

**PRELIMINARY DESCRIPTIONS OF SEVEN NEW *RISIOCNEMIS*
SPECIES OF THE SUBGENUS *IGNEOCNEMIS* HÄMÄLÄINEN, 1991
(ZYGOPTERA: PLATYCNEMIDIDAE)***

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From various islands in the Philippines, males are described of *R. siniae* sp. n. (Leyte and Samar), *R. calceata* sp. n. (Panaon), *R. plebeja* sp. n. (Sibuyan), *R. polilloensis* sp. n. (Polillo), *R. fuligifrons* sp. n. (Panaon and Dinagat), *R. melanops* sp. n. (Samar) and *R. odobeni* sp. n. (Luzon).

INTRODUCTION

HÄMÄLÄINEN (1991) divided the Philippine genus *Risioecnemis* Cowley, 1934 into two subgenera and revised the subgenus *Risioecnemis*. A treatise of all species of the second subgenus, *Igneocnemis* Hämäläinen, 1991, is under preparation. However, due to difficulties in placing some females with corresponding males, completing of the revision will take some time.

Since among the males several new species have already been recognized, these are named and preliminarily described in the present paper. The new additions increase the number of the known species in the subgenus to 15.

The provenance of the specimens figured is indicated by an asterisk (*) in the Material section.

***RISIOCNEMIS SINIAE* SPEC. NOW.**

Figures 1-2

Material. — **Holotype:** ♂, Philippines, Leyte Is., Hilusig, Mahaplag, Mt Balocaue (600 m), 29-VIII/14-IX-1986, T. Borremeo leg., at present in coll. R.A. Müller, St. Gallen, Switzerland, to be deposited at SMF, Frankfurt/Main. — **Paratypes:** (from coll. Müller): 1 ♂, same site as

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holotype, V-1986, T. Borromeo leg.; — 3 ♂, Leyte Is., Hilusig, Mahaplag, Mt Balocae (700 m), Magsuganao R., 18/30-IX-1990, T. Borromeo Jr leg., in collns R.A. Müller and M. Hämäläinen. — SMF: 8 ♂*, Samar, Catbalogan, 18/28-IV-1915, G. Boettcher leg.

Etymology. — Named after my wife Sini Wallenius in appreciation of her patience for my dragonfly work.

MALE. — A moderately large and conspicuous species. Head black. Thorax black or blackish brown; metepimeron and apical corner of metepisternum and mesepimeron brown. Abdomen red, with two basal segments darkened. Legs strikingly black and red. Coxae and trochanters black. Upper half of femora black; lower half scarlet red on the inner side and obscurely reddish brown on the outer side. Tibiae with outer side black and inner side scarlet red. Pterostigma black or blackish brown.

Anal appendages shaped as in Figures 1-2; red. Superiors well over 1.5 times as long as segment 10; inferiors abruptly narrowing at the base, reaching to the midway of the length of the superiors, longer than in *R. tendipes* Needham & Gyger. Ventral process of the superiors very near to the base, directed slightly basalwards and in the lateral view just visible on the upper end; the process shorter than in *R. incisa* Kimmins.

Measurements (mm). — Hw. 26.0-28.0; — abd. 41.5-44.0.

RISIOCNEMIS CALCEATA SPEC. NOV.

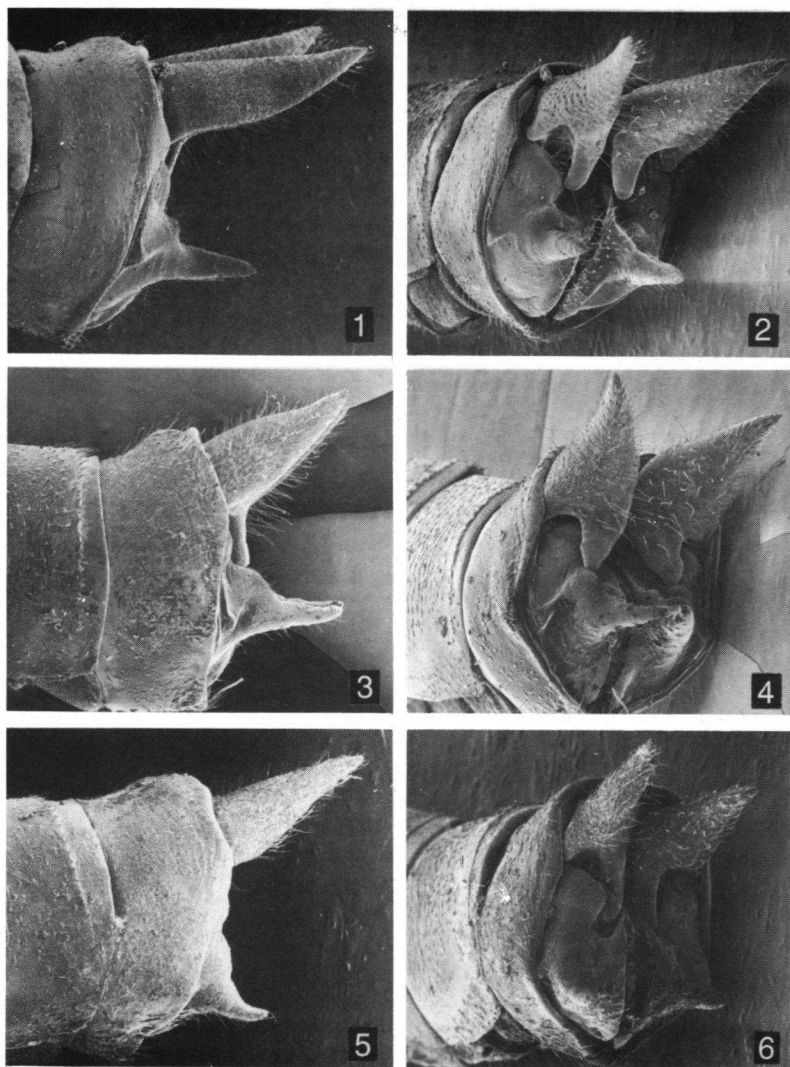
Figures 3-4

Material Holotype: ♂, Philippines, Panaon Is., San Francisco, Anislagon Dako (300 ft), VIII-1988, W. Catal leg., at present in coll. R.A. Müller, St. Gallen, Switzerland, to be deposited at SMF, Frankfurt/Main. — **Paratypes:** (all from Panaon Is., San Francisco) 2 ♂*, same site and date as holotype; — 3 ♂, Anislagon Gamay (200 ft), VIII-1988; — 1 ♂, Mt Anislagon (350 ft), VIII-1988; — 6 ♂, Mt Kaneo (400 ft), VIII-1988; — 2 ♂, Gabing Gamay, big river, X-1988; — 1 ♂, Anislagon Creek (200 m), X-1988, (all W. Catal leg.); — 1 ♂, Anislagon R., 10/12-X-1990, T. Borromeo Jr leg. — [1 paratype in RMNH, the others in collns R.A. Müller and M. Hämäläinen].

MALE. — Stature as in *R. siniae* sp. n. Head and prothorax black. Pterothorax largely black, but metepimeron, most of metepisternum and anterior half of mesepimeron brown. Abdominal segments 1-6 black, segments 7-10 red, except the basal part of segment 7 black on dorsum. Coxae and trochanters black. Femora conspicuously scarlet red. Tibiae black on the outer side, scarlet red on the inner side. Pterostigma black.

Anal appendages shaped as in Figures 3-4; red. Superiors relatively shorter than in *R. siniae* sp. n. Inferiors extending over the midway of the length of the superiors. Ventral process of the superiors near the base, somewhat triangular.

Measurements (mm). Hw. 25.0-27.0; — abd. 41.5-45.0.



Figs 1-6. Male anal appendages of three new *Risiocnemis* species: — (1-2) *R. siniae* sp. n.; — (3-4) *R. calceata* sp. n.; — (5-6) *R. plebeja* sp. n.; — [1, 3, 5: lateral view; — 2, 4, 6: oblique posterolateral view].

***RISIOCNEMIS PLEBEJA* SPEC. NOV.**

Figures 5-6

Material. — **Holotype:** ♂* (semimature), Philippines, Sibuyan Is., Magdiwang, Tampayan, Camp Ga-ong (80-150 m), 1/2-IV-1987, R.A. Müller leg., at present in coll. R.A. Müller, St. Gallen,

Switzerland, to be deposited at SMF, Frankfurt/Main. — **Paratypes:** 4 ♂ (semimature or teneral), same site and date as holotype, in collns R.A. Müller and M. Hämäläinen.

MALE. — Head pale orange brown, labrum brighter orange and clypeus darkened. Thorax pale yellowish brown. Coxae and trochanters pale yellowish brown, femora and tibiae pale orange. Abdominal segments 1-2 pale orange brown; segments 3-5 dark brown on dorsum, paler brown ventrolaterally; segments 6-10 blackish brown. Pterostigma grayish brown.

Anal appendages shaped as in Figures 5-6; brown. Superiors less than 1.5 times longer than segment 10. Inferiors much shorter than in *R. incisa*. Ventral process of the superiors near the base, not visible on the lateral view, shorter than in *R. incisa*.

Measurements (mm). — Hw. 24.0-25.5; — abd. 37.0-39.5.

RISIOCNEMIS POLILLOENSIS SPEC. NOV.

Figures 7-8

Material. — **Holotype:** ♂* (semimature), Philipp[ines], Polillo, 18-VIII-1915, G. Boettcher leg., deposited at SMF, Frankfurt/Main.

MALE. — Small species. Head black. Prothorax black, except the anterior lobe pale yellowish. Dorsum of pterothorax and sides above the first lateral suture blackish brown. Most of metepisternum and metepimeron pale yellowish, brown on the upper part. Ventral side of pterothorax pale yellowish. Legs including coxae and trochanters pale yellowish, knees and spines darker. Abdomen brown, paler ventrolaterally on segments 1-4; segments 6-10 darker brown. Pterostigma pale brown.

Anal appendages shaped as in Figures 7-8; pale brown. Superiors 1.5 times longer than segment 10. Inferiors reaching to the midway of the length of the superiors; very broad at base. Ventral process of the superiors narrower and nearer to the base than in *R. haematopus* (Selys).

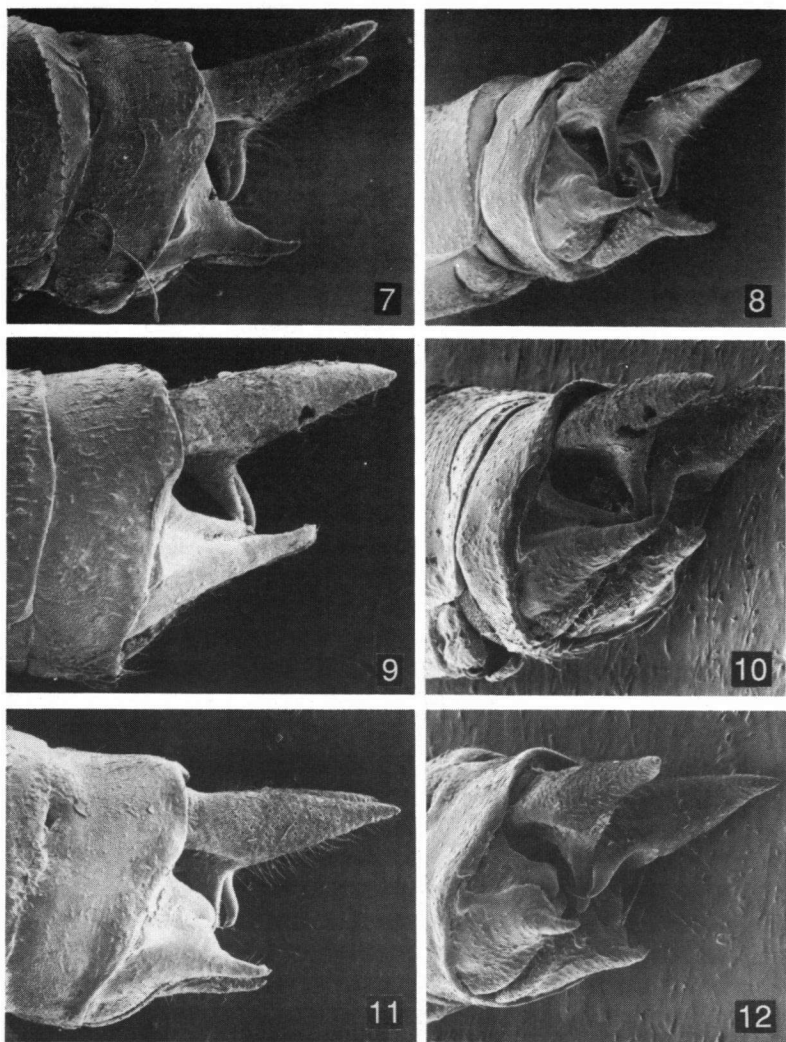
Measurements (mm). — Hw. 20.5; — abd. 34.0.

RISIOCNEMIS FULIGIFRONS SPEC. NOV.

Figures 9-10

Material. — **Holotype:** ♂*, Philippines, Panaon Is., San Francisco, Mt Anislagon (350 ft), VIII-1988, W. Catal leg., at present in coll. R.A. Müller, St. Gallen, Switzerland, to be deposited at SMF, Frankfurt/Main. — **Paratypes:** 1 ♂, Dinagat Is., Loreto, Mt Canbinlio, Balitbiton R., 10-VI-1988, A. Buenafe leg.; — 1 ♂ (immature), locality as above, Canbinlio R., 28-V-1988, A. Buenafe leg. — [Paratypes deposited in collns R.A. Müller and M. Hämäläinen].

MALE. — Head below frons shining blackish brown; head above mat black, brown behind the lateral ocelli. Thorax uniformly pale brown; legs including



Figs 7-12. Male anal appendages of three new *Risiocnemis* species: — (7-8) *R. polilloensis* sp. n.; — (9-10) *R. fuligifrons* sp. n.; — (11-12) *R. melanops* sp. n.; — [7, 9, 11: lateral view; — 8, 10, 12: oblique posterolateral view].

coxae and trochanters vividly orange red throughout. Abdominal segments 1-2 brown, segments 3-10 blackish brown on dorsum, paler brown ventrolaterally. Pterostigma black.

Anal appendages shaped as in Figures 9-10. Superiors twice as long as segment 10, furnished with subbasal ventral process. Inferiors reaching over the midway

of the length of the superiors, relatively longer and less abruptly narrowing at the basal half than in *R. haematopus*.

Measurements (mm). — Hw. 22.5-23.0; — abd. 38.5-40.0.

RISIOCNEMIS MELANOPS SPEC. NOV.

Figures 11-12

Material. — **Holotype**: ♂, Phil[ippines], Samar, Catbolagan, 22-IV-1914, G. Boettcher leg., deposited at SMF, Frankfurt/Main. — **Paratype**: ♂*, same site as holotype, 19-IV-1914, G. Boettcher leg. (SMF).

MALE. — Head and thorax similar coloured as in *R. fuligifrons* sp. n., but legs somewhat less vividly orange red. Abdomen orange reddish throughout, except the dorsum of segments 9-10 darkened.

Anal appendages shaped as in Figures 11-12. Superiors a little more than 1.5 times longer than segment 10. Inferiors not quite reaching to the midway of the length of the superiors; very swollen at base, more markedly so than in *R. haematopus*. Ventral process of the superiors similar as in *R. fuligifrons* sp. n.

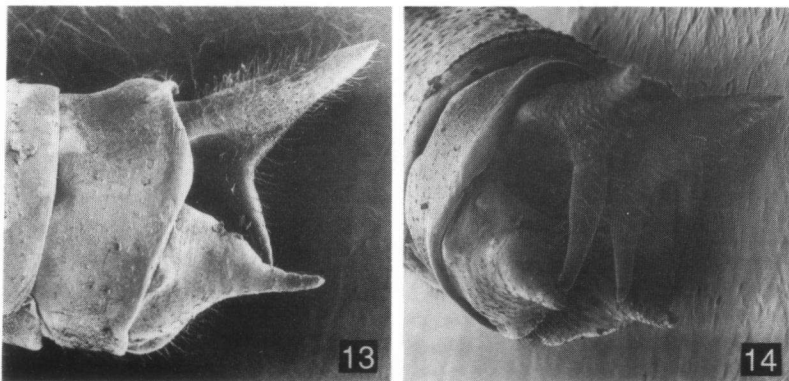
Measurements (mm). — Hw. 24.0-25.0; — abd. 39.0-41.5.

RISIOCNEMIS ODOBENI SPEC. NOV.

Figures 13-14

Material. — **Holotype**: ♂*, P[hilippine] I[slands], Luzon, Mt Iriga, Camarines Sur [prov.], 500-600 m, [no date], H.M. Torrevillas leg., deposited at RMNH, Leiden. — **Paratypes**: ♂, same site as holotype, RMNH.

Etymology. — The posterior view of the ventral processes of the superior appendages gives an image of the upper canine teeth of the walrus (*Odobenus*).



Figs 13-14. Male anal appendages of *Risiocnemis odobeni* sp. n.: — (13) lateral view; — (14) oblique posterolateral view.

MALE. — Head and thorax unicoloured orange-brown; clypeus partly darkened. Legs vividly orange red throughout. Abdominal segments 1-2, the basal third of segment 3 and segments 8-10 orange red, the intermediate segments blackish brown, paler brown ventrolaterally. Pterostigma grayish black.

Anal appendages shaped as in Figures 13-14; orange brown. Superiors twice as long as segment 10; inferiors reaching over the midway of the length of the superiors. Superiors furnished with very long ventral process; the process longer and more removed from base than in *R. flammea* (Selys).

Measurements (mm). — Hw. 25.0-26.0; — abd. 40-54.5.

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REFERENCE

- HÄMÄLÄINEN, M., 1991. The Philippine genus *Risioenemis* Cowley (Zygoptera: Platyne-mididae) I. Subgenus *Risioenemis*. *Odonatologica* 20(2): 151-194.