

**PRISCAGRION KIAUTAI GEN. NOV., SPEC. NOV.
AND *P. PINHEYI* SPEC. NOV., NEW DAMSELFLIES FROM
SOUTHWESTERN CHINA
(ZYGOPTERA: MEGAPODAGRIONIDAE)**

W.-b ZHOU¹ and K.D.P. WILSON²

¹ Department of Entomology, Zhejiang Museum of Natural History, Jiaogonglu 71,
Hangzhou-310012, China

² 6F, 25 Borrett Road, Mid Levels, Hong Kong
e-mail: wilsonkd@netvigator.com

Received as 2 separate manuscripts on July 10, 2000 and August 17, 2000 /

Revised and Accepted August 30, 2000

The new genus is established to receive the 2 new spp., *P. kiautai* sp. n. (type sp.; holotype ♂, paratypes of both sexes: China, Guizhou, Chishui Alsophila Nature Reserve, 18-V-2000; deposited at the Zhejiang Mus. Nat. Hist., Hangzhou) and *P. pinheyi* sp. n. (holotype ♂: China, Guangxi, Damingshan, 13-V-1997, paratypes of both sexes; same locality, 14-V-1997; holotype and 1 ♀ to be deposited at the Tai Lung Experimental Stn, Agriculture & Fisheries Dept, Lin Tong Mei, Sheung Shi, NT, Hong Kong). *Priscagrion* gen. n. is compared with *Arrhenocnemis* Lieft. and *Mesopodagrion* McL.

INTRODUCTION

According to BRIDGES (1994), the Megapodagrionidae TILLYARD (1917) is divided into six subfamilies, containing some 38 genera. *Rhipidolestes* Ris and *Pseudolestes* Kirby were classified by BRIDGES (1994) under Pseudolestidae Fraser, but these genera are now considered to belong to Megapodagrionidae (SCHORR et al., 2000). Two new Megapodagrionidae genera from Australia were created by THEISCHINGER (1998). The majority of megapodagrionid genera belong to the subfamily Argiolestinae Selys. Two of these are monotypic, with distributions confined to China, viz. *Agriomorpha* May and *Calilestes* Fraser. The second richest subfamily is Megapodagrioninae TILLYARD (1917) which contains only four genera. All of these megapodagrionine genera, apart from *Megapodagrion* Selys,

which is confined to South America, have restricted distributions. *Arrhenocnemis* Lieftinck and *Tatocnemis* Kirby are endemic to New Guinea and Madagascar, respectively and *Mesopodagrion* McLachlan is represented by a single species occurring in Burma, Thailand and China. Two species belonging to a distinct genus of the Megapodagrioninae have been found at Chishui Alsophila Nature Reserve, Guizhou and Damingshan, Guangxi. A new genus, *Priscagrion* gen. n., is erected here to receive them.

PRISCAGRION GEN. NOV.

E t y m o l o g y. — from Latin 'priscus' = ancient.

Old World forms with anal bridge complete, and more than two antenodal crossveins present in the costal space. Discoidal cell elongate. Several supplementary longitudinal veins between IR2 and R3 to form an extensive intercalated area. Simple penile organ.

Type species: *Priscagrion kiautai* sp. n.

REMARKS. — The anal crossing joins the anal bridge just distal to its junction with the hind wing. The anal bridge is complete, forming a discrete subdiscoidal cell, separate from the posterior margin of the wing. These characters are consistent with members of the Megapodagrioninae. This new taxon differs from the two Old World Megapodagrioninae genera, *Arrhenocnemis* and *Mesopodagrion*, in a number of respects. *Priscagrion* possesses additional antenodal crossveins in the costal space of forewing and hindwing (Figs 3, 8-9), intercalated areas of wings and simple penile organ. These archaic characters serve to separate this taxon from *Arrhenocnemis* and *Mesopodagrion* both of which lack additional antenodal crossveins. The wings of *Arrhenocnemis* lack intercalated areas and *Mesopodagrion* has a complex tip to the penile organ.

PRISCAGRION KIAUTAI SP. NOV.

Figures 1-7

M a t e r i a l. — **Holotype** ♂ (Chishui Alsophila Nature Reserve. Guizhou, China (28°20'N, 105°57'E). 18-V-2000. **Paratypes:** 8 ♂, 5 ♀, Chishui, 18-V-2000. Holotype and paratypes are deposited at the Zhejiang Museum Natural History.

E t y m o l o g y. — Named in honour of Dr Bastiaan K i a u t a.

MALE. — **H e a d** illustrated in Figure 1. Labium pale yellow. Labrum and bases of mandibles pale blue. Anteclypeus black. Postclypeus, genae and the front border of frons greenish-yellow. A small oval spot is present between the posterior ocelli and bases of antennae. Head dull black with a yellow narrow stripe along border of occiput.

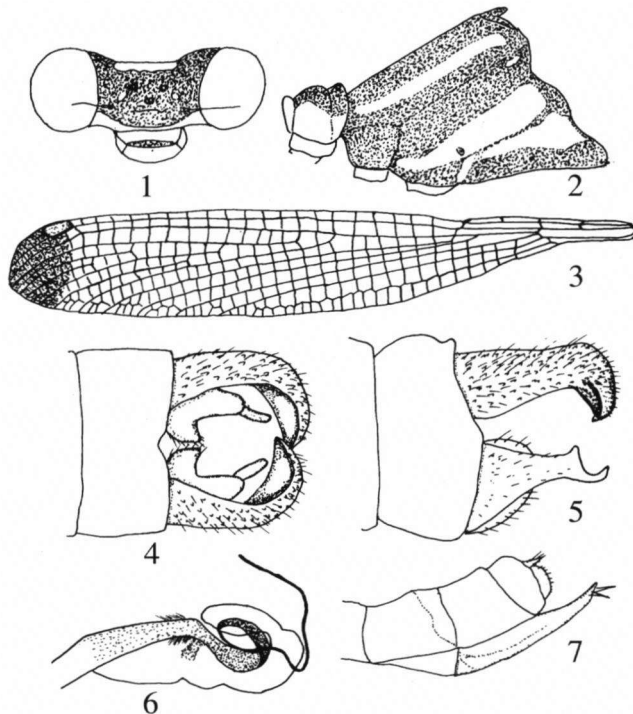
T h o r a x. — Prothorax black with anterior lobe greenish-yellow and sides broadly striped greenish-yellow. Synthorax black with broad greenish-yellow

antehumeral stripe, a pale spot below antealar sinuses and broad greenish-yellow metepisternal stripe covering the spiracle as show in Figure 2. Lower metepimeron with greenish-yellow stripe, which is broad posteriorly and narrows almost to a point. Legs pale yellow with black spines and dorsum of all femora black. Hind femora extends to second abdominal segment.

Wings hyaline with tips heavily pigmented dark brown (Fig. 3). Two main antenodal veins usually with an accessory antenodal vein present in costal space. Pterostigma yellowish-brown, covering three cells. Twenty-two postnodal nerves in forewing and hindwing.

A b d o m e n glossy black. Segments 1-5 with finely striped dorsal carina. Segments 2-7 with bright yellow apical rings and apart of parallel yellow stripes along sides. Segments 9-10 blue. Anal appendages black (Figs 4-5). Superior appendages falcate, curved strongly downwards and inwards with a prominent spot on outer side and paler yellow spot on inner side. Interior appendages slightly shorter than superior appendages and very broad at their base. Apices hooked with a robust dorsal spine. Penile organ simple with tip forming a circle (Fig. 6).

M e a s u r e m e n t s (mm). — Male abd. + app. 46.0, hw 37.0; — female abd. + app. 43.0, hw 37.0.



Figs 1-7. *Priscagrion kiautai* gen. n., sp. n. Guangxi: (1) male head frontal; — (2) male thorax, lateral; — (3) male wing; — (4) male caudal appendages, dorsal view; — (5) ditto, lateral view; — (6) male penile organ, lateral view; — (7) female caudal appendages, lateral view.

PRISCAGRION PINHEYI SP. NOV.

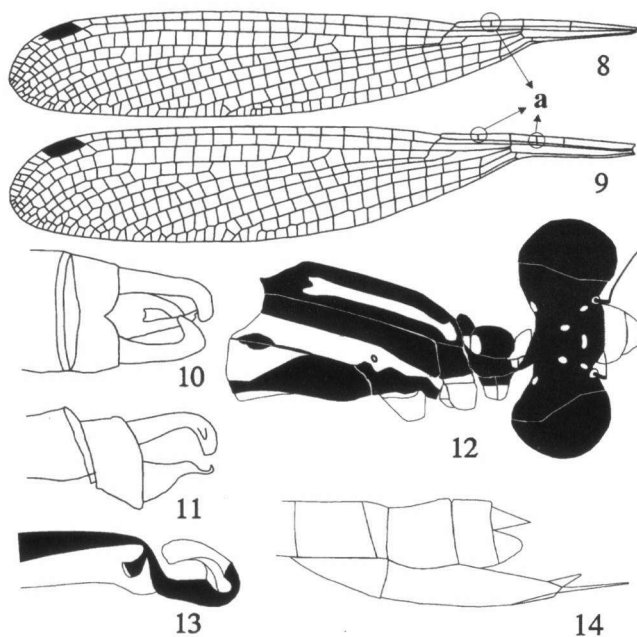
Figures 8-14

Material. — **Holotype** ♂: Damingshan, Guangxi, (23°24'-23°30'N by 108°20'-108°32'E), 13-V-1997, coll. K.D.P. Wilson. — **Paratypes**: 2 ♂ (teneral), Damingshan, 14-V-1997; 2 ♀ (teneral), same locality and date. Holotype and one paratype ♀ to be deposited at the Tai Lung Experimental Station, Agriculture and Fisheries Department, Lin Tong Mei, Sheung Shui, NT, Hong Kong.

Etymology. — Named in honour of Dr Elliot Charles George Pinhey.

MALE. — **Head.** — Labium pale cream. Labrum pale yellowish cream with distal margin finely bordered dark brown. Mandibles shining pale greenish-yellow. Postclypeus dark brown. Anteclypeus pale greenish-yellow. Lower sides of face, below antennae and extending upwards at eye margin are shining pale creamy-yellow. Frons and top of head matt black becoming glossy adjacent to eyes (Fig. 12). Two tiny pale brown spots anterior and slightly inward of antennae.

Thorax. — Prothorax dark brown with pale cream frontal lobe and pale cream spot at posterior lateral margin of central lobe, which extends onto posterior lobe. Pterothorax black with pale whitish cream antehumeral stripe, which falls well



Figs 8-14. *Priscagrion pinheyi* sp. n., Guangxi: (8) male forewing; — (9) male hindwing; — (10) male caudal appendages, dorsal view; — (11) ditto, lateral view; — (12) male head and thorax; — (13) male penile organ, lateral view; — (14) female caudal appendages, lateral view.

short of wing base. Metepisternum pale yellowish cream with dark brown invasions at basal posterior and anterior margin. Metepimeron black with large pale yellowish cream basal third. Metakatepisternum black.

Wings with one or more additional antenodal crossveins ([a] Figs 8-9). Pterostigma unbraced with acute distal and proximal corners. Coxae and trochanters pale cream. Discoidal approximately four times longer than wide, with dorsal side approximately four fifths length of ventral side and distal corner of discoidal subacute. Legs pale with hind margin of femora dark, joint between femur and tibia, and tarsi dark.

A b d o m e n. — First segment of abdomen dark brown. Segment 2 dark brown with pale ventral margin. Segments 3-7 dark brown, with pale lateral triangular spots expanding towards base. Dorsum of segment 8 pale cyan blue, with basal one-sixth dark brown and sides pale at basal half. Dorsum of segments 9 and 10 cyan blue. Caudal appendages are black and illustrated in Figures 10-11. Superior appendages are curved inward and downward approximately two thirds from their base, with a stout projection on outer margin towards tip. Inferior appendages are nearly as long as superior appendages, with broad bases and hooked-shaped tips. Male penile organ is simple and shown in Figure 13.

FEMALE. — Very similar to male but shorter and stouter, with no cyan-blue markings at tip of abdomen. Pale marks on abdomen are much larger forming basal rings broadly expanded at lower lateral margins. Caudal tip of abdomen is illustrated in Figure 14. Styles are very long and slightly flattened dorso-ventrally. Superior appendages are black and inferior appendages are dark at base but otherwise pale.

M e a s u r e m e n t s (mm). — Male abd. + app. 40.0-42.5, hw 32.5-34.0; — female abd. + app. 35.0, hw 31.0-32.0.

ACKNOWLEDGEMENTS

The Kadoorie Farm & Botanic Garden is gratefully acknowledged for sponsoring and organising survey work and the Guangxi Department of Forestry for its assistance with accommodation and fieldwork.

REFERENCES

- BRIDGES, C.A., 1994. *Catalogue of the family-group, genus-group and species-group names of the Odonata of the World* [3rd edn]. Bridges, Urbana/IL.
- SCHORR, M., M. LINDEBOOM & D. PAULSON, 2000. *List of Odonata of the World*, pt 1, *Zygoptera and Anisozygoptera* [revised 27 April 2000]. <http://www.ups.edu/biology/museum/wor/dodonates.html>
- THEISCHINGER, G., 1998. Supra-specific diversity in Australian "Argiolestes" (Odonata: Zygoptera: Megapodagrionidae). *Stappia* 55: 613-621.
- TILLYARD, R.J., 1917. *The biology of dragonflies. (Odonata or Paraneuroptera)*. Cambridge Univ. Press, Cambridge.