dorsal keel long, composed of two approximately parallel ridges; hooks scythe shaped, moderately stout (Figs. 19-21).

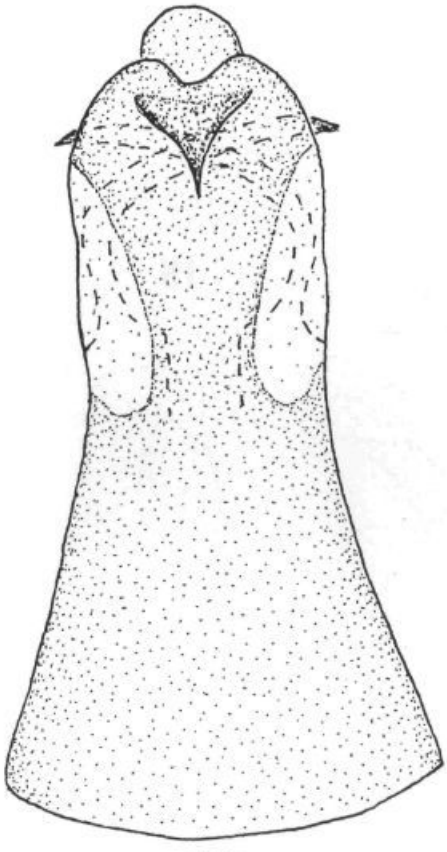
Female. Forewing length 17 mm. Subgenital plate four lobed; lateral lobes separated by shallow notches, median notch deeper and broadly V-shaped. Median sclerite of sternum 9 trilobed; median lobe clothed with fine short setae, lateral lobes with larger setae. Transverse sclerite straight (Fig. 23).

Nymph. Unknown.

Diagnosis. The aedeagus of this species is quite similar to that of *A. chavin* but has longer hooks and a broader, shorter apex.



FIGS. **10-14**. *Anacroneuria aymara*. 10. Head and pronotum. 11. Male 9th sternum. 12. Aedeagus, ventral. 13. Aedeagus, lateral. 14. Aedeagus, dorsal.



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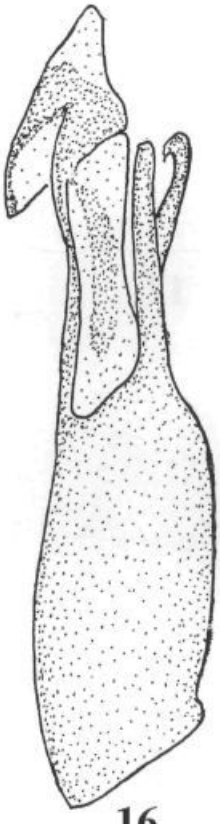

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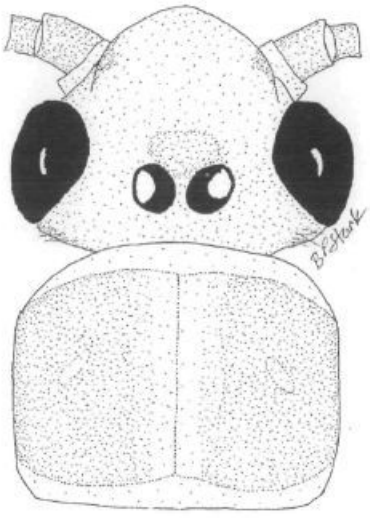
Figs. 15-16. *Anacroneuria boliviensis* (redrawn from Zwick 1973). 15. Aedeagus, dorsal. 16. Aedeagus, lateral.



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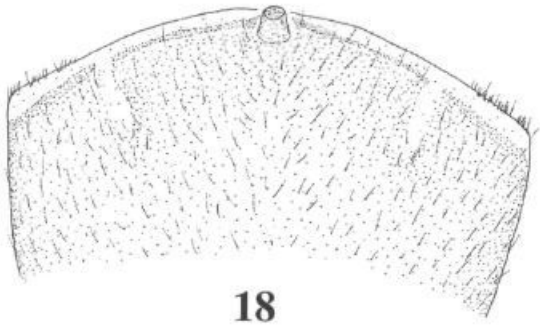

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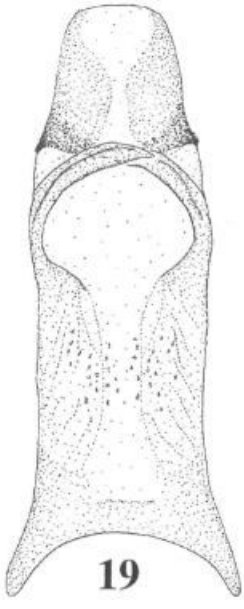

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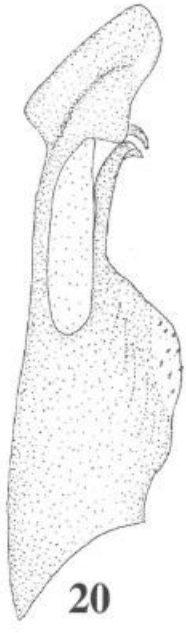

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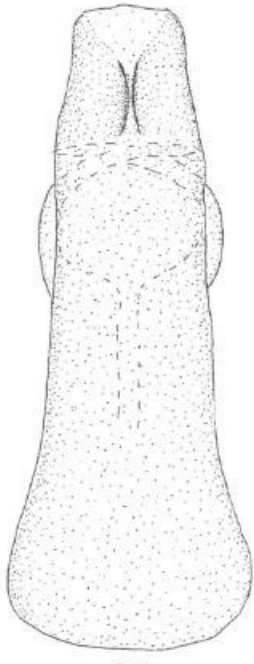

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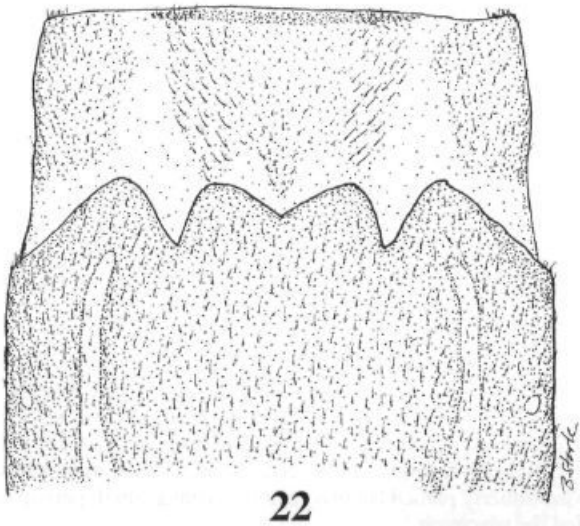
Figs. 17-21. *Anacroneuria brunneilata*. 17. Head and pronotum. 18. Male 9th sternum. 19. Aedeagus, ventral. 20. Aedeagus, lateral. 21. Aedeagus, dorsal.



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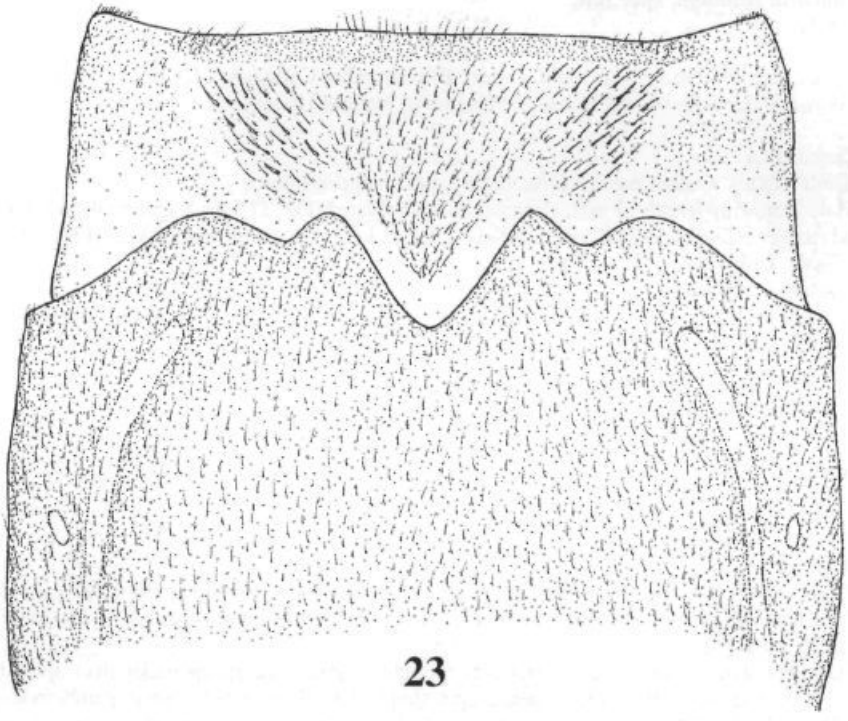

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Figs. 22-23. *Anacroneuria* female terminalia. 22. *A. atrinota. 23. A. brunneilata.*

***Anacroneuria bulbosa*, spec.nov.**
Figs. 24-27

Types. Holotype male from Peru, "Piches & Perene VS", 2000-3000ft, Soc. Geog. De Lima, deposited in the National Museum of Natural History.

Description

Adult habitus. Head and pronotal pattern obscured by specimen condition. Wing membrane pale brown, vein brown.

Male. Forewing length 15 mm. Hammer conical (Fig. 27). Aedeagus massive, apex broadly rounded with bulging shoulders and a hatchet-like lateral aspect. Ventral membranous lobe absent, dorsal keel prominent, hooks broad and scythe shaped (Figs. 24-26).

Female. Unknown.

Nymph. Unknown.

Etymology. The species name refers to the bulbous aspect of the aedeagal apex.

Diagnosis. This species is similar to *A. pallens* KLAPÁLEK and to a pair of undescribed Colombian species. The former species has a poorly developed low hammer and a long dorsal aedeagal keel which distinguish it from *A. bulbosa*. See additional comments for *A. cana*.

The holotype was formerly pinned but was removed from alcohol, perhaps by S.G. Jewett, who had previously studied the specimen.

***Anacroneuria callanga*, spec.nov.**
Figs. 28-31

Types. Holotype male from Peru, Cuzco, Paucartambo, Callanga, 1300 m, 14 February 1953, F.Woytkowski, deposited in the National Museum of Natural History.

Description

Adult habitus. Colour pattern obscured by specimen condition.

Male. Forewing length 13 mm. Hammer thimble shaped (Fig. 31). Aedeagal hooks long, scythe-like and slender. Apical aedeagal section trilobed; mesal lobe with a short dorsal keel (Figs. 28-30).

Female. Unknown.

Nymph. Unknown.

Etymology. The species name, based on the type locality, is used as a noun in apposition.

Diagnosis. See comments for *A. adamsae*.

***Anacroneuria cana*, spec.nov.**
Figs. 32-36

Types. Holotype male from Peru, Cuzco, Paucartambo to Pilcopata road, river at Puente Union, 1670 m, 21-23 June 1993, R.Blahnik, M.Pescador, deposited in the National Museum of Natural History.

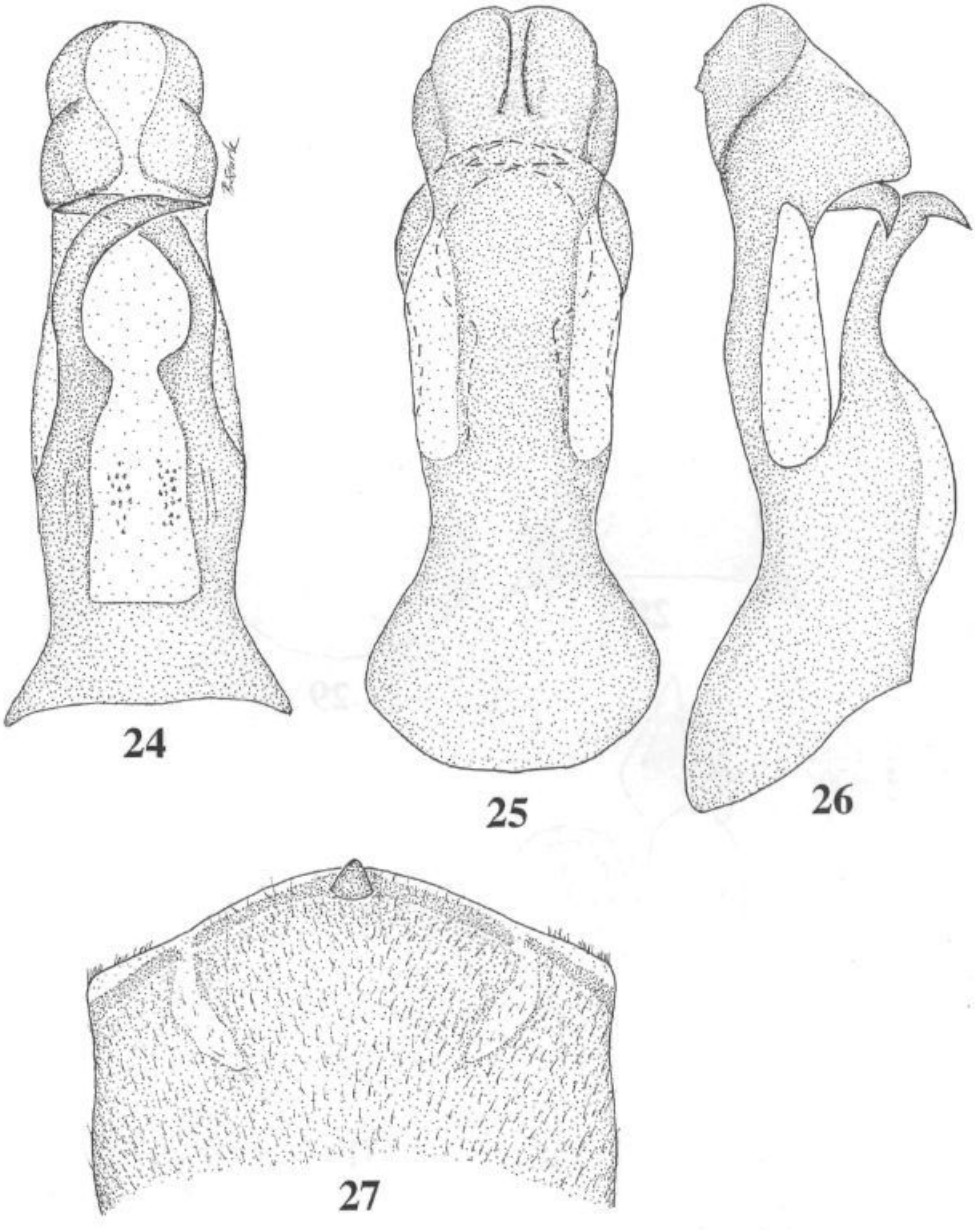
Description

Adult habitus. Head with a diffuse brown area forward of ocelli and extending beyond M-line. Pronotum with diffuse midlateral brown bands and a median pale band (Fig. 32). Wing membrane transparent, veins pale brown.

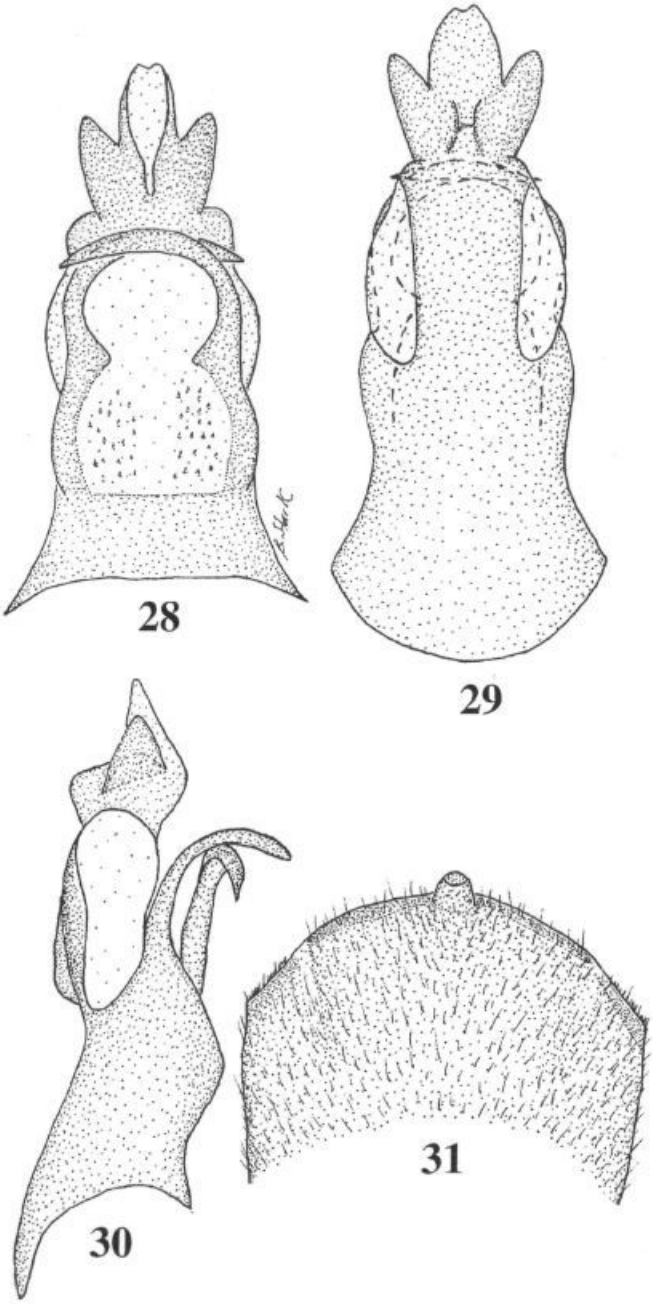
Male. Forewing length 15 mm. Hammer thimble shaped, base much wider than apex, height subequal to basal diameter (Fig. 33). Aedeagal apex simple, broadly rounded; ventral membranous lobes absent. Dorsal keel low, Y-shaped; hook apices scooped, areas lateral to bases bulging (Figs. 34-36).

Female. Unknown.

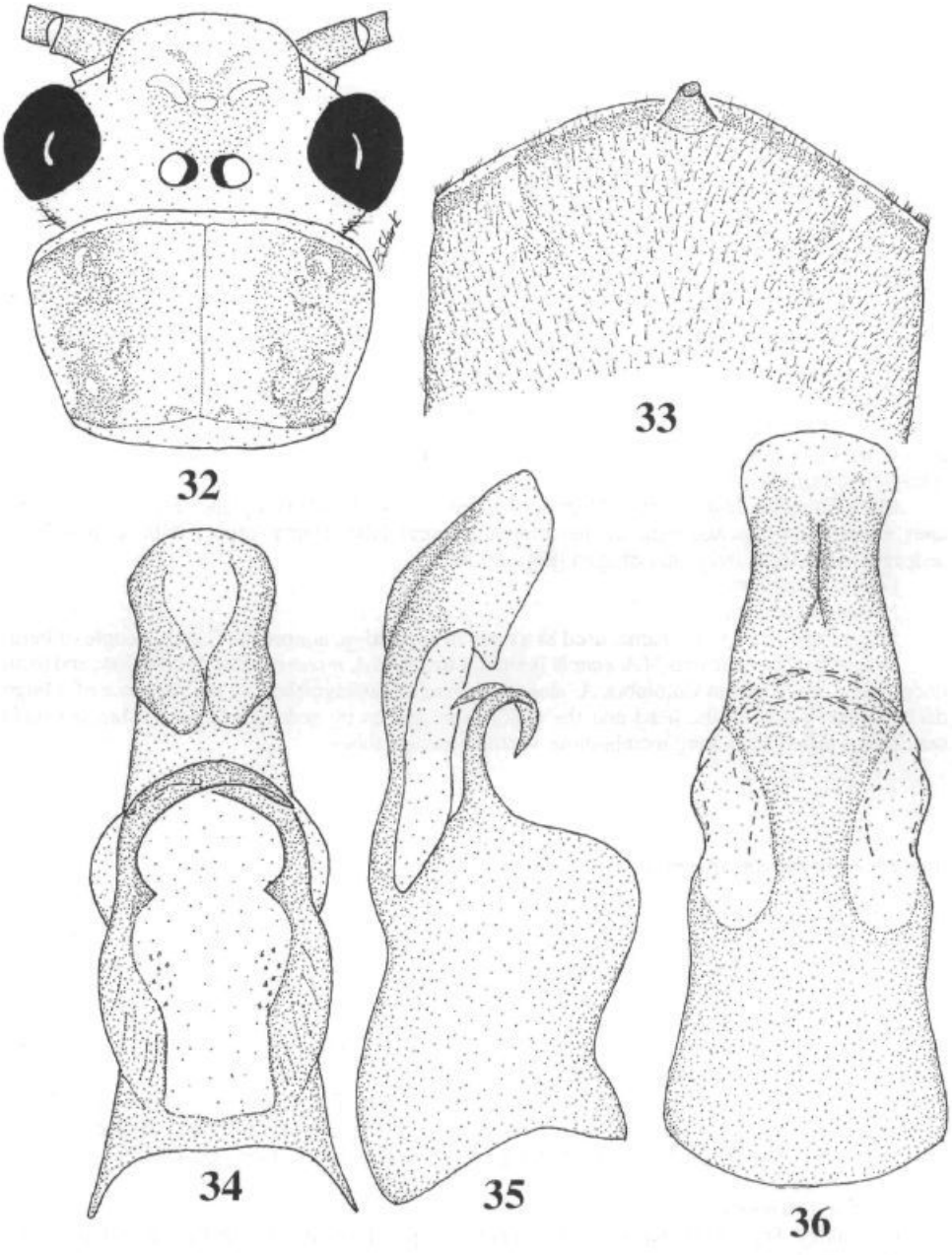
Nymph. Unknown.



Figs. 24-27. *Anacroneuria bulbosa.* 24. Aedeagus, ventral. 25. Aedeagus, dorsal. 26. Aedeagus, lateral. 27. Male 9th sternum.



Figs. 28-31. *Anacroneuria calanga*. 28. Aedeagus, ventral. 29. Aedeagus, dorsal. 30. Aedeagus, lateral. 31. Male 9th sternum.



Figs. 32-36. *Anacroneuria cana*. 32. Head and pronotum. 33. Male 9th sternum. 34. Aedeagus, ventral. 35. Aedeagus, lateral. 36. Aedeagus, dorsal.

Etymology. The species name, used as a noun in apposition, honors the Cana people of Peru.

Diagnosis. Among the Peruvian species, *A. cana* is most similar to *A. bulbosa* in aedeagal features. The aedeagal apex of *A. cana* lacks the bulging shoulders of *A. bulbosa* and the dorsal keel consists of a single Y-shaped ridge in the former species.

***Anacroneuria canchi*, spec.nov.**
Figs. 37-41

Types. Holotype male from Peru, Madre de Dios, Manu, Pakitza, 250 m, 9 September 1995, O.S.Flint, N.Adams, deposited in the National Museum of Natural History.

Description

Adult habitus. Head forward of ocelli diffuse brown to M-line, lappets and triangular area forward of M-line darker. Pronotum brown with a narrow median pale band (Fig. 37). Femora pale basally, dark along dorsal surface and with a narrow dark apical band; tibiae brown. Wing membrane transparent, veins brown.

Male. Forewing length 9 mm. Hammer a narrow, elongate inclined plane (Fig. 38). Aedeagal apex simple, truncate and without membranous ventral lobe. Dorsal aspect with a short keel; aedeagal hooks stout and scythe shaped (Figs. 39-41).

Female. Unknown.

Nymph. Unknown.

Etymology. The species name, used as a noun in apposition, honors the Canchi people of Peru.

Diagnosis. The aedeagus of *A. canchi* is similar to that of *A. montera,* described below, and to an undescribed species from Colombia. *A. montera* is readily distinguished by the presence of a large dark pigment patch on the head and the Colombian species by aedeagal features. *Anacroneuria canchi* also differs in lacking membranous ventral aedeagal lobes.

***Anacroneuria chavin*, spec.nov.**
Figs. 42-45

Types. Holotype male from Peru, Yurac, 67 mi E Tingo Maria, 16 November 1954, E.I.Schlinger, E.S.Ross, deposited in the California Academy of Sciences.

Description

Adult habitus. Head and pronotal pattern obscured by specimen condition. Wing membrane transparent, R and Sc veins brown to cord, others pale.

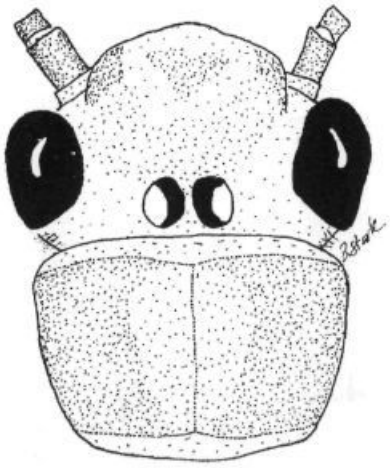
Male. Forewing length 10.5 mm. Hammer nipple shaped (Fig. 43). Aedeagal apex simple, tip rounded; posterior shoulder margins with narrow dark marking. Dorsal keel short; ventral membranous lobes absent; hooks slender, small bulging lobes lateral to bases (Figs. 42, 44-45).

Female. Unknown.

Nymph. Unknown.

Etymology. The species name, used as a noun in apposition, honors the Chavin culture of the 1000 BC period.

Diagnosis. The adeagus of this species is similar to that of *A. wincha* but the keel is less developed and the shoulders are less bulbous. In addition, *A. wincha* is a much darker species. See additional comments for *A. brunneilata.*



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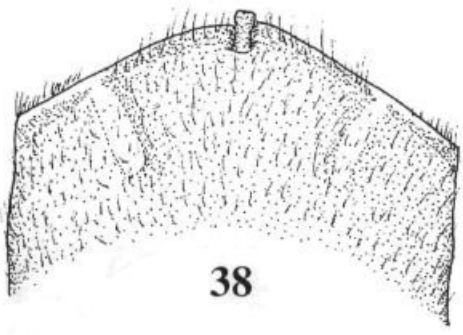

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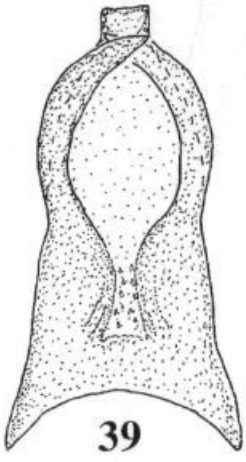

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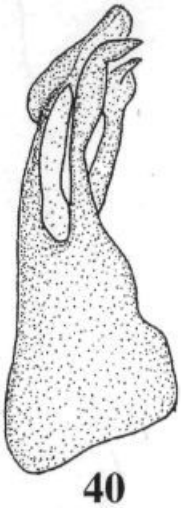

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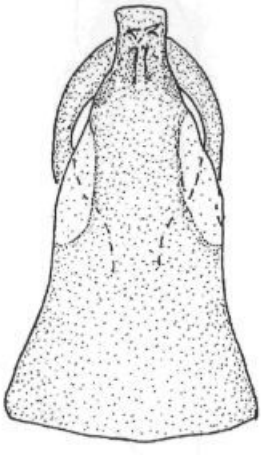

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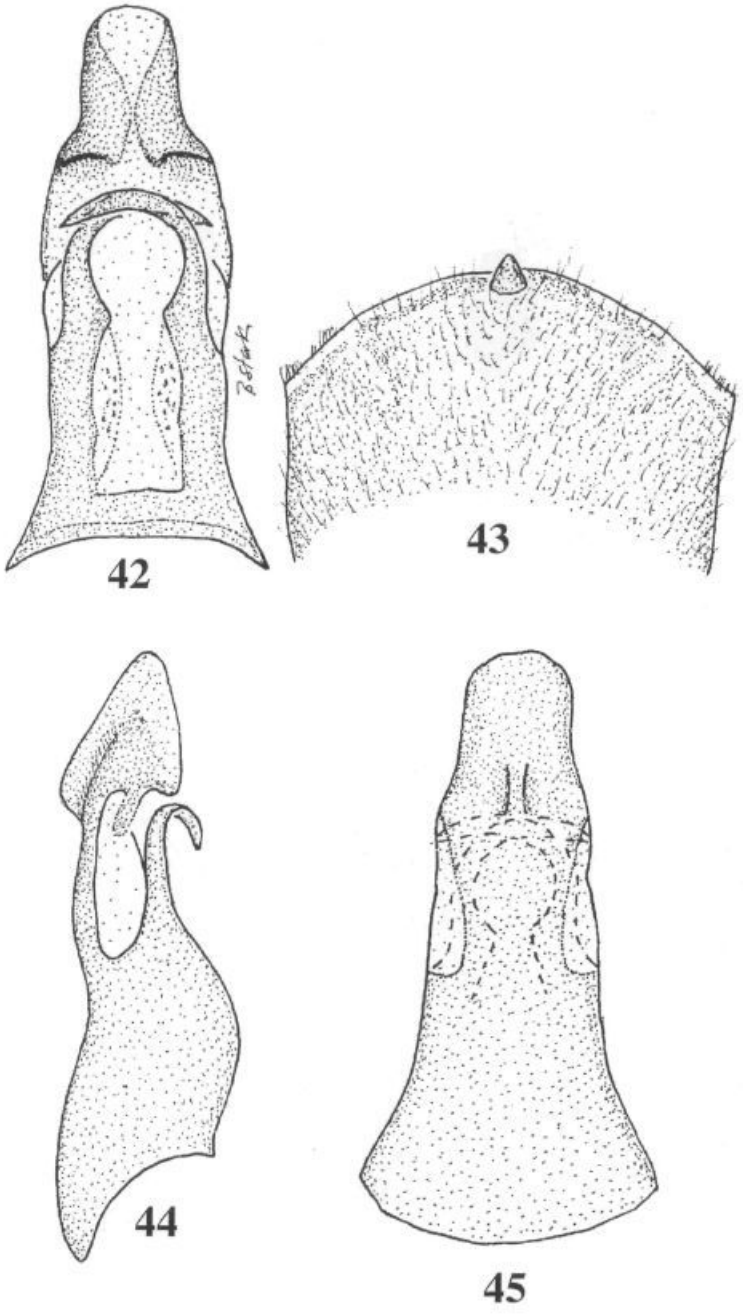
Figs. 37-41. *Anacroneuria canchi*. 37. Head and pronotum. 38. Male 9th sternum. 39. Aedeagus, ventral. 40. Aedeagus, lateral. 41. Aedeagus, dorsal.



Figs. 42-45. *Anacroneuria chavin*. 42. Aedeagus, ventral. 43. Male 9th sternum. 44. Aedeagus, lateral. 45. Aedeagus, dorsal.

***Anacroneuria chipaya*, spec. nov.**
Figs. 46-50

Types. Holotype male and 3 male paratypes from Bolivia, Cochabamba, Incachaca, 25-31 August 1956, L. E. Pena, deposited in the National Musuem of Natural History. Additional paratypes: Bolivia, Cochabamba, 1 male, J. Steinbach (CMNH). Incachaca, 2500 m, J. Steinbach, 15 males. 1 female (CMNH).

Description

Adult habitus. Color pattern obscured by specimen condition. Wing membrane pale brown, veins dark brown, costal area pale.

Male. Forewing length 16-18 mm. Hammer thimble shaped, height greater than basal diameter (Fig. 47). Aedeagal apex simple, strongly narrowed to tip, ventral membranous lobes absent. Hooks narrow; dorsal keel long, composed of two close set ridges, divergent at the base (Figs. 46, 48-49).

Female (putative). Forewing length 21 mm. Subgenital plate bilobed; median notch narrow and U-shaped, lobes truncate. Median sclerite of sternum 9 weakly trilobed; entire sclerite uniformly setose. Transverse sclerite straight (Fig. 50).

Nymph. Unknown.

Etymology. The species name, used as a noun in apposition, honors the Chipaya people of Bolivia.

Diagnosis. The aedeagus of *A. chipaya* is most similar to that of *A. nazca* but is less robust and more strongly narrowed at the apex. In addition, the hooks of *A. nazca* are more massive and more strongly keeled. These species are also similar to *A. pacaje* but that species has a long U-shaped dorsal keel and the aedeagal apex is distinctly wider than the subapical neck.

***Anacroneuria cosnipata*, spec. nov.**
Figs. 51-55

Types. Holotype male from Peru, Cuzco, Llayehuyo near Cosnipata River, 1400 m, 22 December 1951, F. Woytkowski, deposited in the National Museum of Natural History.

Description

Adult habitus. Head pattern mostly dark brown, pronotum brown to dark brown, without pale mesal stripe (Fig. 51). Wing membrane and veins dark brown except for transparent window beyond cord. Femora yellow at base, dark brown in apical half.

Male. Forewing length 10.5 mm. Hammer thimble shaped (Fig. 52). Aedeagal hooks wide mesally. Aedeagal apex trilobed; lateral lobes rounded, sclerotized and protruding in lateral aspect; mesal lobe truncate and dorsally keeled. Dorsal sclerite with a U-shaped mesal plateau (Figs. 53-55).

Female. Unknown.

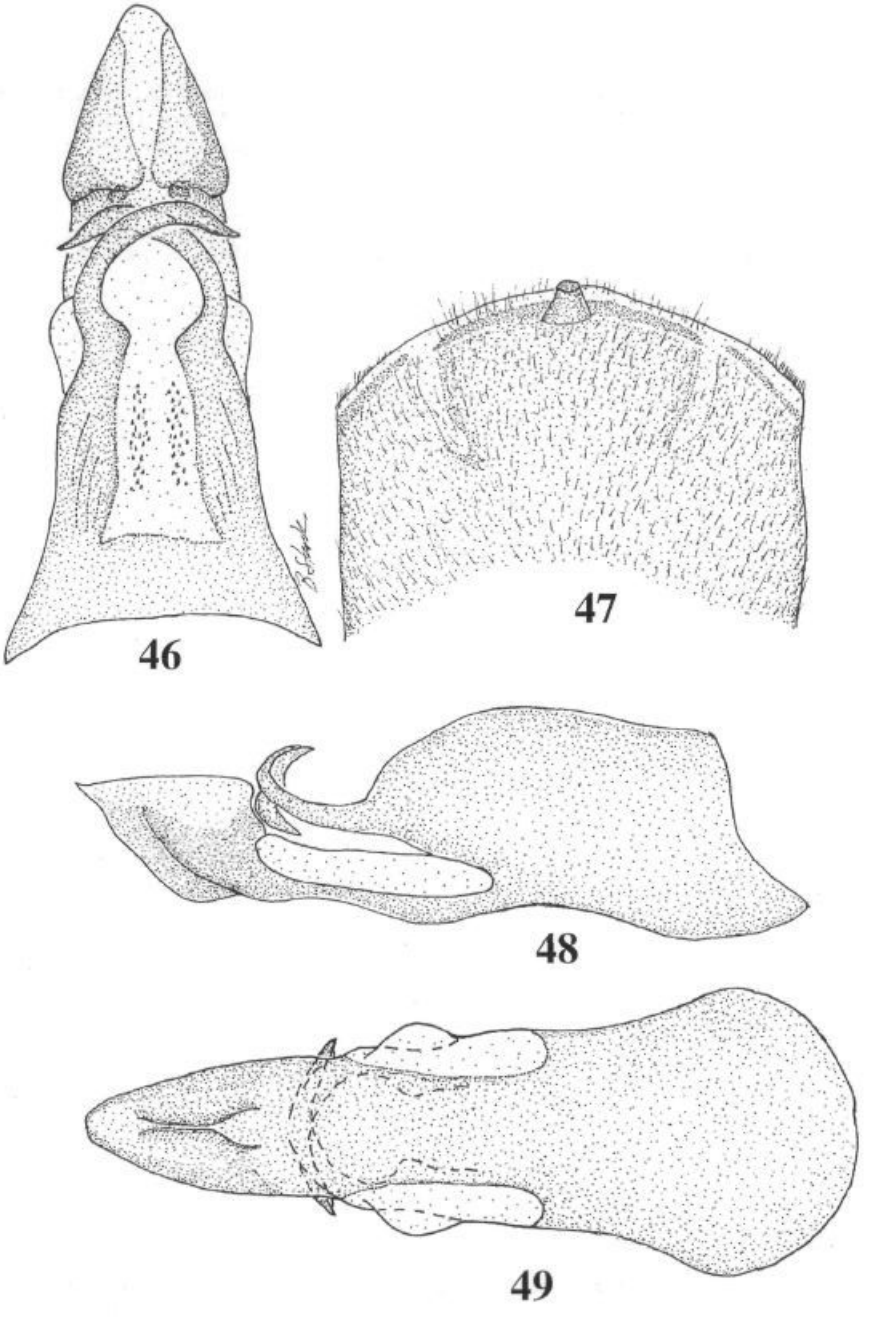
Nymph. Unknown.

Etymology. The species name, based on the type locality, is used as a noun in apposition.

Diagnosis. The mesodorsal lobe, truncate apex and short, swollen shoulders distinguish the aedeagus of this species.

***Anacroneuria cuzco*, spec. nov.**
Figs. 56-60

Types. Holotype male from Peru, Cuzco, Paucartambo, pte. San Pedro, ca. 50 km NW Pilcopata, 1430 m, 30-31 August 1989, N. Adams et al., deposited in the National Museum of Natural History. Paratypes: Bolivia: Yungas Las Paz, Rio Mururrata to Suapi, 1400-1600 m, 26-28 November 1984, L. E. Pena, 2 males (USNM). Peru: Cuzco, Buenos Aires, 2150 m, 28-29 August 1989, R. A. Faitoute et



Figs. 46-49. *Anacroneuria chipaya*. 46. Aedeagus, ventral. 47. Male 9th sternum. 48. Aedeagus, lateral. 49. Aedeagus, dorsal.

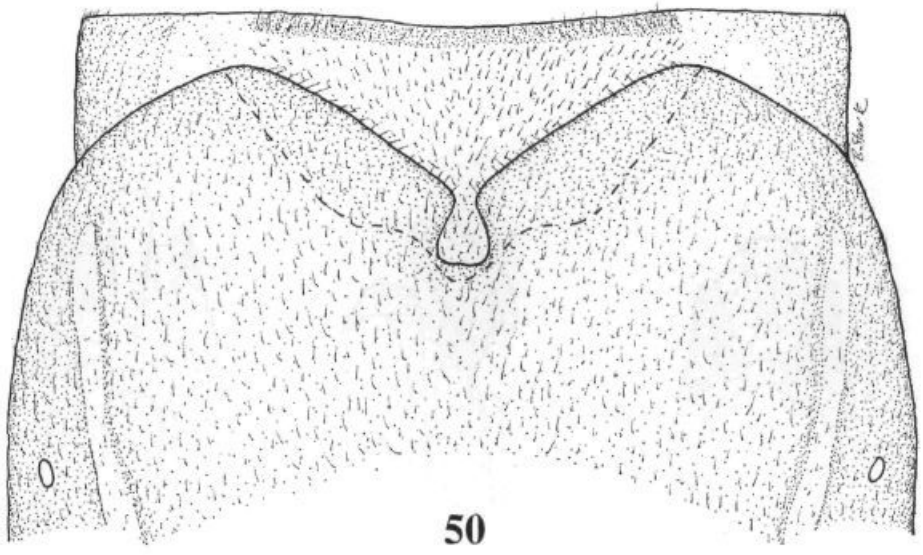
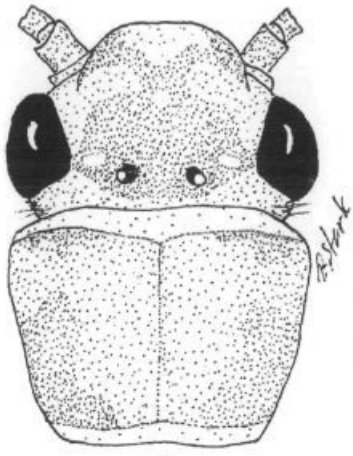


Fig. 50. *Anacroneuria chipaya* female terminalia.



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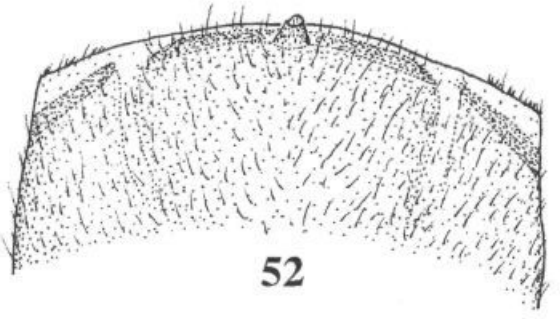

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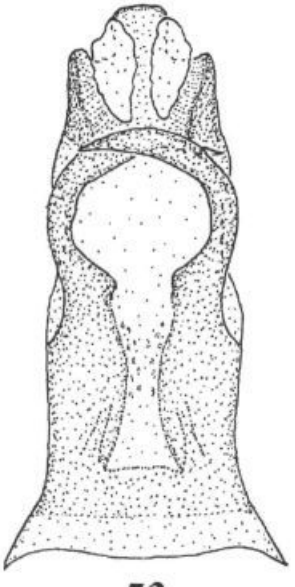

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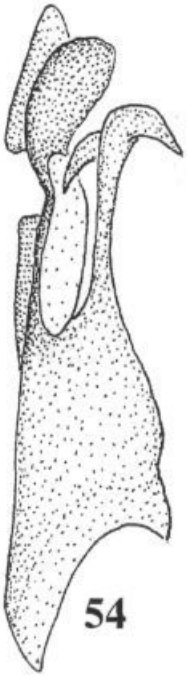

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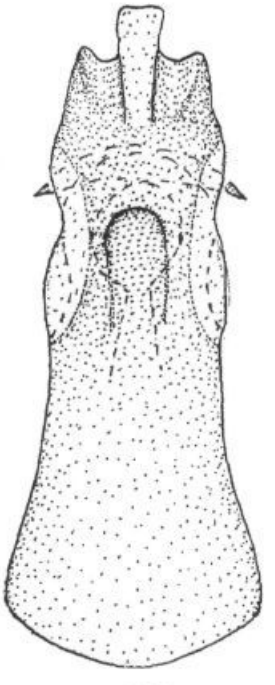

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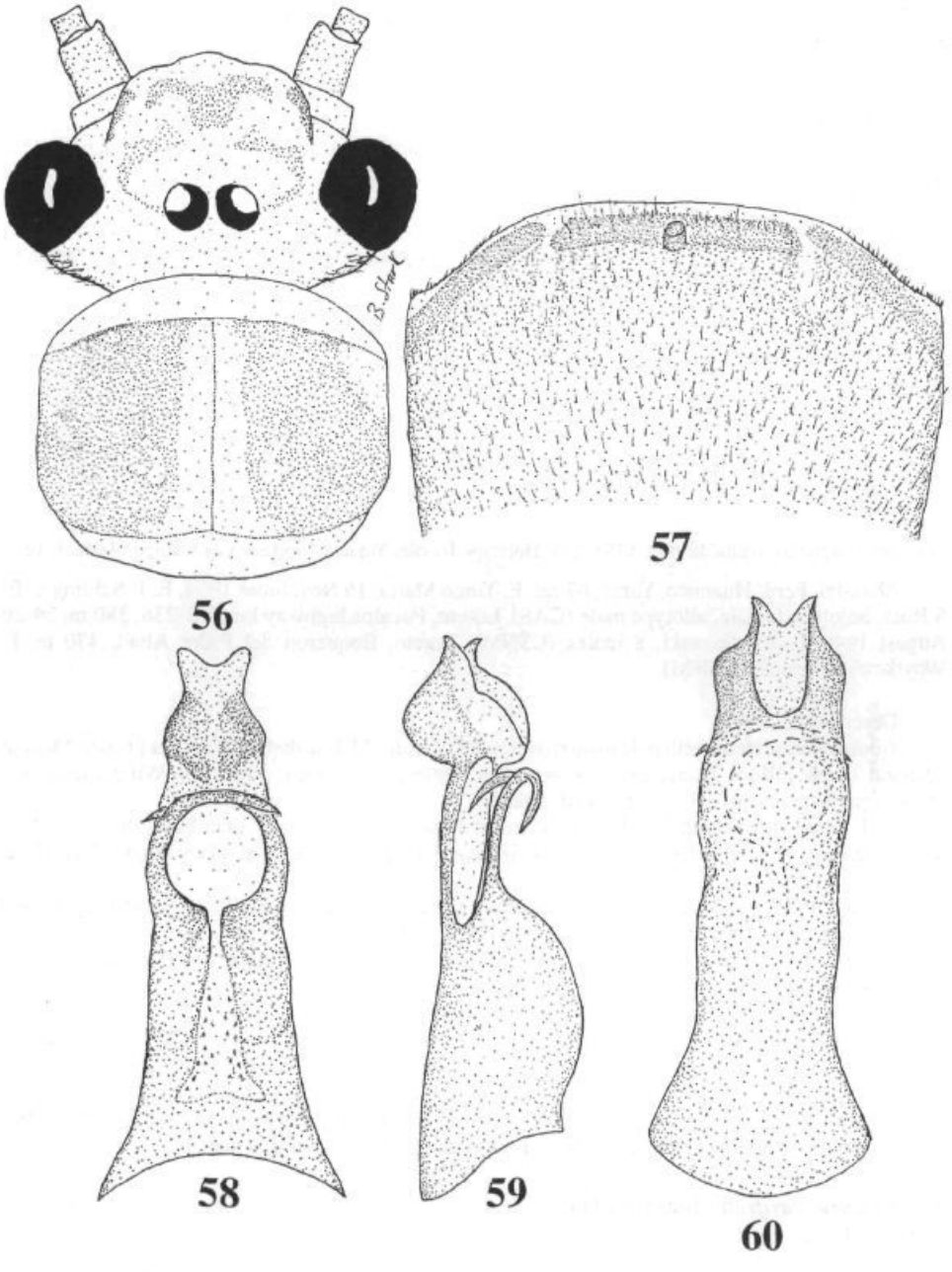
Figs. 51-55. *Anacroneuria cosnipata.* 51. Head and pronotum. 52. Male 9th sternum. 53. Aedeagus, ventral. 54. Aedeagus, lateral. 55. Aedeagus, dorsal.



Figs. 56-60. *Anacroneuria cuzco*. 56. Head and pronotum. 57. Male 9th sternum. 58. Aedeagus, ventral. 59. Aedeagus, lateral. 60. Aedeagus, dorsal.

al., 1 male (USNM). Cuzco, Paucartambo, pte. San Pedro, ca. 50 km NW Pilcopata, 1600 m, 2-3 September 1988, O. S. Flint, N. Adams, 1 male (USNM). Cuzco, Paucartambo to Pilcopata road, river at Puente Union, 1670 m, 21-23 June 1993, R. Blahnik, M. Pescador, 2 males (USNM).

Description.

Adult habitus. Head mostly yellow but obscure dark markings outline all but posteromesal part of M-line; lappets brown. Narrow median pronotal stripe pale, lateral brown stripes with scattered rugosities (Fig. 56). Femora and tibiae pale brown. Wing membrane and veins pale brown, costal margin pale.

Male. Forewing length 18 mm. Hammer cylindrical, height subequal to diameter (Fig. 57). Aedeagal apex with prominent ventrolateral sclerites; dorsal aspect with a median, raised, apically notched process. Hooks slender (Figs. 58-60).

Female. Unknown.

Nymph. Unknown.

Etymology. The species name, based on the Inca capital city, Cuzco, is used as a noun in apposition.

Diagnosis. The broad U-shaped dorsal aedeagal keel and strongly notched apex are distinctive.

Anacroneuria flavicoronata JEWETT, 1959

Figs. 61-65, 71

Anacroneuria flavicoronata JEWETT, 1959: 111. Holotype female, Yurac, 67 miles east of Tingo Maria, Peru

Material. Peru: Huanuco, Yurac, 67 mi. E. Tingo Maria, 16 November 1954, E. I. Schlinger, E. S.Ross, holotype female, allotype male (CAS). Loreto, Pucalpa highway km 232-236, 380 m, 24-26 August 1946, F. Woytkowski, 8 males (USNM). Loreto, Boqueron del Padre Abad, 470 m, F. Woytkowski, 1 male (USNM).

Description.

Adult habitus. Head with pale brown over most of frons, M-line distinct, lappets brown. Median pronotal stripe yellow, lateral areas brown with scattered rugosities (Fig. 61). Wing membrane transparent, veins brown, R, Rs and cord darker.

Male. Forewing length 10-11 mm. Hammer conical, height greater than basal diameter (Fig. 62). Aedeagal apex long, slender and sinuate in lateral aspect. Hooks relatively straight, dorsal keel absent (Figs. 63-65).

Female. Forewing length 11 mm. Subgenital plate four lobed; lateral lobes projecting beyond median lobes; median notch U-shaped, lateral notches shallow and poorly defined. Median sclerite of sternum 9 trilobed; median lobe covered with fine short setae, lateral setae longer. Transverse sclerite densely hirsute (Fig. 71).

Nymph. Unknown.

Comments. The type locality is given by mistake as "Tingo Maria" (JEWETT 1959). The holotype specimen label identifies the locality as "Yurac" and the collection date given by Jewett, 16 November 1954, matches that for other "Yurac" specimens collected by Schlinger and Ross.

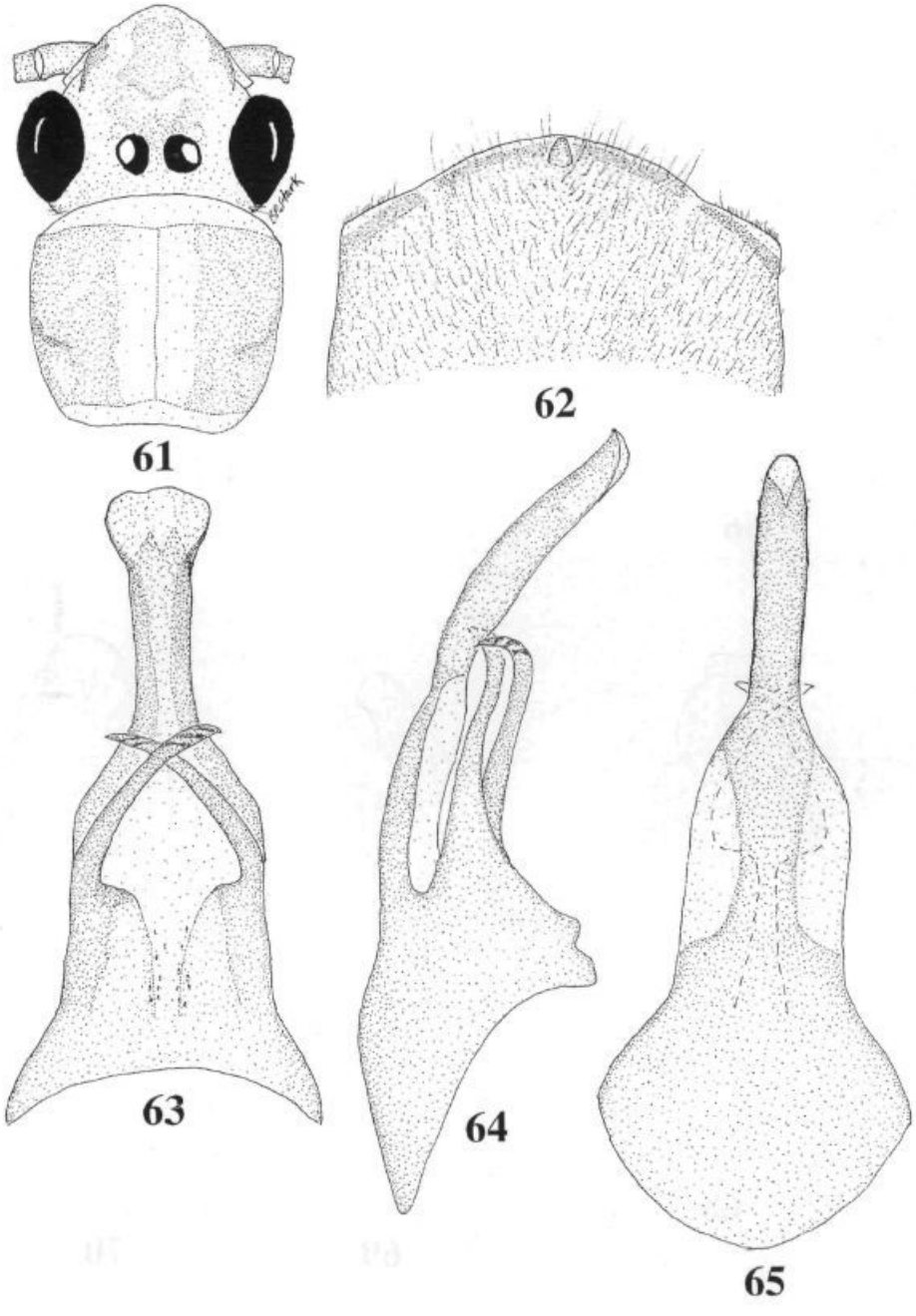
Diagnosis. The aedeagus of this species is similar to that of *A. flinti* but lacks membranous lobes basal to the hooks and has a more strongly sinuate lateral profile than that species.

Anacroneuria flavifrons JEWETT, 1959

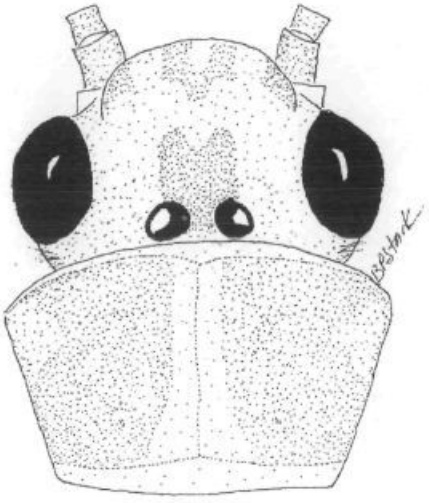
Figs. 66-70, 72

Anacroneuria flavifrons JEWETT, 1959: 108. Holotype female, Yurac, 67 miles east of Tingo Maria, Peru

Material. Peru: Huanuco, Yurac, 67 mi. E. Tingo Maria, 16 November 1954, E. I. Schlinger, E. S. Ross, holotype female, allotype male (CAS).



Figs. 61-65. *Anacroneuria flavicoronata*. 61. Head and pronotum. 62. Male 9th sternum. 63. Aedeagus, ventral. 64. Aedeagus, lateral. 65. Aedeagus, dorsal.



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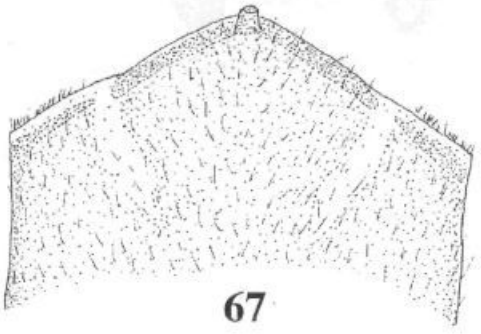

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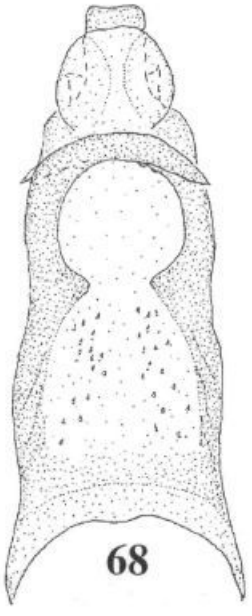

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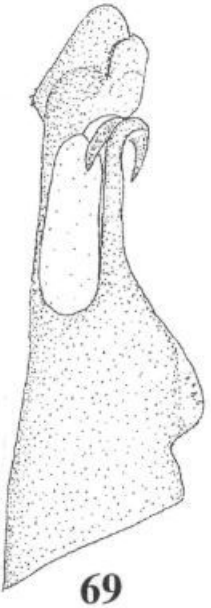

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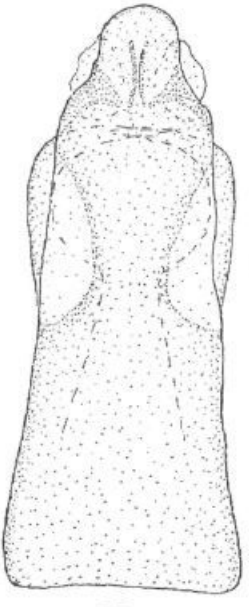

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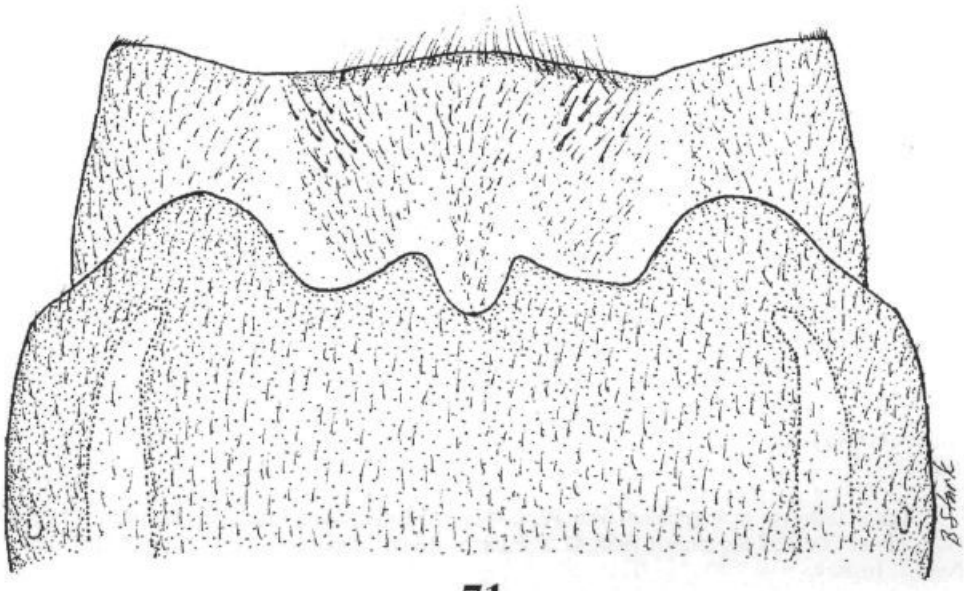
Figs. 66-70. *Anacroneuria flavifrons*. 66. Head and pronotum. 67. Male 9th sternum. 68. Aedeagus, ventral. 69.Aedeagus, lateral. 70. Aedeagus, dorsal.



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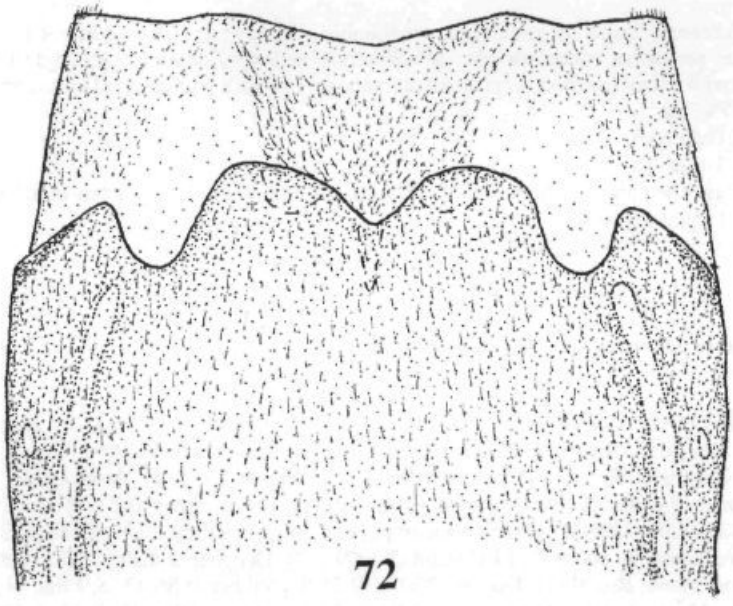

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Figs. 71-72. *Anacroneuria* female terminalia. 71. *A. flavicoronata.* 72. *A. flavifrons.*

Description.

Adult habitus. Dark brown extends from ocelli to M-line and a small V-shaped patch occurs forward of M-line; lappets brown. Median pronotal stripe yellow; lateral areas brown, rugosities and anterolateral margins pale (Fig. 66). Wing membrane transparent, veins brown, costal area pale.

Male. Forewing length 9 mm. Hammer thimble shaped, height greater than basal diameter (Fig. 67). Aedeagal apex weakly trilobed; ventral aspect covered with large membranous lobes; dorsal keel narrow, hooks moderately stout (Figs. 68-70).

Female. Forewing length 11 mm. Subgenital plate four lobed; lateral lobes small and separated by deep notches; median notch shallow and broadly V-shaped. Median sclerite of sternum 9 trilobed, median lobe narrow; sclerite uniformly setose but bare anterior to transverse sclerite (Fig. 72).

Nymph. Unknown.

Diagnosis. The large, circular, membranous aedeagal lobe and small lateral shoulder projections distinguish this species.

***Anacroneuria flinti*, spec. nov.**
Figs. 73-76

Types. Holotype male (pinned) from Peru, Madre de Dios, Manu, Rio Manu, Limonal, 10 km N Boca Manu, 200 m, 7 September 1988, O. S. Flint, N. Adams, deposited in the National Museum of Natural History.

Description

Adult habitus. Head mostly yellow, lappets brown. Pronotum dark brown but with a narrow median yellow band. Femora mostly dark brown, but basal third pale. Wing membrane transparent, veins dark brown.

Male. Forewing length 10 mm. Hammer thimble shaped (Fig. 76). Aedeagal hooks almost straight, apices somewhat corkscrew-like. Apical half of aedeagus slender, apex slightly expanded, dorsal aspect with a long low keel. Ventral membranous area with a pair of small knobs near bases of hooks (Figs. 73-75).

Female. Unknown.

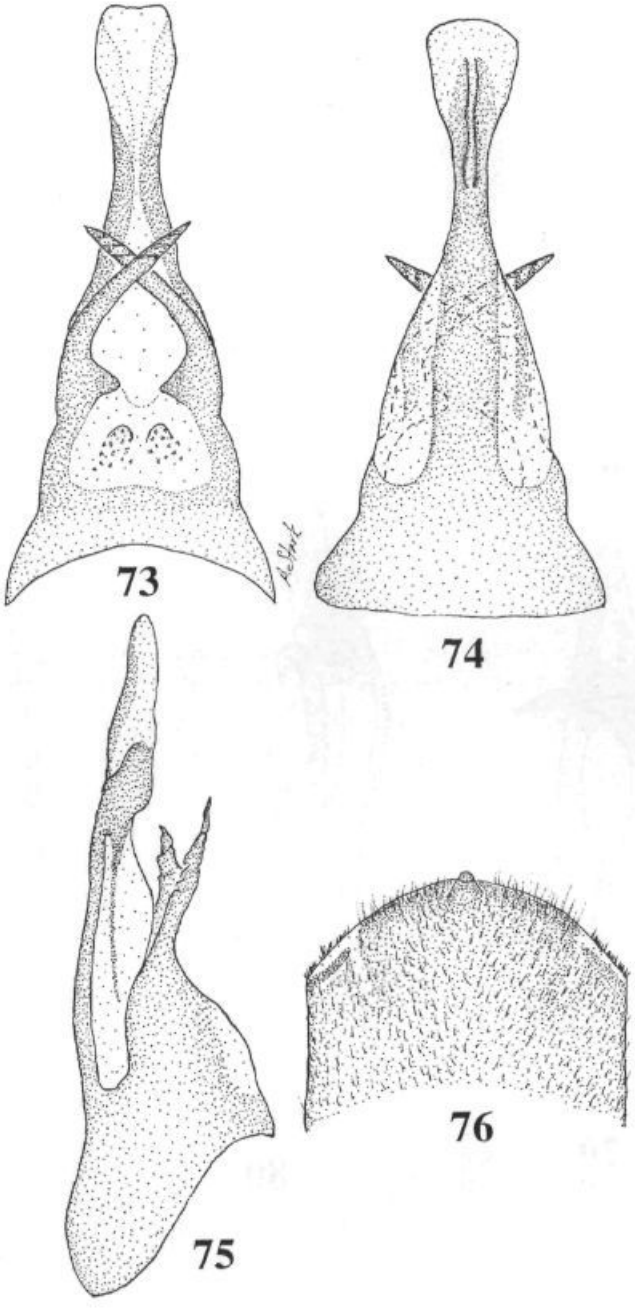
Nymph. Unknown.

Etymology. The patronym honors O. S. Flint for his numerous contributions to our knowledge of Neotropical aquatic insects.

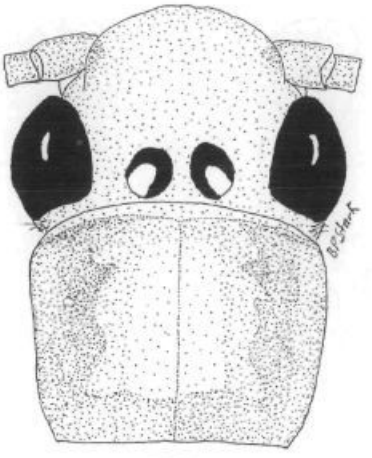
Diagnosis. See comments for *A. flavicoronata.*

***Anacroneuria handlirschi*, KLAPÁLEK, spec. prop.**
Figs. 77-82

Material. Bolivia: Cochabamba, Alta Palmas, 1100 m, October 1960, 33 males (MSU). Cochabamba, Carrusco, Siberia, 1650 m, October 1963, 4 males (MSU). Peru: Cuzco, Hacienda Maria, near Cosnipata River, 900 m, 19 February-24 March 1952, F. Woytkowski, 57 males (USNM). Cuzco, Llayehuyo, near Cosnipata River, 1400 m, 30 November 1951-28 January 1952, F. Woytkowski, 36 males (USNM). Cuzco, Paucartambo, Cosnipata Valley, 17 November 1951, 1 male (CAS). Cuzco, Pilcopata, 600 m, 8-14 December 1979, J. B. Heppner, 3 males, 3 females (USNM). Madre de Dios, Manu, Rio Manu, Pakitza, 250 m, 9-21 September 1988, O. S. Flint, N. Adams, 1 male (USNM). Madre de Dios, Manu, Erika, 550 m, 4-6 September 1988, O. S. Flint, N. Adams, 5 males, 6 females (USNM). Madre de Dios, Rio Tambapata Res., 30 km SW pto. Maldonado, 290 m, 11-15 November 1979, J. B. Heppner, 1 male, 4 females (USNM).



Figs. 73-76. *Anacroneuria flinti*. 73. Aedeagus, ventral. 74. Aedeagus, dorsal. 75. Aedeagus, lateral. 76. Male 9th sternum.



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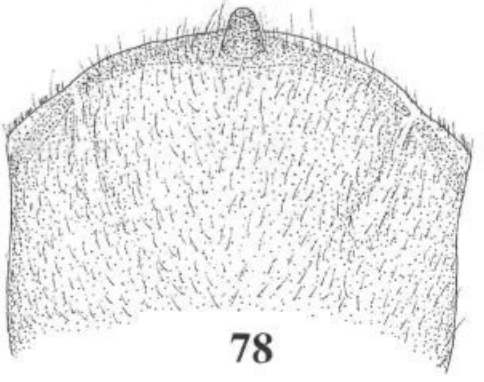

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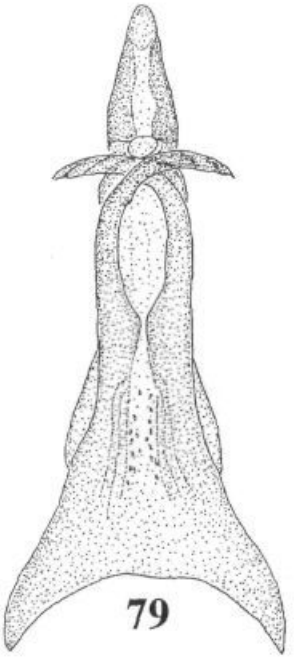

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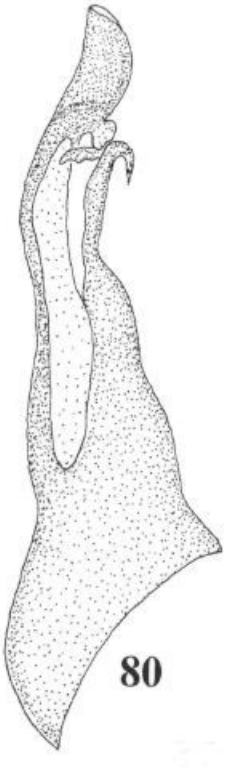

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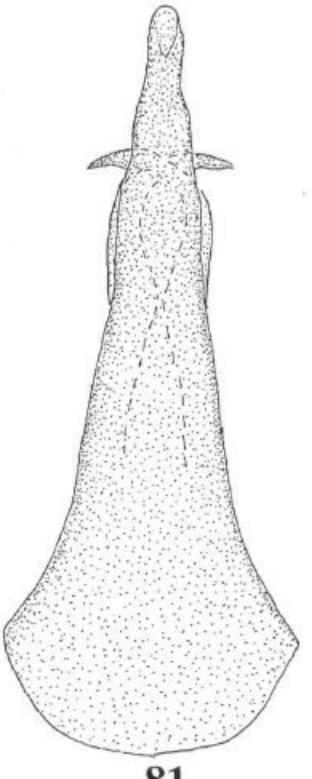


81

Figs. 77-81. *Anacroneuria handlirschi*. 77. Head and pronotum. 78. Male 9th sternum. 79. Aedeagus, ventral. 80. Aedeagus, lateral. 81. Aedeagus, dorsal.

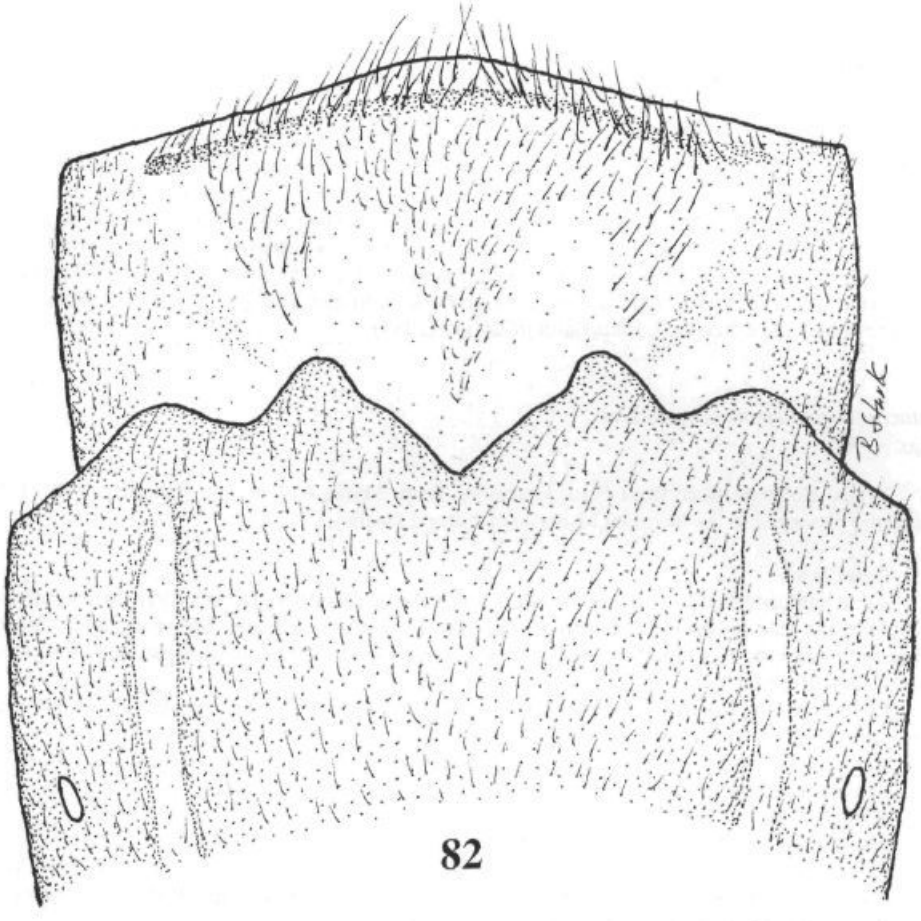


Fig. 82. *Anacroneuria handlirschi* female terminalia.

Description

Adult habitus. Head yellow, lappets brown. First antennal segment light brown, basis and tips paler. Median pronotal stripe pale, dark laterally (Fig. 77). Wing membrane hyaline, veins brown.

Male. Forewing length 13-14 mm. Hammer thimble shaped, height greater than basal diameter (Fig. 78). Aedeagus slender, apex narrowed to rounded, dorsally curved tip; ventroapical aspect sclerotized laterally and bearing a pair of small membranous knobs distal to hooks. Hooks slender but with irregular ridges; dorsum without keel (Figs. 79-81).

Female. Forewing length 15-16 mm. Subgenital plate four lobed, inner lobes notched on inner margins and longer than outer lobes. Transverse sclerite of sternum 9 long and slender; mesal sclerite T-shaped; stalk covered with minute setae, lateral lobes with longer setae (Fig. 82).

Nymph. Unknown.

Comments. ZWICK (1973) designated a lectotype and placed this species as a synonym of *A. angusticollis* (ENDERLEIN). Although the aedeagus is similar, these species are distinct. The aedeagal apex of *A. angusticollis* has almost parallel sides to the tip, a distinct dorsal keel, digitate aedeagal hook apices, no membranous ventral lobes, and a long apex beyond the hooks. In *A. handlirschi* the aedeagal apex is convergent to the tip, there is no dorsal keel, the aedeagal hooks are not digitate, a pair of ventroapical membranous knobs are present and the area beyond the hooks is relatively short. This species appears to be one of the more common stoneflies of southern Peru and northern Bolivia. Woytkowski's 1952 collections from "Hacienda Maria" include 117 male specimens representing seven *Anacroneuria* species but 57 specimens are of *A. handlirschi*. The specimen from Paucartambo was previously identified as *A. ohausiana* in JEWETT (1959).

***Anacroneuria heppneri*, spec. nov.**
Figs. 83-87

Types. Holotype male from Peru, Huanuco, Tingo Maria, 672 m, 1-6 February 1980, J. B. Heppner, deposited in the National Museum of Natural History.

Description

Adult habitus. Head pale except for a dark triangular ocellar patch, lappets and a diffuse anterior band. Median pale pronotal band narrow (Fig. 83). Femora pale basally, brown in apical fourth; tibiae with broad basal and narrow apical brown bands. Wing membrane transparent, veins brown except for pale costal area.

Male. Forewing length 10 mm. Hammer thimble shaped, height greater than basal diameter (Fig. 84). Aedeagal apex simple, but with a pair of sclerotized ventrolateral projections on shoulders; ventral membranous lobes absent. Dorsal aedeagal keel triangular, hooks stout, scythe shaped (Figs. 85-87).

Female. Unknown.

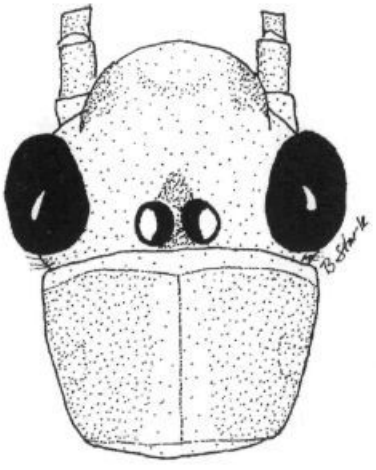
Nymph. Unknown.

Etymology. The patronym honors J. B. Heppner, collector of the holotype.

Diagnosis. This species is similar to *A. atrinota* in habitus and general aedeagal morphology. The aedeagal apex of *A. heppneri* is shorter and wider than in *A. atrinota*, and that species lacks the sclerotized ventrolateral projections of the aedeagal shoulders.

***Anacroneuria inca*, spec. nov.**
Figs. 88-92

Types. Holotype male from Peru, Madre de Dios, Manu, Erika, 550 m, 4-6 September 1988, O. S. Flint, N. Adams, deposited in the National Museum of Natural History. Paratype: Peru, Cuzco, Llayehuyo near Cosnipata River, 1400 m, 15 January 1952, F. Woytkowski, 1 male (USNM).



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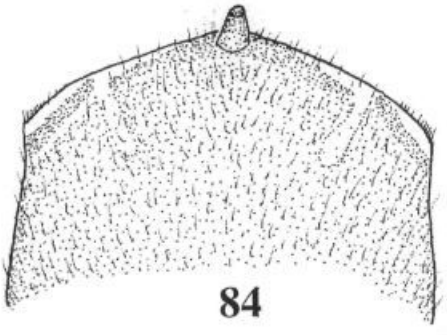

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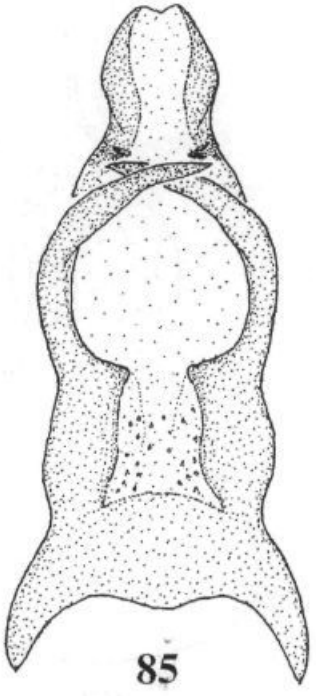

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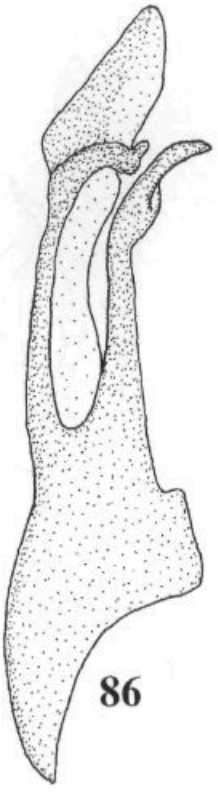

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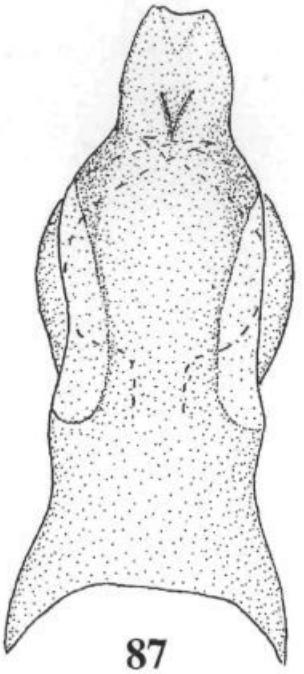
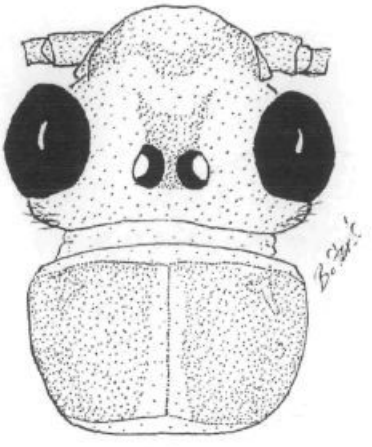


87

Figs. 83-87. *Anacroneuria heppneri*. 83. Head and pronotum. 84. Male 9th sternum. 85. Aedeagus, ventral. 86. Aedeagus, lateral. 87. Aedeagus, dorsal.



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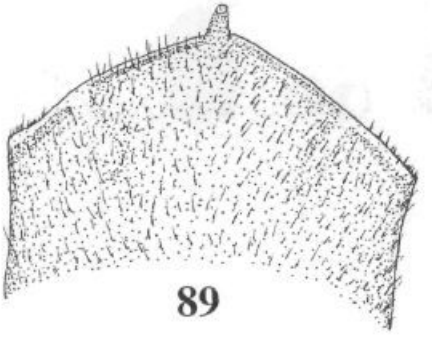

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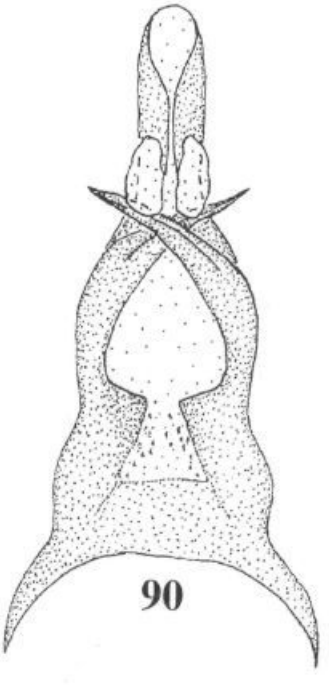

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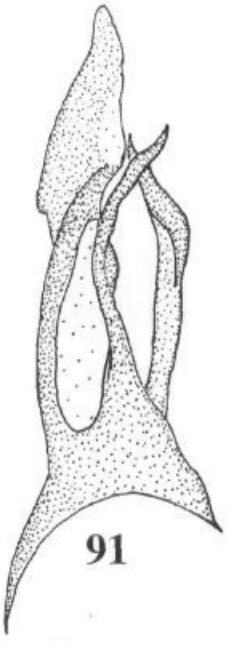

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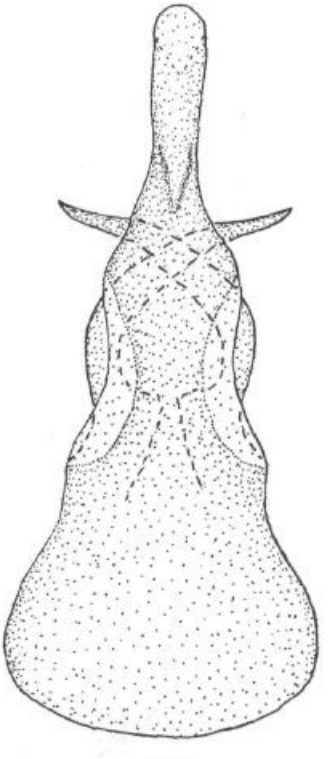


92

Figs. 88-92. *Anacroneuria inca*. 88. Head and pronotum. 89. Male 9th sternum. 90. Aedeagus, ventral. 91. Aedeagus, lateral. 92. Aedeagus, dorsal.

Description

Adult habitus. Head yellow with a quadrangular brown spot over ocelli; brown lappets more or less connected by a sinuate transverse brown band. Pronotum brown with a pale mesal stripe (Fig. 88). Femora banded along dorsal and ventral margins with dark pigment; tibiae dark brown along outer margins. Wing membrane pale, veins brown.

Male. Forewing length 10 mm. Hammer thimble shaped (Fig. 89). Aedeagal hooks broad but sharply tapered to apex; ventral surface keeled and appearing somewhat twisted in lateral aspect. Aedeagal apex long and slender, weakly keeled on dorsum, and bearing a pair of membranous ventral lobes. Base of aedeagus much wider than apex (Figs. 90-92).

Female. Unknown.

Nymph. Unknown.

Etymology. The species name honors the Inca people of Peru and is used as a noun in apposition.

Diagnosis. See comments for *A. atrinota.*

Anacroneuria iridescens KLAPÁLEK, 1922

Fig. 93

Anacroneuria iridescens KLAPÁLEK, 1922: 91. Lectotype female, here designated, Chaco, Bolivia.

Material. Bolivia: Chaco, lectotype female (NMP).

Description

Adult habitus (modified from KLAPÁLEK 1922). Body and legs yellow, but head and pronotal sides with dark brown areas. Wings hyaline with pale brown veins except the first three longitudinal veins which are pale yellow.

Male. Unknown.

Female. Forewing length 16 mm. Subgenital plate broadly bilobed, notch small and quadrate. Mesal sclerite of sternum 9 clothed with uniformly sized setae; transverse posterior sclerite well developed (Fig. 93).

Nymph. Unknown.

Comments. The terminalia of a cotype female was examined while on loan to P. Zwick. This specimen, now in the Natural History Museum, Prague, is designated as lectotype. The abdomen of the specimen has been damaged but sterna 8 and 9 are intact. The species is similar to the female tentatively associated with *A. ohausiana* (ENDERLEIN) in ZWICK (1973).

Anacroneuria lupaca, spec. nov.

Figs. 94-98

Types. Holotype male from Peru, Pakitza, Manu, Madre de Dios, 250 m, 9-14 September 1988, O. S. Flint, N. Adams, deposited in the National Museum of Natural History.

Description

Adult habitus. Head pale yellow with indistinct markings. Pronotum pale brown laterally, mesal yellow band narrow (Fig. 94). Wing membrane transparent, veins pale brown. Femora and tibiae pale yellow.

Male. Forewing length 9 mm. Hammer thimble shaped (Fig. 95). Aedeagal hooks long and almost straight to tip; apices hooked. Base of aedeagus swollen, apical 2/3 slender, but apex flared, truncate, and bearing a small median lobe (Figs. 96-98).

Female. Unknown.

Nymph. Unknown.

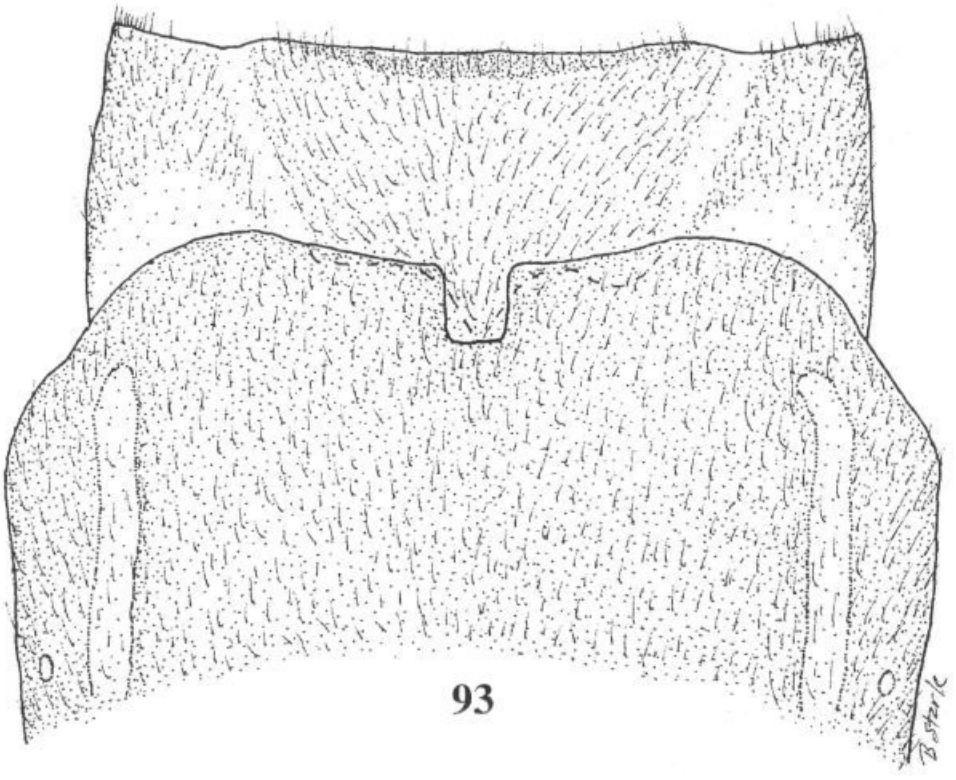
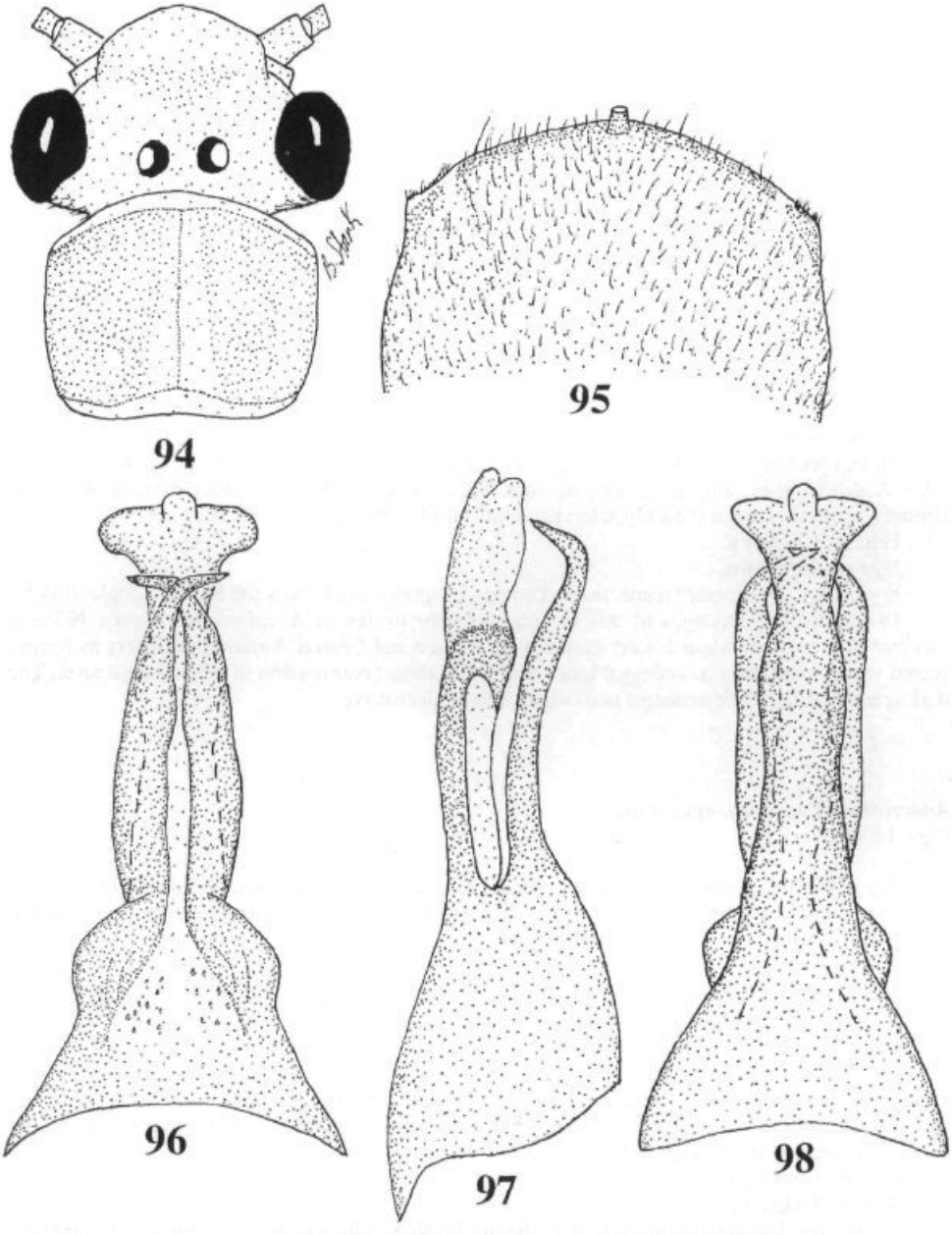


Fig. 93. *Anacroneuria iridescens* female terminalia.



Figs. 94-98. *Anacroneuria lupaca*. 94. Head and pronotum. 95. Male 9th sternum. 96. Aedeagus, ventral. 97. Aedeagus, lateral. 98. Aedeagus, dorsal.

Etymology. The species name honors the Lupaca people of southeastern Peru.

Diagnosis. Aedeagal features place this species in the *A. flavicoronata* group, perhaps near *A. woytkowskii*. This species is easily distinguished by the small mesoapical aedeagal lobe and by the long straight hooks.

***Anacroneuria moche*, spec. nov.**
Figs. 99-102

Types. Holotype male from Peru, San Martin, Hera, 15 km SE Myobamba, Rio Mayo, Rio Jera jct., 3 June 1947, F. Woytkowski, deposited in the National Museum of Natural History. Paratypes: Peru: Huanuco, Tingo Maria, 19-24 April 1969, P. and P. Spangler, 1 male (USNM).

Description

Adult habitus. Head and pronotal pattern obscured by specimen condition. Wing membrane pale brown, veins brown.

Male. Forewing length 9 mm. Hammer thimble shaped, height subequal to basal diameter (Fig. 102). Aedeagal apex simple, slender, tip rounded; ventral membranous lobes oval; hooks stout, strongly curved inward and darkly sclerotized; dorsal keel narrow (Figs. 99-101).

Female. Unknown.

Nymph. Unknown.

Etymology. The species name, used as a noun in apposition, honors the Moche people of Peru.

Diagnosis. The aedeagus of this species is similar to that of *A. talamanca* (STARK 1998), a member of the *A. crenulata* JEWETT complex of Mexico and Central America. It differs in having paired ventral membranous aedeagal lobes, and in the abrupt constriction of the aedeagal apex. The dark sclerotization of the aedeagal hooks may also be distinctive.

***Anacroneuria mochica*, spec. nov.**
Figs. 103-107

Types. Holotype male and 1 paratype male from Peru, Madre de Dios, Manu, Pakitza, 250 m, 14-23 September 1988, O. S. Flint, N. Adams, deposited in the National Museum of Natural History.

Description

Adult habitus. Head entirely yellow. Pronotum with irregular midlateral dark bands and a broad median yellow band (Fig. 103). Femora and tibiae pale. Wing membrane pale brown with apical transparent window at cord, veins pale.

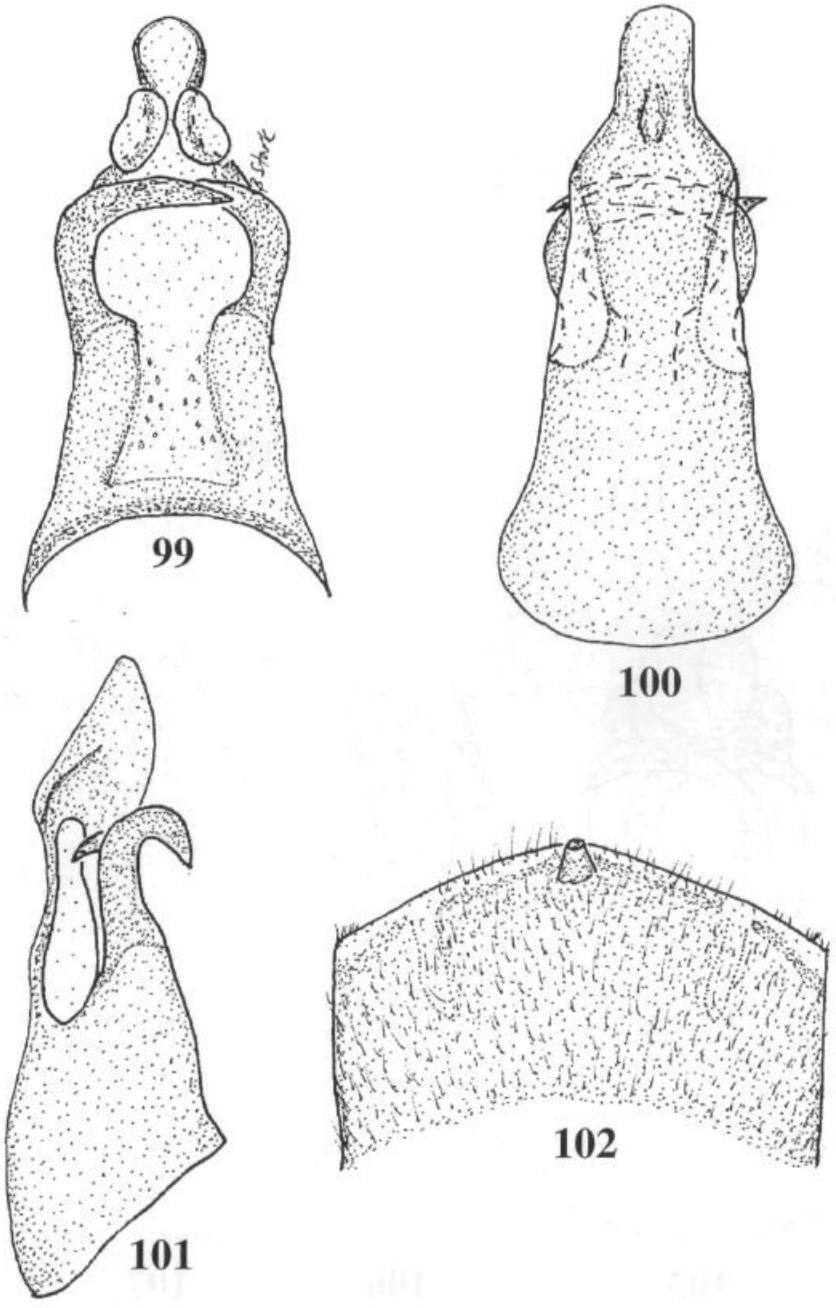
Male. Forewing length 9 mm. Hammer thimble shaped, height greater than basal diameter (Fig. 104). Ventral aedeagal apex covered by a pair of large membranous lobes, shoulders wide and rounded. Dorsal aedeagal apex with a large triangular median process; anterior margin of process excavated; hooks slender (Figs. 105-107).

Female. Unknown.

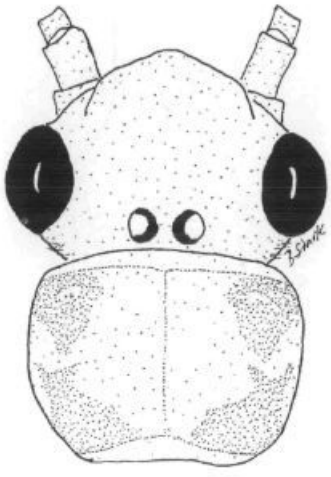
Nymph. Unknown.

Etymology. The species name honors the pre-Incan Mochica people of Peru and is used as a noun in apposition.

Diagnosis. The aedeagus of *A. mochica* is similar to that of *A. boliviensis* (ENDERLEIN). Apparent differences include the notched apex and more anterior placement of the dorsal, triangular keel in *A. mochica*.



Figs. 99-102. *Anacroneuria moche*. 99. Aedeagus, ventral. 100. Aedeagus, dorsal. 101. Aedeagus, lateral. 102. Male 9th sternum.



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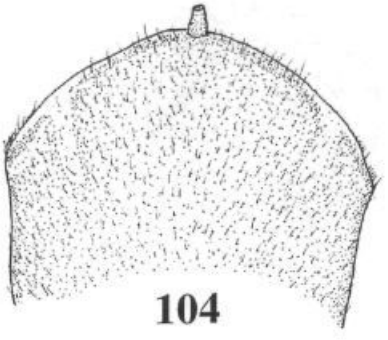

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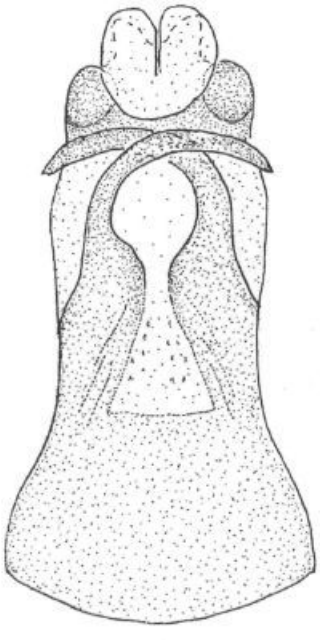

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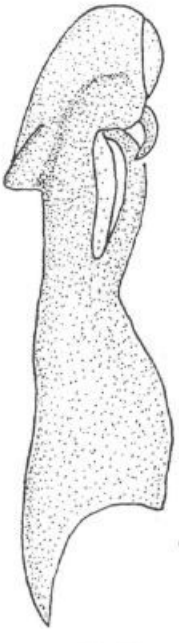

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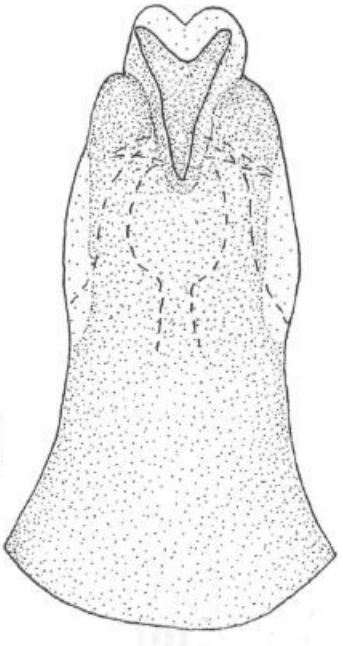


107

Figs. 103-107. *Anacroneuria mochica*. 103. Head and pronotum. 104. Male 9th sternum. 105. Aedeagus, ventral. 106. Aedeagus, lateral. 107. Aedeagus, dorsal.

***Anacroneuria montera*, spec. nov.**
Figs. 108-113

Types. Holotype male (pinned) from Peru, Loreto, Iquitos, 16 April 1944, F. J. Hermann, deposited in the National Museum of Natural History. Paratypes: Peru: Loreto, Explorama Lodge, Amazon River, 80 km NE Iquitos, 24 June-20 July 1990, Menke, Awertschenko, 1 female (USNM).

Description

Adult habitus. Occiput and posterior half of frons dark brown except for pale callosities adjacent to ocelli. Pronotum with a narrow pale median band (Fig. 113). Basal half of femora yellow, apical half dark brown; tibiae dark brown. Wing membrane brown, veins dark brown.

Male. Forewing length 10 mm. Hammer thimble shaped, height greater than basal diameter (Fig. 112). Aedeagal apex truncate and sharply upturned; ventral membranous lobes small and spherical. Dorsal keel small, hooks slender (Figs. 108-110).

Female. Forewing length 13 mm. Subgenital plate weakly four lobed; outer lobes scarcely developed, median lobes separated by a shallow notch. Mesal sclerite of sternum 9 rather uniformly hirsute; posterior sclerite slender (Fig. 111).

Nymph. Unknown.

Etymology. The species name, based on a type of Incan headgear, is used as a noun in apposition.

Diagnosis. The dark habitus of this species is distinctive among Peruvian *Anacroneuria* but the aedeagus is similar to that of *A. canchi*. The aedeagus of *A. canchi* lacks membranous ventral lobes and the two species are easily distinguished on the basis of color pattern. See additional comments for *A. aymora*.

***Anacroneuria nazca*, spec. nov.**
Figs. 114-117

Types. Holotype male from Peru, Junin, Tarma, Utcuyacu, Aqua Dulce, 1600-2400 m, 2 March 1948, F. Woytkowski, deposited in the National Museum of Natural History.

Description

Adult habitus. Head and pronotal pattern obscured by specimen condition. Wing membrane transparent, veins brown.

Male. Forewing length 20 mm. Hammer thimble shaped, height greater than basal diameter (Fig. 117). Aedeagal apex simple, rounded, ventral membranous lobes absent. Hooks large with prominent apical keel; dorsal keel long, composed of two close set ridges (Figs. 114-116).

Female. Unknown.

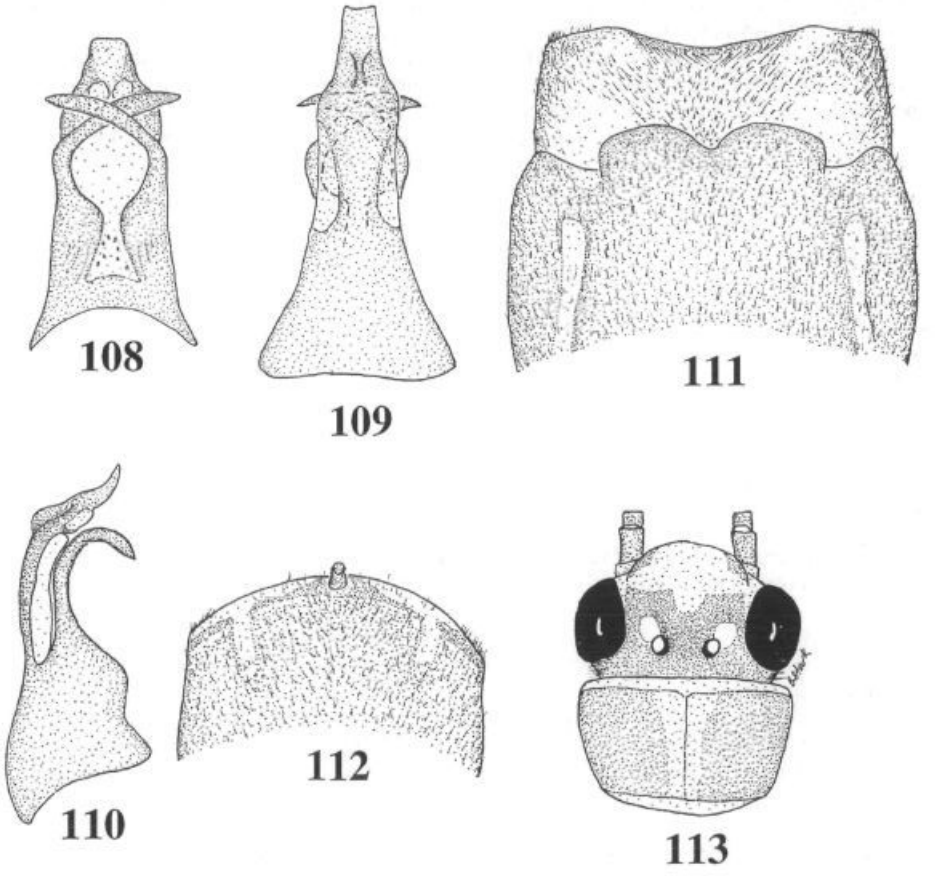
Nymph. Unknown.

Etymology. The species name, used as a noun in apposition, is based on the Nazca "lines".

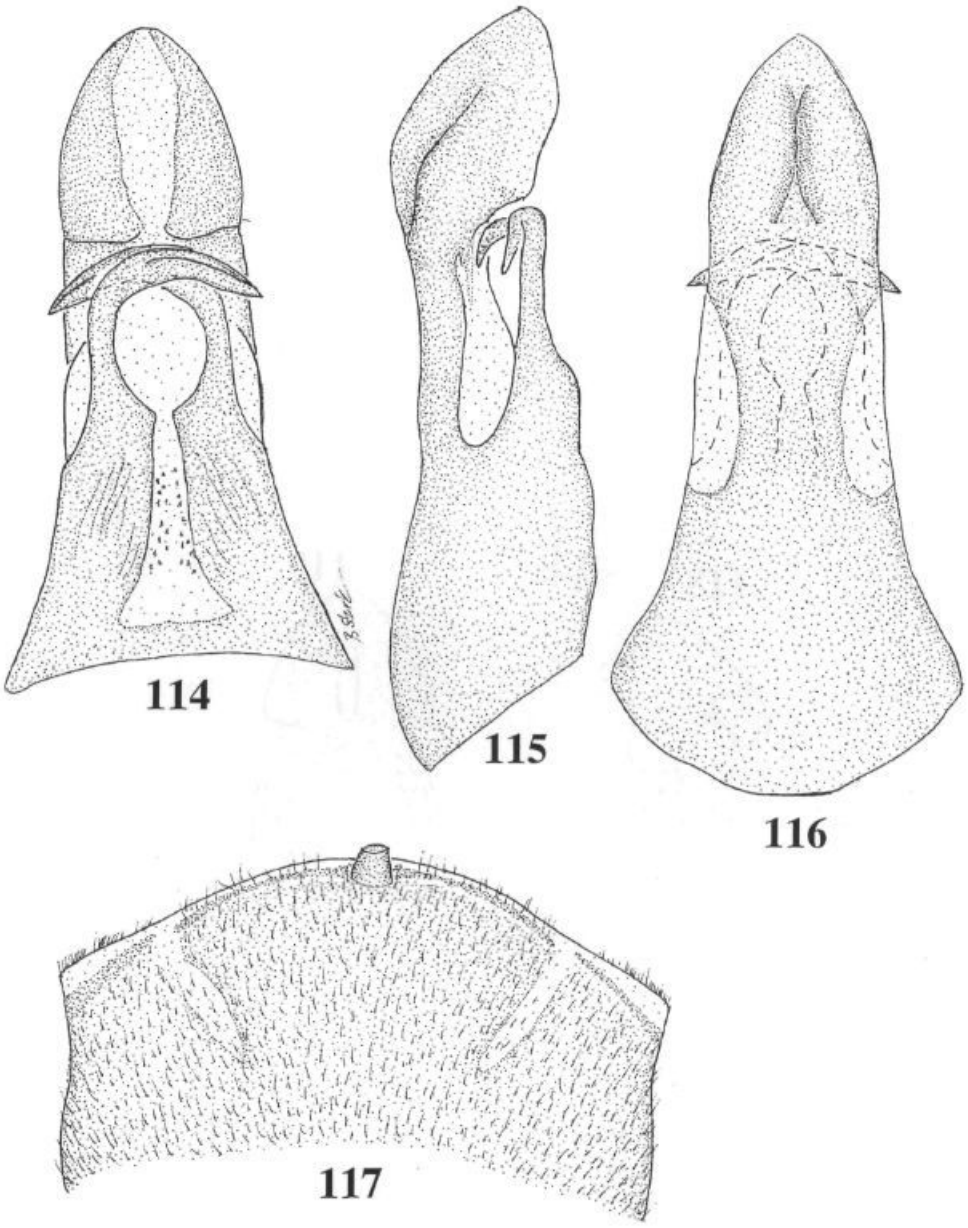
Diagnosis. This species is similar to *A. chipaya* and *A. pacaje* in aedeagal features. See comments for these species for diagnostic characters.

***Anacroneuria pacaje*, spec. nov.**
Figs. 118-121

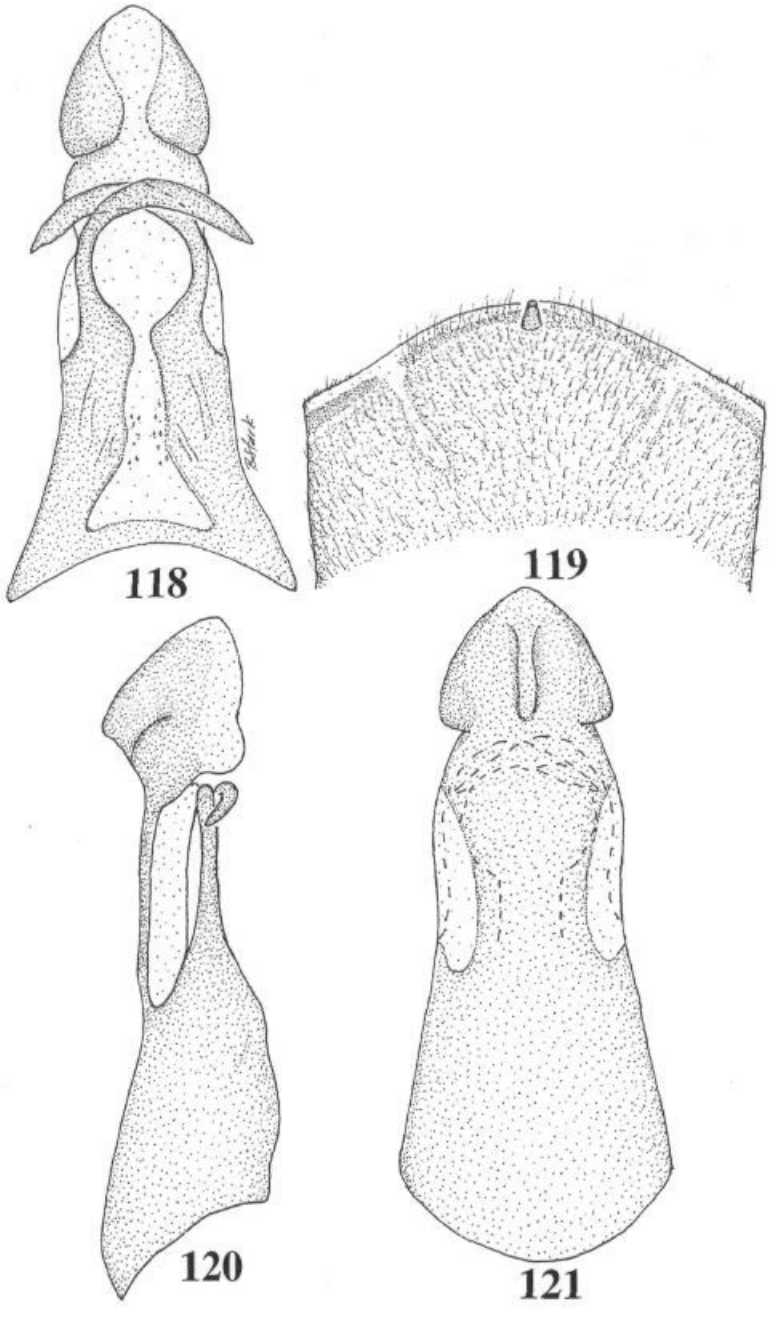
Types. Holotype male from Bolivia, Yungas Las Paz, Rio Mururrata to Suapi, 1400-1600 m, 26-28 November 1984, L. E. Pena, deposited in the National Museum of Natural History.



Figs. 108-113. *Anacroneuria montera*. 108. Aedeagus, ventral. 109. Aedeagus, dorsal. 110. Aedeagus, lateral. 111. Female terminalia. 112. Male 9th sternum. 113. Head and pronotum.



Figs. 114-117. *Anacroneuria nazca*. 114. Aedeagus, ventral. 115. Aedeagus, lateral. 116. Aedeagus, dorsal. 117. Male 9th sternum.



Figs. 118-121. *Anacroneuria pacaje*. 118. Aedeagus, ventral. 119. Male 9th sternum. 120. Aedeagus, lateral. 121. Aedeagus, dorsal.

Description

Adult habitus. Head and pronotal pattern obscured by specimen condition. Wing membrane transparent, veins brown, costal area pale.

Male. Forewing length 14 mm. Hammer thimble shaped, height greater than basal diameter (Fig. 119). Aedeagal apex simple, rounded, but wider than neck area. Ventral membranous aedeagal lobes absent, hooks wide subapically. Dorsal aedeagal keel long and U-shaped (Figs. 118, 120-121).

Female. Unknown.

Nymph. Unknown.

Etymology. The species name, used as a noun in apposition, honors the Pacaje people of Bolivia.

Diagnosis. The aedeagus of this species is similar to that of *A. chipaya*, but *A. pacaje* differs in having the aedeagal apex distinctly wider than the neck region. This is most conspicuous in dorsal aspect (Figs. 49, 121). In addition, the apex of *A. pacaje* is shorter in lateral aspect and the dorsal keel is U-shaped rather than open at the ends as in *A. chipaya*.

***Anacroneuria pachacuti*, spec. nov.**
Figs. 122-126

Types. Holotype male and 9 male paratypes from Peru, Cuzco, Paucartambo, pte. San Pedro, 1600 m, 2-3 September 1988, O. S. Flint, N. Adams, deposited in the National Museum of Natural History. Additional paratypes: Bolivia: Cochabamba, Alto Palmas, 1100 m, November 1960, 1 male (MSU). Yungas Las Paz, Rio Mururrata to Suapi, 1400-1600 m, 26-28 November 1984, L. E. Pena, 41 males (USNM). Peru: Cuzco, San Pedro, 1430 m, R. A. Faitoute et al., 1 male (USNM). Cuzco, confluence Santa Isabel-Rio Cosnipata, 1700 m, 20 November 1951, F. Woytkowski, 1 male (USNM). Junin, Tarma, Utcuyacu, Aqua Dulce, 16-2400 M, 2-3 February 1948, F. Woytkowski, 1 male (USNM). Same location, 15 February 1948, F.Woytkowski, 1 male (USNM). Same location, 2 March 1948, F. Woytkowski, 1 male (USNM).

Description

Adult habitus. Head with a brown spot extending from ocelli to M-line; lappets and area forward of M-line brown. Narrow median pronotal stripe pale, broad lateral stripes brown, but with scattered pale rugosities; anterolateral margins pale (Fig. 122). Femora brown except at base; tibiae brown. Wing membrane and veins brown.

Male. Forewing length 11 mm. Hammer rounded apically, height subequal to diameter (Fig. 123). Aedeagal apex simple, scoop shaped, but offset from body by a neck-like constriction beyond hooks; tip rounded, dorsal keel long and narrow, hooks slender (Figs. 124-126).

Female. Unknown.

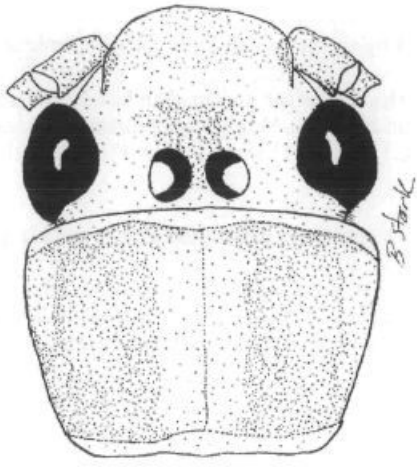
Nymph. Unknown.

Etymology. The species name honors Pachacuti, first emperor of the Inca people, and is used as a noun in apposition.

Diagnosis. This species is somewhat similar to *A. bari* (STARK 1995) in aedeagal features but the costriction basal to the shoulders and the apical nipple are distinctive.

***Anacroneuria pakitza*, spec. nov.**
Figs. 127-132

Types. Holotype male and 1 male, 2 female paratypes from Peru, Madre de Dios, Manu, Pakitza, 14-23 September 1988, O. S. Flint, N. Adams, deposited in the National Museum of Natural History. Additional paratypes: Peru: Madre de Dios, Manu, Pakitza Biol. Sta., Quebrada Panjil-Picoflor, 2 July 1993, R.Blahnik, M. Pescador, 2 males (USNM). Madre de Dios, Manu, Pakitza, 250



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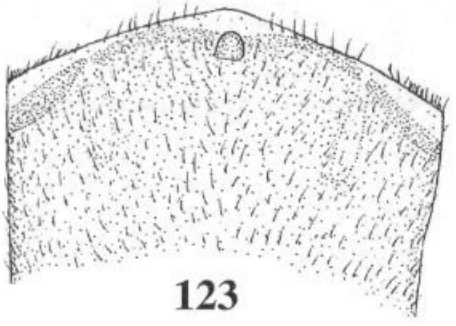

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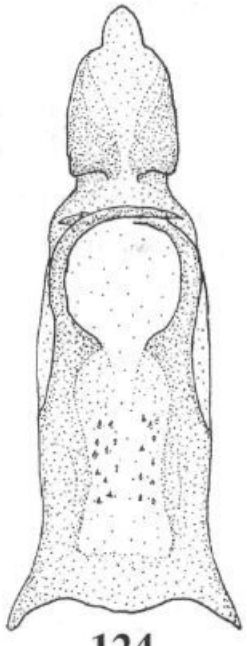

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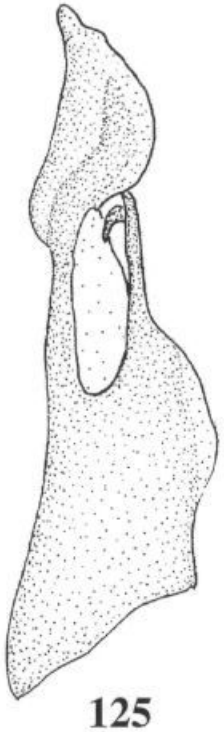

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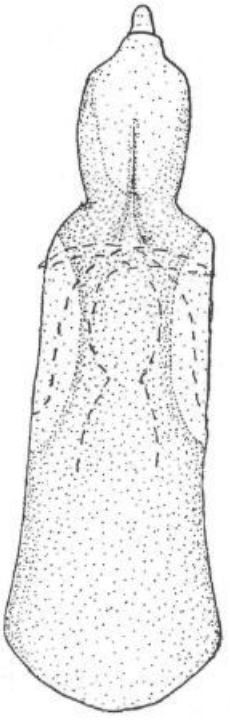
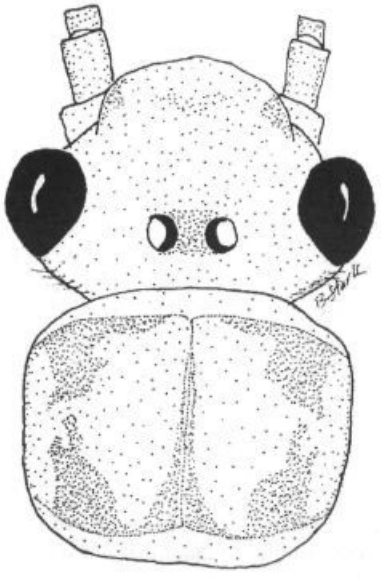


126

Figs. 122-126. *Anacroneuria pachacuti.* 122. Head and pronotum. 123. Male 9th sternum. 124. Aedeagus, ventral. 125. Aedeagus, lateral. 126. Aedeagus, dorsal.



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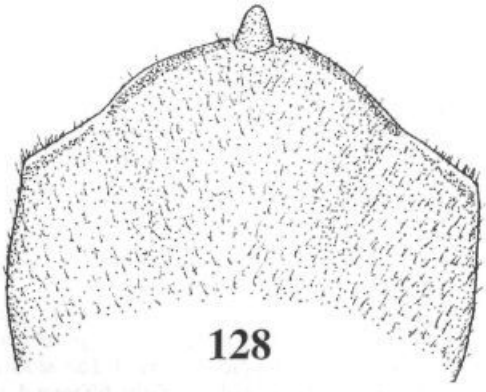

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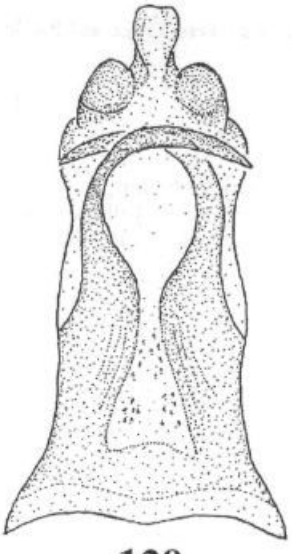

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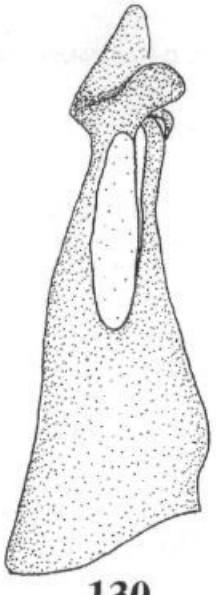

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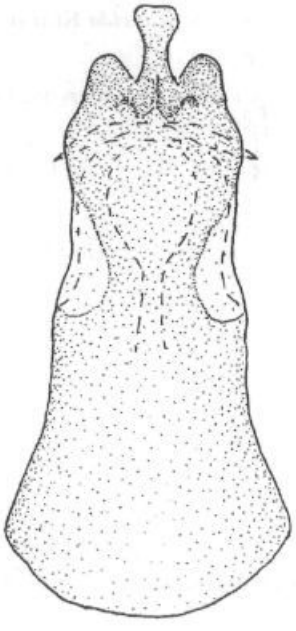


131

Figs. 127-131. *Anacroneuria pakitza*. 127. Head and pronotum. 128. Male 9th sternum. 129. Aedeagus, ventral. 130. Aedeagus, lateral. 131. Aedeagus, dorsal.

m, 12-18 September 1989, N. Adams et al., 1 male (USNM). Same location, 16-22 September 1989, N. Adams et al., 1 male (USNM). Same location, 19-23 September 1989, N. Adams et al., 1 male (USNM). Same location 19 September 1989, R. A. Faitoute, 1 male (USNM). Cuzco, Hacienda Maria near Cosnipata River, 900 m, 24 February 1952, F. Woytkowski, 1 male (USNM). Same location, 27 February 1952, F. Woytkowski, 1 male (USNM).

Description

Adult habitus. Head with a small pale brown ocellar spot, brown lappets and a diffuse brown area over most of frons. Irregular midlateral pronotal bands brown; narrow, incomplete median band diffuse brown (Fig. 127). Femora and tibiae pale. Wing membrane transparent, veins pale brown except pale costal margins.

Male. Forewing length 9.5 mm. Hammer conical, height greater than basal diameter (Fig. 128). Aedeagal apex slender, tip emarginate, shoulders prominent; ventral aspect without membranous lobe, dorsal keel short but with basal transverse extensions; hooks slender (Figs. 129-131).

Female. Forewing length 13.5 mm. Subgenital plate four lobed. Outer lobes broad, inner lobes narrow. Median sclerite of sternum 9 T-shaped; stalk sparsely covered with short setae, lateral lobes with long setae. Posterior margin membranous with mesal notch (Fig. 132).

Nymph. Unknown.

Etymology. The species name, based on the type locality, is used as a noun in apposition.

Diagnosis. This species is similar to *A. pinza* and *A. vistosa* (STARK 1995). It differs from these in displaying a dark mesal pronotal band. The aedeagus is more similar to that of *A. pinza* but has more prominent shoulders and a slightly different dorsal keel.

Anacroneuria pellucida KLAPÁLEK, 1922

Fig. 133

Anacroneuria pellucida KLAPÁLEK, 1922: 94. Cotypes, Vilcanota and Marcapata, Peru, Chaco and Rio Juntas, Bolivia

Material. Peru, 1 female cotype (NMP).

Description

Adult habitus (modified from KLAPÁLEK 1922). Head and thorax dark, pronotum brown towards sides. First antennal segment ochre yellow, basis brown, tips pale. Legs ochre yellow, dorsum of femora and tibiae darker. Wings transparent, forewing veins brown, hind wing veins yellow.

Male. Unknown.

Female. Forewing length 15-16 mm. Subgenital plate four lobed; outer lobes poorly defined by shallow notches; median notch deep and triangular. Mesal sclerite of sternum 9 clothed with uniform sized setae. Transverse sclerite of sternum 9 well developed (Fig. 133).

Nymph. Unknown.

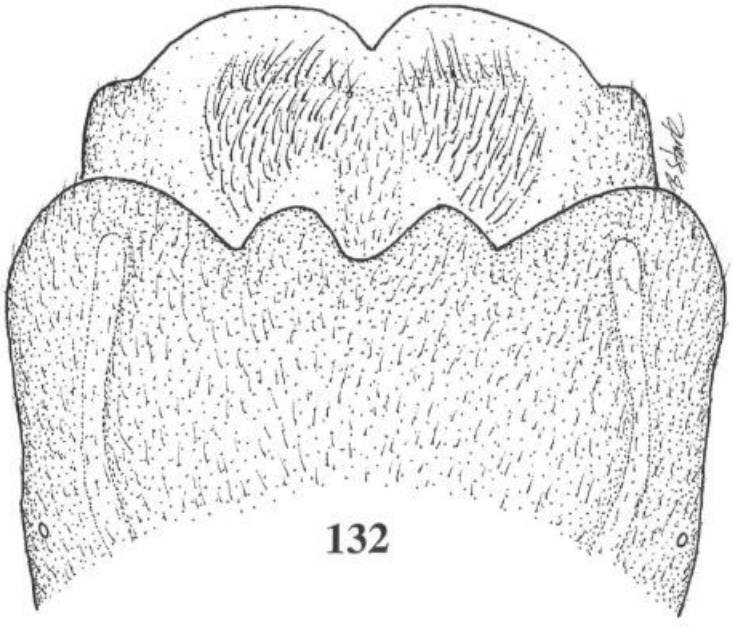
Comments. The terminalia of a female cotype, examined while on loan to P. Zwick, has the subgenital plate damaged on the right side. This may be the only extant specimen of the type series but we are not now designating it as lectotype in the event that a male cotype can be located.

Anacroneuria perpusilla, KLAPÁLEK, 1921

Figs. 134-137

Anacroneuria perpusilla KLAPÁLEK, 1921: 326. Holotype male, Marcapata, Peru

Material. Peru: Marcapata, holotype male (NMP). Madre de Dios, Manu, Pakitza, 250 m, 11 October 1988, O. S. Flint, N. Adams, 1 male (USNM).



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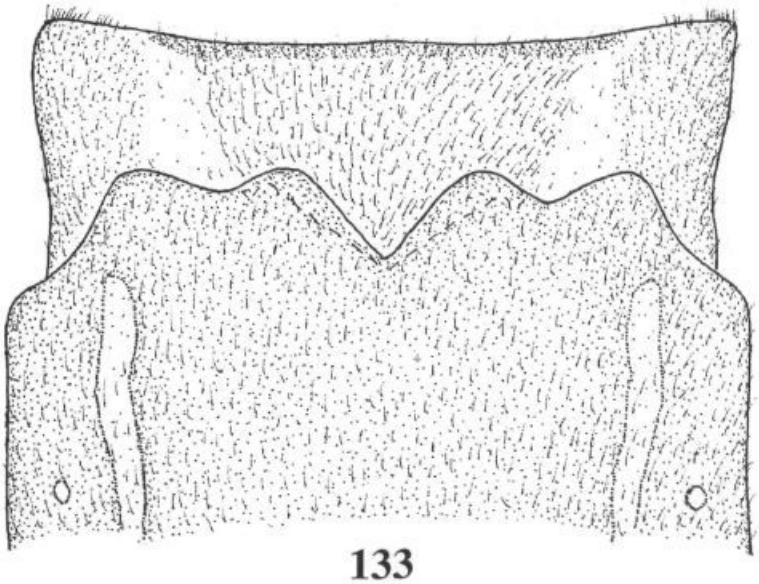


133

Figs. 132-133. *Anacroneuria* female terminalia. 132. *A. pakitza*. 133. *A. pellucida*.

Description

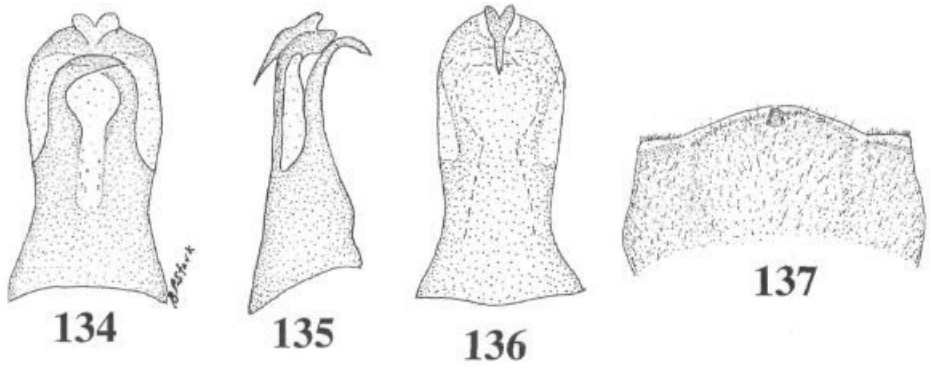
Adult habitus (modified from KLAPÁLEK 1921). Body ochre yellow; pronotum with two sepia brown midlateral stripes. Antennae sepia brown except bases yellow. Femora ochre yellow except for a narrow black distal band; tibiae brown at the base and tip.

Male. Forewing length 8 mm. Hammer thimble shaped, height subequal to diameter (Fig. 136). Aedeagal apex short and wide, tip notched; dorsal aspect with a prominent, basally directed process; hooks short and moderately stout (Figs. 134-136).

Female. Unknown.

Nymph. Unknown.

Comments. The recently collected Manu specimen is teneral, but the pronotal pattern agrees with the KLAPÁLEK (1921) description. The wings have a pale spot beyond the cord. ZWICK's (1973) aedeagal figures for *A. boliviensis* (ENDERLEIN) indicate it is very similar and perhaps synonymous with this species. KLAPÁLEK (1921) gives the type locality as "Marcapata, Chili", but other species in this paper, or in KLAPÁLEK (1922), are listed from "Marcapata, Peru". We are uncertain of the true locality but for the time being we list this species from Peru.



Figs. 134-137. *Anacroneuria perpusilla* holotype. 134. Aedeagus, ventral. 135. Aedeagus, lateral. 136. Aedeagus, dorsal. 137. Male 9th sternum.

***Anacroneuria quechua*, spec. nov.**
Figs. 138-142

Types. Holotype male from Peru, Cuzco, Paucartambo, pte. San Pedro, ca. 50 km NW Pilcopata, 1600 m, 23 September 1988, O. S. Flint, N. Adams, deposited in the National Museum of Natural History. Paratypes: Peru, Huanuco, Divisoria, 1700 m, 18 September 1946, F. Woytkowski, 1 male (USNM).

Description

Adult habitus. Head with diffuse brown spots forward of ocelli, at base of lappets and on anterior margin. Pronotum with irregular diffuse brown lateral bands and a median pale band (Fig. 138). Femora mostly pale, with dorsoapical dark streak and apical black band; tibiae mostly pale but dark along outer margin. Wing membrane transparent, R and Sc veins dark brown, C pale.

Male. Forewing length 14 mm. Hammer conical (Fig. 139). Aedeagal apex simple, rounded, without ventral membranous lobes. Hooks slender, dorsal keel Y-shaped (Figs. 140-142).

Female. Unknown.

Nymph. Unknown.

Etymology. The species name, used as a noun in apposition, honors the Quechua people of Peru.

Diagnosis. The aedeagus of this species is similar to that of *A. brunneilata* but has a more rounded and narrowed apex and a Y-shaped dorsal keel.

***Anacroneuria uru*, spec. nov.**
Figs. 143-147.

Types. Holotype male and 2 male paratypes from Peru, Cuzco, Hacienda Maria near Cosnipata River, 900 m, 11 March 1952, F. Woytkowski, deposited in the National Museum of Natural History. Additional paratypes: Bolivia: Incachaca, 2500 m, J. Steinback, 1 male (CMNH). Peru: Cuzco, Hacienda Maria near Cosnipata River, 900 m, 18-19 March 1952, F. Woytkowski, 3 males (USNM). Cuzco, Llayehuyo near Cosnipata River, 1400 m, 4 January 1952, F. Woytkowski, 2 males (USNM). Same location, 16 December 1951, F.Woytkowski, 1 male (USNM). Cuzco, Paucartambo, pte. San Pedro ca. 50 km NW Pilcopata, 1430 m, 30-31 August 1989, N. Adams et al., 1 male (USNM).

Description

Adult habitus. Head mostly pale but with diffuse brown areas accenting M-line and on lappets. Pronotum with midlateral brown bands (Fig. 143). Wing membrane transparent, veins brown.

Male. Forewing length 21 mm. Hammer a short thimble, low membranous mound, or low mound with small knobs (Fig. 144). Aedeagal apex simple, mesal projection short; ventral membranous lobes absent, dorsal keel absent, hooks slender (Figs. 145-147).

Female. Unknown.

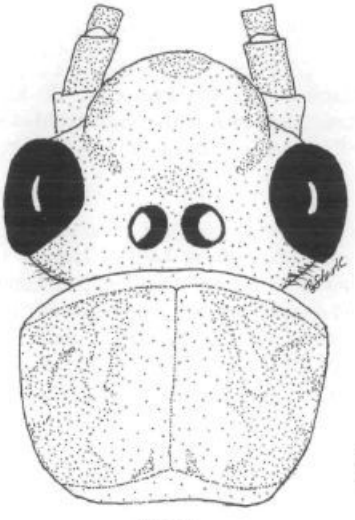
Nymph. Unknown.

Etymology. The species name, used as a noun in apposition, honors the Uru people of the Peruvian-Bolivian border region.

Diagnosis. This species is similar to *A. chorrera* and *A. muesca* (STARK 1995) but differs in apical aedeagal features. In ventral aspect, *A. uru* lacks the low subapical mounds found in *A. chorrera* and also lacks the notched apex found in *A. muesca.*

***Anacroneuria vilcabamba*, spec. nov.**
Figs. 148-151

Types. Holotype male from Peru, Junin, Tarma, Utcuyacu, Aqua Dulce, 16-2400 m, 6 March 1948, F. Woytkowski, deposited in the National Museum of Natural History.



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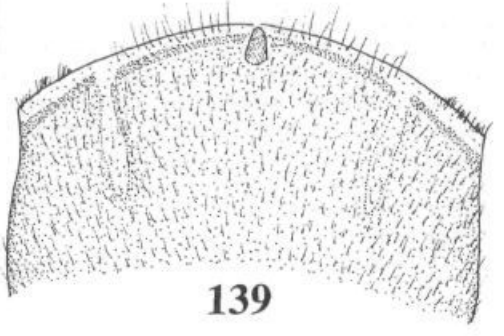

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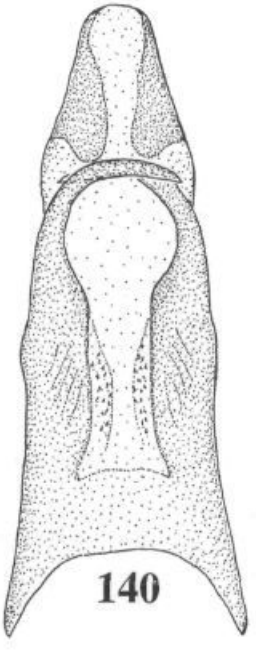

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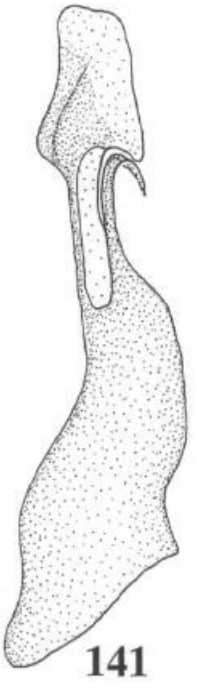

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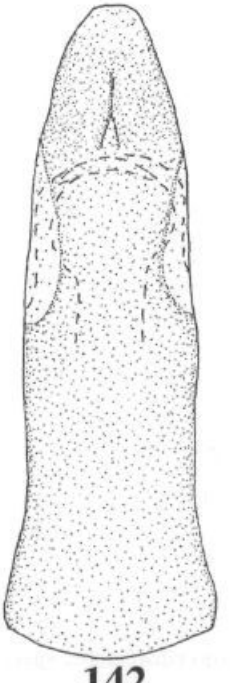

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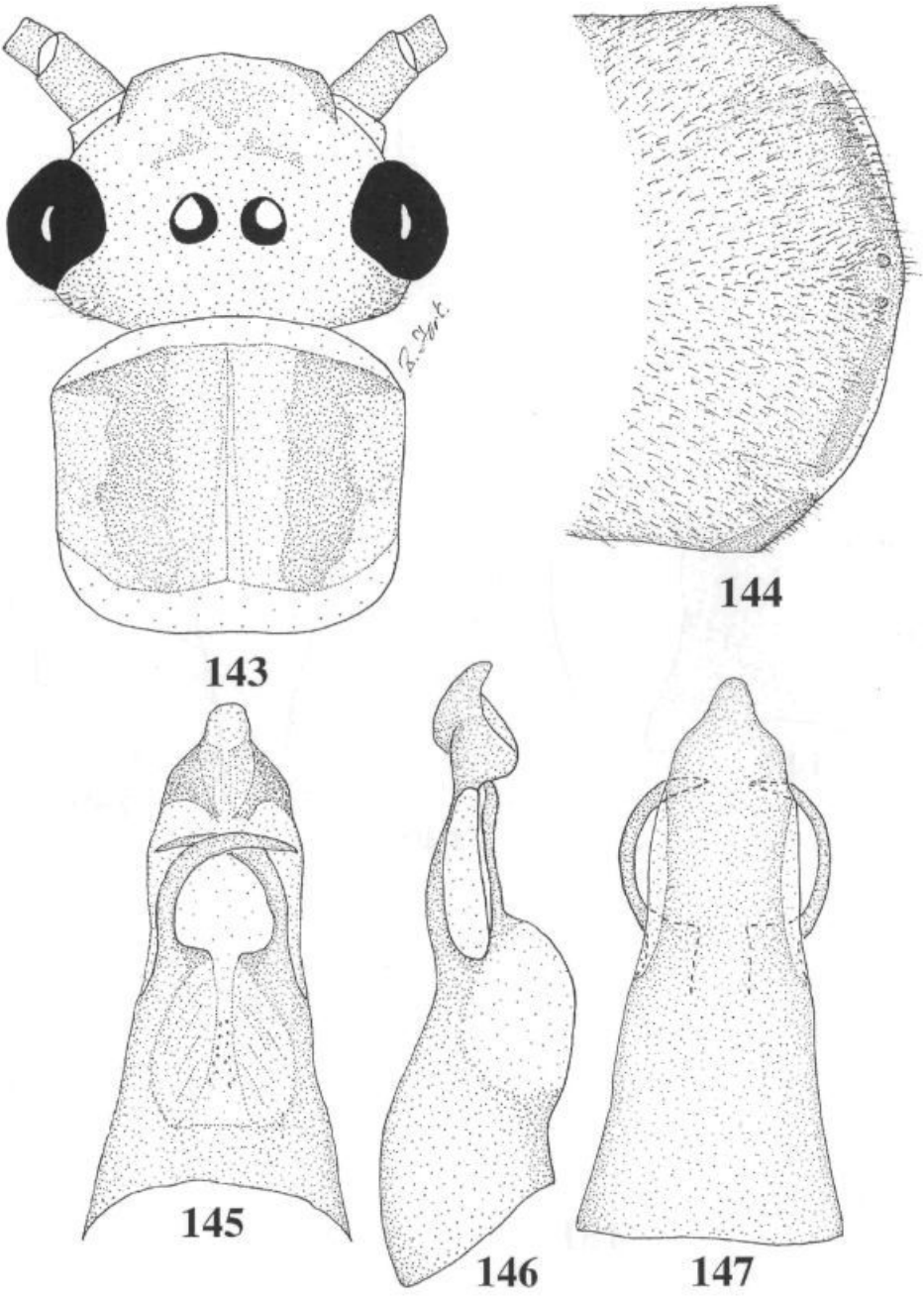
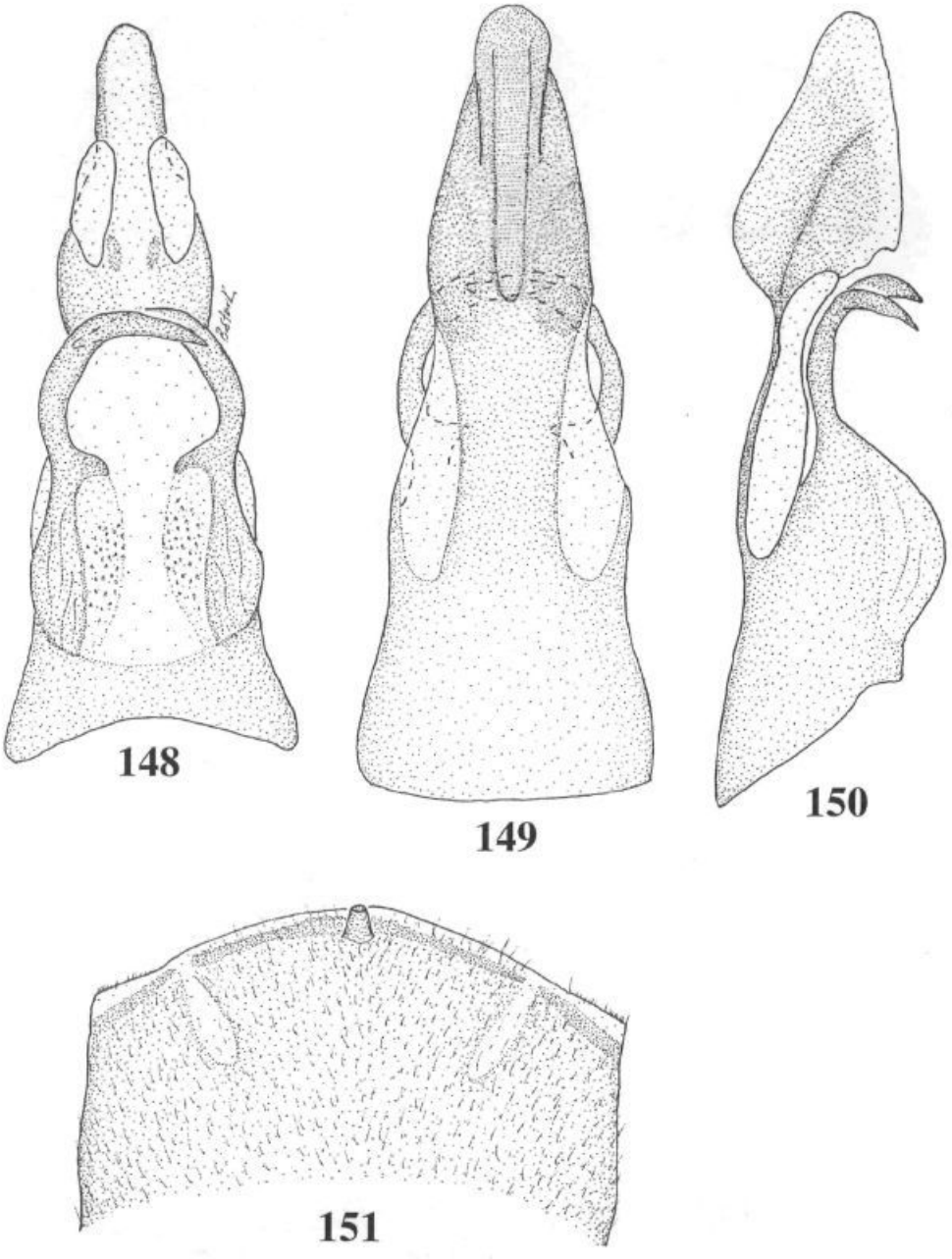
Figs. 138-142. *Anacroneuria quechua*. 138. Head and pronotum. 139. Male 9th sternum. 140. Aedeagus, ventral. 141. Aedeagus, lateral. 142. Aedeagus, dorsal.



Figs. 143-147. *Anacroneuria uru*. 143. Head and pronotum. 144. Male 9th sternum. 145. Aedeagus, ventral. 146. Aedeagus, lateral. 147. Aedeagus, dorsal.



Figs. 148-151. *Anacroneuria vilcabamba*. 148. Aedeagus, ventral. 149. Aedeagus, dorsal. 150. Aedeagus, lateral. 151. Male 9th sternum.

Description

Adult habitus. Color pattern obscured by specimen condition. Wing membrane transparent, veins brown.

Male. Forewing length 17 mm. Hammer thimble shaped; height greater than basal diameter (Fig. 151). Aedeagal apex long, distal third with parallel margins, tip rounded; ventral aspect with a pair of large membranous lobes; dorsal aspect with a long, low, wide keel; hooks slender (Figs. 148-150).

Female. Unknown.

Nymph. Unknown.

Etymology. The species name, based on the Cordillera Vilcabamba, is used as a noun in apposition.

Diagnosis. The long U-shaped dorsal aedeagal keel readily distinguishes this species.

***Anacroneuria vitripennis* KLAPÁLEK, 1922**

Figs. 152-155.

Anacroneuria vitripennis KLAPÁLEK, 1922: 90. Holotype male, Vilcanoto, Peru

Material. Peru: Vilcanoto, holotype male (NMP).

Description

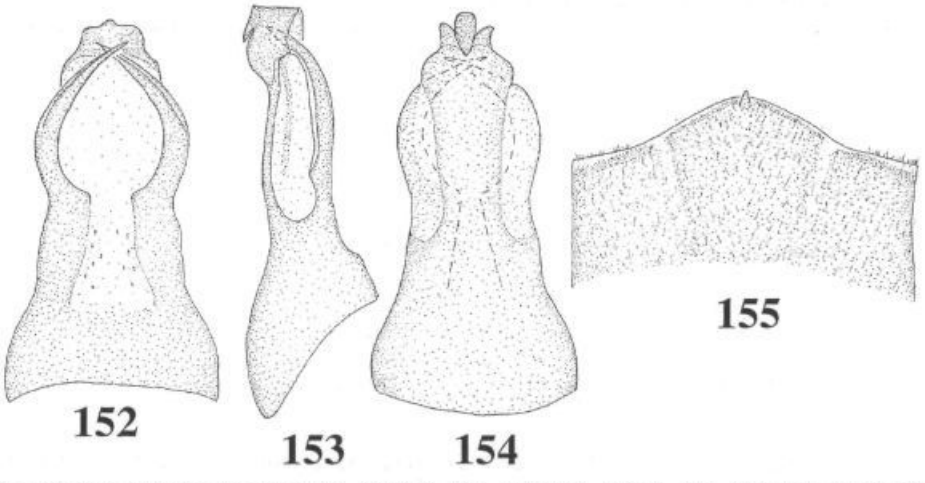
Adult habitus (modified from KLAPÁLEK 1922). Body bright ochre yellow. Head with a dark spot extending from between ocelli to the M-line, and another extending from the M-line to near the anterior margin; lappets dark brown. Basal half of antennae dark brown, tips yellow. Median pronotal stripe yellow, lateral areas brown. Wings transparent, veins dark brown, Sc paler.

Male. Forewing length 12 mm. Hammer conical, height subequal to basal diameter (Fig. 155). Aedeagal apex truncate in ventral aspect, bearing a small triangular dorsomesal process. Hooks stout, slightly curved, tips acute (Figs. 152-154).

Female. Unknown.

Nymph. Unknown.

Comments. KLAPÁLEK (1922) identified the holotype specimen as a female, however the specimen bearing the type label in the NMP is the male described above. The short aedeagal apex and basally projecting dorsal keel are distinctive.



Figs. 152-155. *Anacroneuria vitripennis* holotype. 152. Aedeagus, ventral. 153. Aedeagus, lateral. 154. Aedeagus, dorsal. 155. Male 9th sternum.

***Anacroneuria wincha*, spec. nov.**
Figs. 156-160

Types. Holotype male from Peru, Cuzco, Paucartambo, pte. San Pedro, ca. 50 km NW Pilcopata, 1600 m, 2-3 September 1988, O. S. Flint, N. Adams, deposited in the National Museum of Natural History. Paratypes: Peru: Cuzco, confluence Santa Isabel stream and Rio Cosnipata, 1700 m, 26 October 1951, F. Woytkowski, 1 male (USNM). Same location, 12 October 1951, F. Woytkowski, 1 male (USNM). Same location, 14 October 1951, F. Woytkowski, 1 male (USNM). Cuzco, Llayehayo, near Rio Cosnipata, 1400 m, 21 January 1952, F. Woytkowski, 1 male (USNM).

Description

Adult habitus. Head pattern mostly brown with a darker ocellar patch and lappets, callosities, lateral to ocelli, and M-line pale. Pronotal margins dark brown, mesal field pale (Fig. 156). Femora and tibiae dark brown. Wing membrane brown, veins dark brown.

Male. Forewing length 10 mm. Hammer thimble shaped, height greater than basal diameter (Fig. 157). Aedeagal apex simple, scoop shaped with shoulders swollen. Ventral membranous lobes absent, dorsal keel long and well developed, hooks slender (Figs. 158-160).

Female. Unknown.

Nymph. Unknown.

Etymology. The species name, from the Inca word for headband, refers to the dorsal pigment pattern, and is used as a noun in apposition.

Diagnosis. See comments for *A. chavin.*

***Anacroneuria woytkowskii*, spec. nov.**
Figs. 161-164.

Types. Holotype male from Peru, Cuzco, Hacienda Maria near Cosnipata River, 900 m, 27 February 1952, F. Woytkowski, deposited in the National Museum of Natural History.

Description

Adult habitus. Head dark brown, pronotum brown except for a narrow mesal pale band. Wings brown, veins dark brown. Femora and tibiae brown.

Male. Forewing length 8.5 mm. Hammer dome shaped (Fig. 164). Aedeagal hooks stout, scythe shaped. Apex deeply notched in ventral aspect, but with a small truncate dorsal tab (Figs. 161-163).

Female. Unknown.

Nymph. Unknown.

Etymology. The patronym honors the memory of Felix Woytkowski, collector of this and many other interesting Peruvian insects.

Diagnosis. See comments for *A. lupaca.*

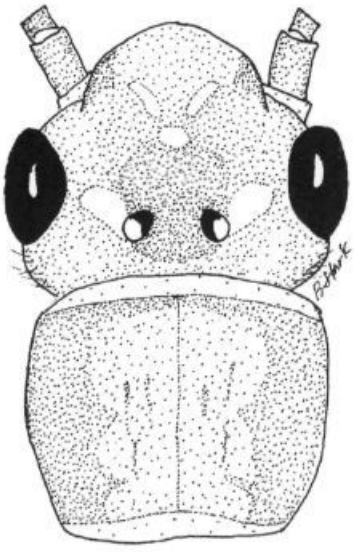
***Anacroneuria x-nigrum* KLAPÁLEK, 1921**
Figs. 165-168

Anacroneuria x-nigrum KLAPÁLEK, 1921: 61. Lectotype male, here designated, Marcapata, Peru

Material. Peru: Marcapata, lectotype male and 1 paralectotype male (NMP).

Description

Adult habitus (modified from KLAPÁLEK 1921). Body ochre yellow, head mostly dark brown, antennae dark brown. Pronotum with a narrow median pale stripe and broad lateral dark bands. Wings dark brown but with an apical transparent window; veins dark brown, Sc and R darker.



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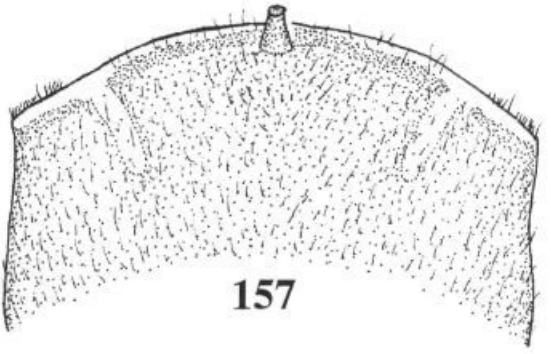

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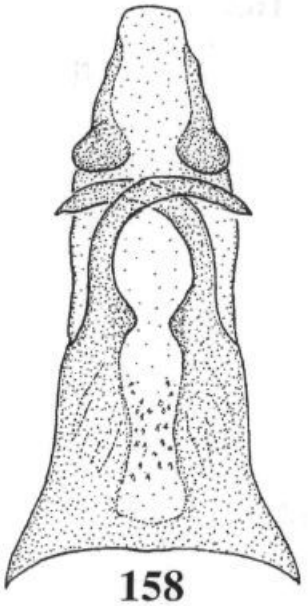

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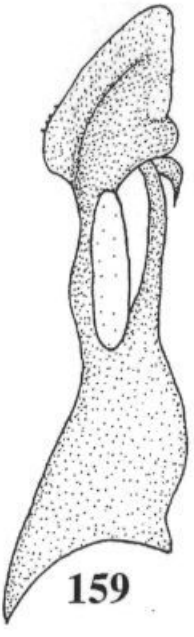

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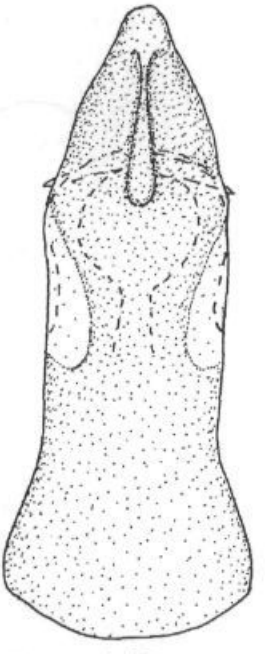

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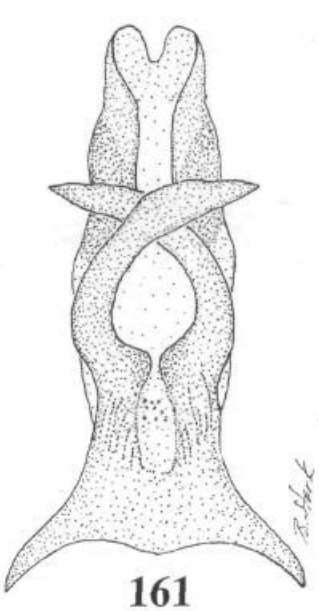
Figs. 156-160. *Anacroneuria wincha.* 156. Head and pronotum. 157. Male 9th sternum. 158. Aedeagus, ventral. 159. Aedeagus, lateral. 160. Aedeagus, dorsal.



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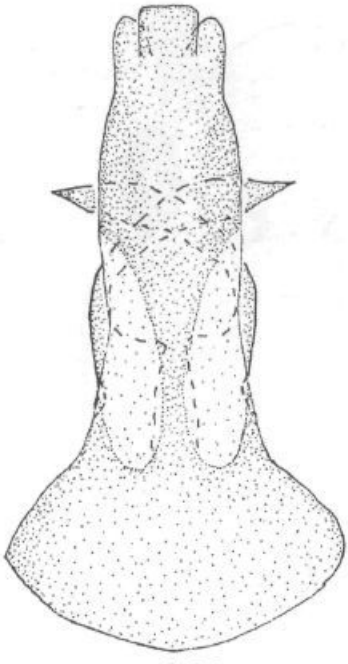

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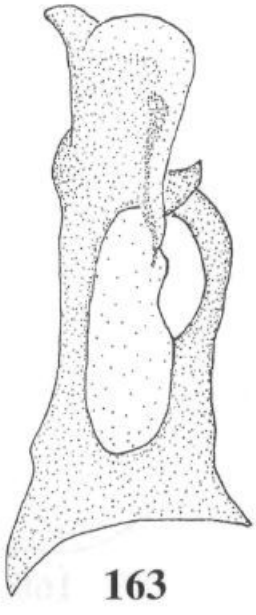

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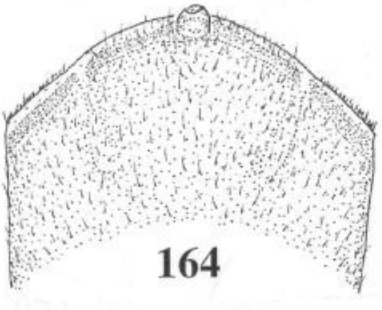

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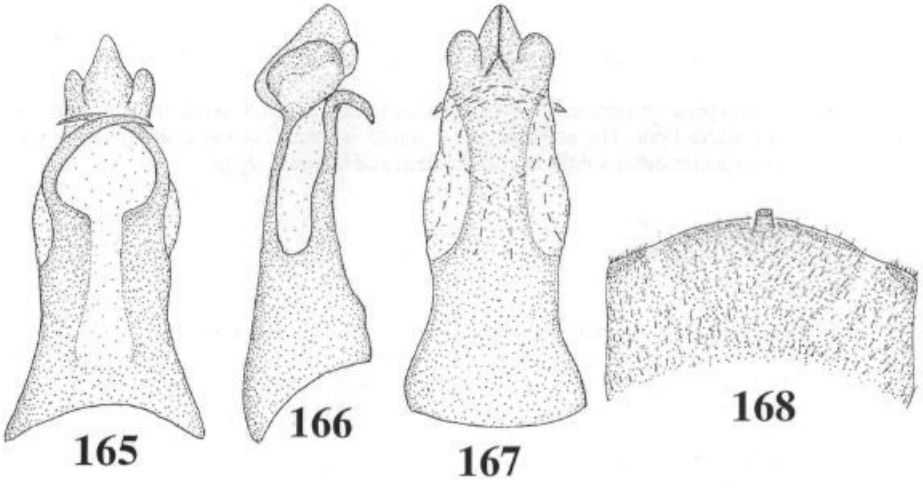
Figs. 161-164. *Anacroneuria woytkowskii*. 161. Aedeagus, ventral. 162. Aedeagus, dorsal. 163. Aedeagus, lateral. 164. Male 9th sternum.

Male. Forewing length 9 mm. Hammer rounded, height subequal to diameter (Fig. 168). Aedeagal apex trilobed, median lobe narrowed to the tip and sharply keeled on dorsum; ventral aspect without membranous lobes; hooks slender (Figs. 165-167).

Female. Unknown.

Nymph. Unknown.

Comments. The genitalia of the male syntypes were studied while on loan to P. Zwick. These specimens, placed in microvials, were labelled "90" and "91"; specimen "91" is selected as lectotype. Female specimens listed by KLAPÁLEK (1921) are apparently lost. Teneral female specimens were described by KLAPÁLEK (1921) as having an X-shaped interocellar pigment spot. This pigment pattern formed the basis for the species name. The trilobed aedeagal apex and Y-shaped dorsal keel are distinctive.



Figs. 165-168. *Anacroneuria x-nigrum* lectotype. 165. Aedeagus, ventral. 166. Aedeagus, lateral. 167. Aedeagus, dorsal. 168. Male 9th sternum.

***Anacroneuria yameo*, spec. nov.**
Figs. 169-173

Types. Holotype male from Peru, Loreto, Callicebus Research Station, Mishana, Rio Nanay, 25 km SW Iquitos, 120 m, 10-17 January 1980, J. B. Heppner, deposited in the National Museum of Natural History. Paratypes: Bolivia: Prov. del Sara, 450 m, November 1909, J. Steinback, 1 male (CMNH).

Description

Adult habitus. Head yellow with diffuse brown covering median third from ocelli to anterior margin; lappets pale brown. Pronotum yellow with irregular dark spots at corners (Fig. 169). Femora with dorsoapical brown patch; tibia brown at "knee" and "ankle". Wing transparent, veins pale except M and cord.

Male. Forewing length 10 mm. Hammer laterally compressed at tip; height greater than basal diameter (Fig. 170). Aedeagal shoulders projecting giving apex a trilobed appearance; apex rounded, ventral aspect with paired membranous lobes. Dorsal aspect with low median keel; projecting basal angles of keel form an incomplete transverse keel; hooks slender (Figs. 171-173).

Female. Unknown.

Nymph. Unknown.

Etymology. The species name honors the Yameo people of Peru and is used as a noun in apposition.

Comments. This species is part of a complex that includes *A. pinza* STARK from Venezuela and *A. pakitza* from southeastern Peru. The aedeagus of *A. yameo* is larger but has a shorter apex than *A. pakitza* and the two species differ subtly in color pattern and hammer shape.

***Anacroneuria zwicki*, spec. nov.**
Figs. 174-177

Types. Holotype male and 1 male paratype from Peru, Cuzco, Hacienda Maria near Cosnipata River, 900 m, 26 February 1952, F. Woytkowski, deposited in the National Museum of Natural History. Additional paratypes: Bolivia: Cochabamba, Alto Palmas, 1100 m, November 1960, 1 male (MSU). Peru: Cuzco, Hacienda Maria, near Cosnipata River, 900 m, 19 February-25 March 1952, F. Woytkowski, 45 males (USNM). Cuzco, confluence Santa Isabel stream and Cosnipata River 1700 m, 28 November 1951, F. Woytkowski, 1 male (USNM). Huanuco, Tingo Maria, 1-15 December 1954, E. I. Schlinger, E. S. Ross, 1 male (CAS).

Description

Adult habitus. Head and pronotal pattern obscured by specimen condition. Wing membrane pale brown, veins brown, R dark brown.

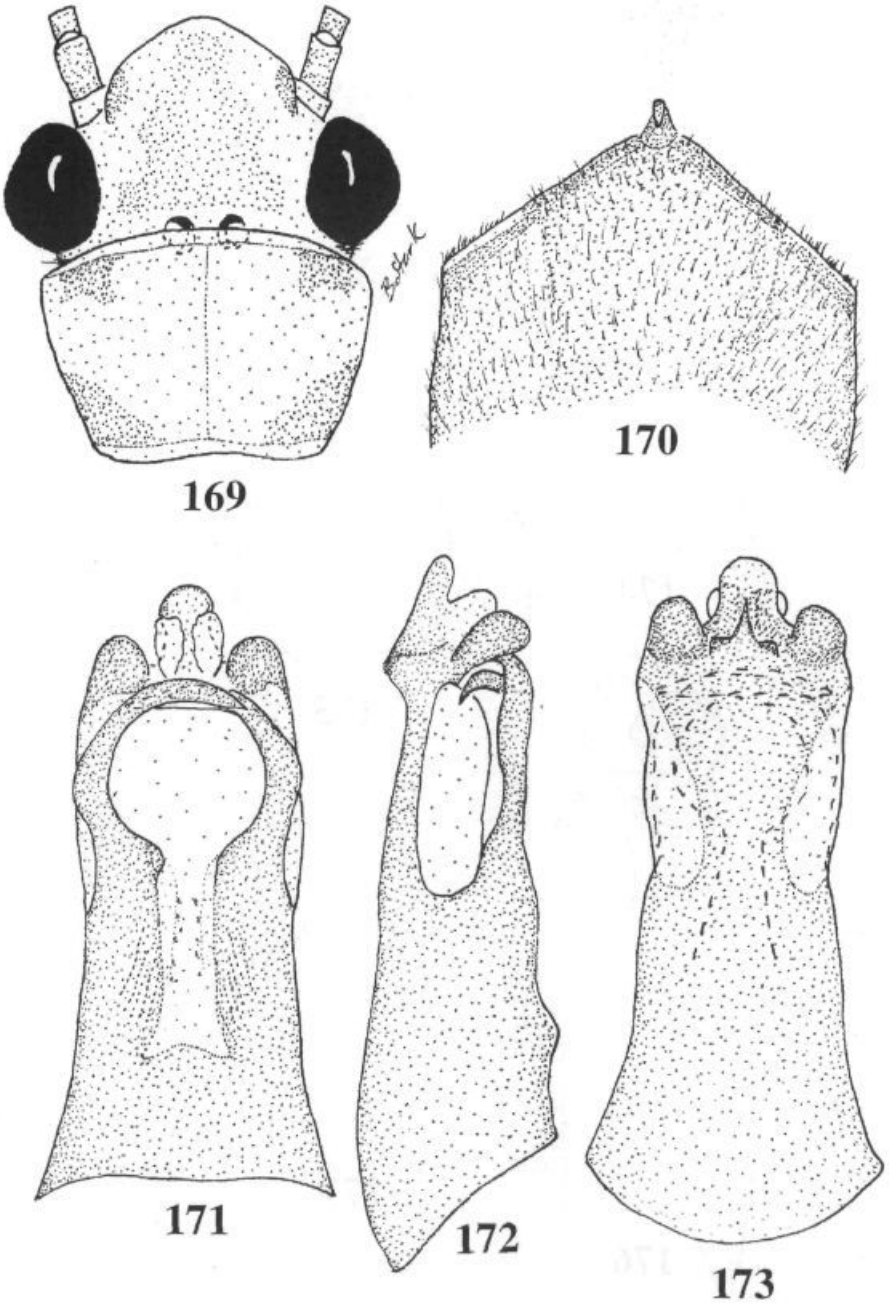
Male. Forewing length 11-13 mm. Hammer cylindrical, height subequal to basal diameter (Fig. 177). Aedeagal tip broad with laterally projecting, ear-like lobes; mesal lobe less sclerotized; dorsal keel small with basal supports; ventral membranous lobes absent, hooks slender (Figs. 174-176).

Female. Unknown.

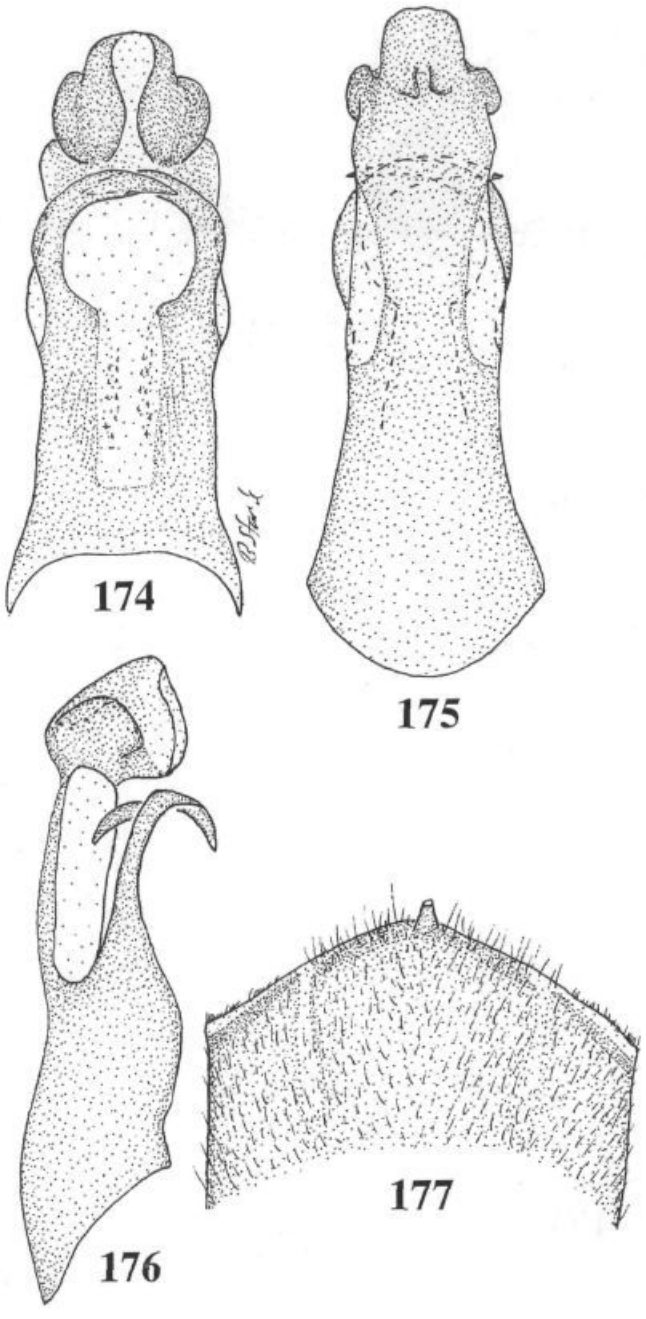
Nymph. Unknown.

Etymology. The patronym honors Peter Zwick for his important contributions to *Anacroneuria* systematics.

Comments. Figures 8 and 9 in ZWICK (1973), questionably attributed to *A. x-nigrum* KLAPÁLEK, appear to represent this species; the paratypes listed above from Tingo Maria were identifed as *A. schmidti* in JEWETT (1959). The broad aedeagal apex with projecting lateral lobes distinguish this species.



Figs. 169-173. *Anacroneuria yameo*. 169. Head and pronotum. 170. Male 9th sternum. 171. Aedeagus, ventral. 172. Aedeagus, lateral. 173. Aedeagus, dorsal.



Figs. 174-177. *Anacroneuria zwicki*. 174. Aedeagus, ventral. 175. Aedeagus, dorsal. 176. Aedeagus, lateral. 177. Male 9th sternum.

***Anacroneuria* PE-1**
Figs. 178-179

Material. Peru: Huanuco, 43 mi E Tingo Maria, 18 November 1954, E. I. Schlinger, E. S. Ross, 1 female (CAS).

Description

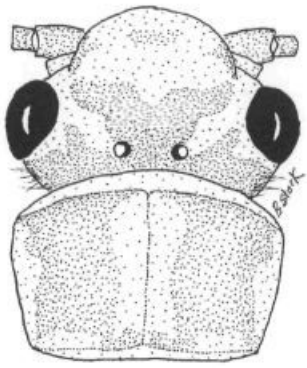
Adult habitus. Occiput and posterior half of frons dark brown except for pale callosities adjacent to ocelli. Pronotum with a narrow pale median band (Fig. 178). Wing membrane and veins brown except for a pale costal area and apical window at cord.

Male. Unknown.

Female. Forewing length 10 mm. Subgenital plate four lobed; lateral lobes slightly smaller than median lobes; lateral notches reduced to slits, median notch U-shaped. Median sclerite of sternum 9 trilobed, mesal lobe covered with five short setae, lateral lobes with more prominent setae. Transverse sclerite very narrow along posterior margin (Fig. 179).

Nymph. Unknown.

Comments. This female was listed as *A. pehlkei* (ENDERLEIN) by JEWETT (1959) but the subgenital plate of the holotype is clearly different (ZWICK 1973). The head and pronotal pattern are similar to *A.montera*, but that species lacks an apical window in the wings and the lateral lobes of the subgenital plate are offset from the median lobes by a wide notch.



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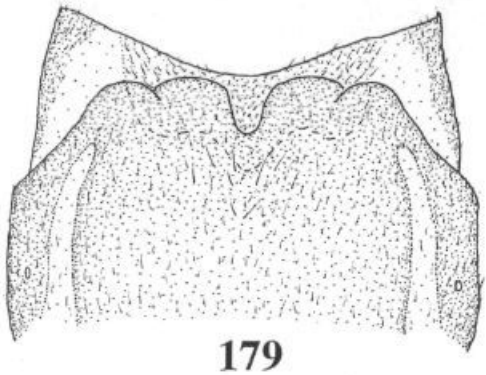

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Figs. 178-179. *Anacroneuria* sp. PE-1. 178. Head and pronotum. 179. Female terminalia.

Acknowledgments

We are grateful to O. S. Flint and N. Adams of the United States National Museum of Natural History for the loan of most of the material used in this study. We also thank the respective curators of the Carnegie Museum of Natural History and the California Academy of Sciences for arranging loans of material. P. Zwick provided translations for some of his own redescriptions of type material and kindly permitted us to study Klapálek type specimens loaned to him by the Natural History Museum, Prague.

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