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PERIAESCHNA ZHANGZHOUENSIS SPEC. NOV. FROM FUJIAN, CHINA (ANISOPTERA: AESHNIDAE)

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The new sp. is described, illustrated and compared with the congeners (holotype ♂, China, Fujian, Huaan co., 3-VIII-2004; deposited at Zhangzhou Education College, China). It is similar to *P. flinti* Asahina, from which it is distinguished by longer inferior appendages, an obtusely tipped dentigerous plate and by different colour patterns of the synthorax and abdomen.

INTRODUCTION

There are eight species of *Periaeschna* in Asia, four of which are known from China: (1) *P. flinti* Asahina, 1978 from Fujian, Zhejiang, Guangdong, Jiangxi and Sichuan with a subspecies from Assam, *P. f. assamensis* Asahina, 1981; (2) *P. magdalena* Martin, 1909 from Fujian, Zhejiang, Jiangsu, Sichuan, Jiangxi, Guangdong, Guangxi, Hainan and Taiwan; (3) *P. mira* Navás, 1936 from Jiangxi; and (4) *P. rotunda* Wilson, 2005 from Guangxi. In the present paper, a new Chinese species, *P. zhangzhouensis* sp. n., is described and illustrated.

PERIAESCHNA ZHANGZHOUENSIS SP. NOV.

Figures 1-6

Material. – **Holotype** ♂: Huaan county (24°49'N, 117°45'E), 3-VIII-2004, Q.-h. Xu leg. – **Allotype** ♀: Nanjing county (24°35'N, 117°22'E), 11-VIII-2005, Q.-h. Xu leg. – **Paratypes**: 3♂, Huaan county, 25-VII-2005, 1♂, Nanjing county, 3-VIII-2005, Q.-h. Xu leg. The types are deposited at Zhangzhou Education College in Fujian Province, China.

Etymology. – The new species is named after the city Zhangzhou, which administers both Huaan and Nanjing counties.

MALE. – H e a d. – Labium brown; maxilla brown, its inner lobe and outer lobe blackish-brown; mandible brown, its apical portion blackish-brown; labrum brown; anteclypeus brown; postclypeus olivaceous-brown; frons cone-shaped slightly at the middle of crest; anterior portion of frons blackish-brown, its both sides olivaceous-brown; top of frons brown with long blackish hairs, its outer margin blackish-brown; the width of frons being about 1/2 the width of head; vertex brown, swollen blackly at the middle; occiput black, covered with long blackish hairs.

T h o r a x. – Prothorax blackish-brown, its sides brown. Synthorax black, marked with two green dorsal stripes and two broad stripes of the same colour on each side; a small green triangular spot on the upper end of metepisternum. The colour pattern as shown in Figure 1.

Legs. – Black, but the coxae and trochanters of forelegs brown; the coxae of middle legs brown, and the trochanters blackish-brown.

Wings. – Hyaline, tinted pale brownish; pterostigma black, braced at its proximal side, 3 mm in length covering 3 cells; arc proximal to distal primary antenodal nervure; IR3 forked at a point midway between node and pterostigma; nodal index: 15-24:24-14 / 16-19:17-18; triangle 5 celled; anal loop 8-9 celled; anal triangle 3 celled. The hindwing venation as shown in Figure 2.

A b d o m e n. – Black with green markings. Basal 2 segments inflated, gradually attenuated towards 1/2 of segment 3, then almost parallel-sided distally. The abdominal colour pattern as shown in Figure 3. Caudal appendages black; superior appendages sharply pointed externally, 4 mm in length, equal to the length of segment 9 plus segment 10. The caudal appendages as shown in Figures 4 and 5.

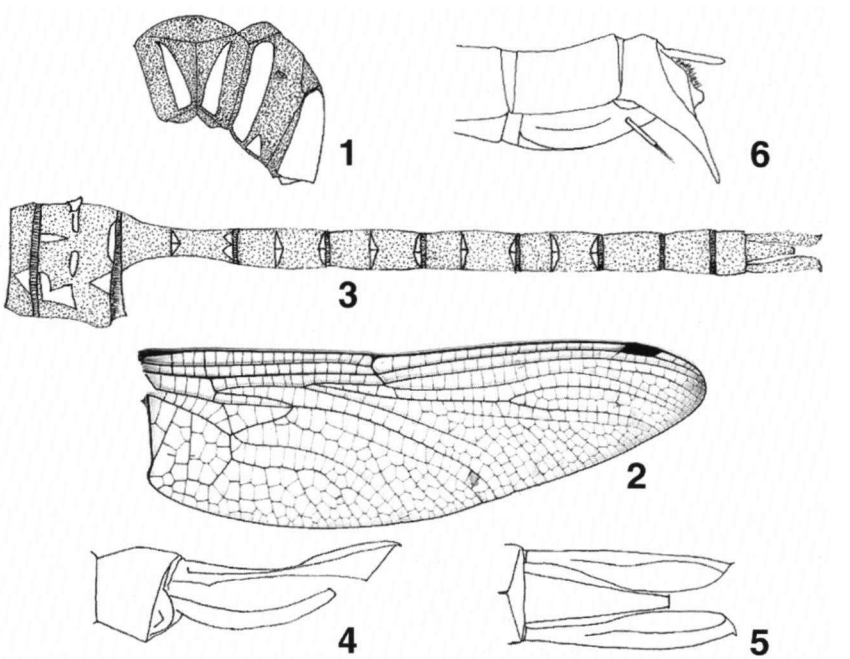
FEMALE. – Closely similar to the male in colour and markings, but there is some difference as follows: segment 2 with a curved longitudinal lateral band and segment 7 without any markings at dorsal posterior border. Wings hyaline, enfumed with pale brown. Nodal index: 16-24:24-16 / 18-19:19-21. Triangles: 6 cells in forewings and 5-6 cells in the hind. Anal loops with 12-13 cells. Distal abdominal segments as shown in Figure 6. The sides of segment 10 prolonged downwards forming a pair of forceps-shaped spines, but the tip is obtuse.

M e a s u r e m e n t s (in mm). – Male: Abd. + app. 51.0, hindwing 42.0; – female: Abd. + app. 51.0, hindwing 45.0.

NOTES. – Among the known four Chinese *Periaeschna* species, the new species is closely similar to *P. flinti* (cf. ASAHINA, 1978). Both species have the same frons / head ratio and possess superior appendages with a triangular lobe on the distal end and pointed externally tips. But the new species differs from the latter as follows: inferior appendages nearly 3/4 of the length of superiors; the tip of dentigerous plate is obtuse; there are not any markings on mesokatepisternum and metakapisternum, and there is only a triangular spot on the upper end between the two lateral stripes; the markings on jugal sutures of segments 3-7

are conspicuous and the spots on distal border of segments 3-7 look paired and smaller. *P. magdalena* also shares superior appendages with sharply pointed externally tips with the new species, but the ventral lobe on the distal end is not triangle-shaped, inferior appendages are shorter, 3/5 of the length of superiors (ASAHINA, 1961). In addition, female *P. magdalena* has a pair of dentigerous plates with sharply pointed tips (ASAHINA, 1983), which also differs from the new species. *P. rotunda* has superior appendages strongly ribbed at centre and the tips of superior appendages smoothly rounded with a minute prominence at tip (WILSON, 2005), which is quite distinct from the above mentioned species. *P. mira* is a poorly described species, but the described features such as face yellow, narrow middorsal stripes on segments 1-7, inferior appendages 2/3 of the length of superiors, the cerci of female yellowish (NAVÁS, 1936) serve to separate it from the new species.

Besides the known four Chinese *Periaeschna* species, *P. biguttata* (Fraser, 1935) from India (Assam) is stated to have superior appendages with an obtuse apex which bears a minute point outwardly, and inferior appendages are 2/3 of the length of superiors (FRASER, 1936). *P. nocturnalis* Fraser, 1927 from India and Thailand, *P. unifasciata* Fraser, 1935 from India and Nepal, and *P. laidlawi*



Figs 1-6. *Periaeschna zhangzhouensis* sp. n.: (1) ♂, synthorax, dorso-lateral view; – (2) ♂, hindwing; – (3) ♂, abdomen, dorsal view; – (4) ♂, caudal appendages, lateral view; – (5) ♂, caudal appendages, dorsal view; – (6) ♀, distal abdominal segments, lateral view.

(Förster, 1908) from Peninsular Malaysia all possess acutely pointed superior appendages, but *P. nocturnalis* is illustrated with the ventral lobe on the distal end of superior appendages not triangle-shaped (ASAHINA, 1986). *P. unifasciata* is illustrated without the ventral lobe on the distal end of superior appendages (FRASER, 1936). As for *P. laidlawi*, according to ASAHINA (1983), its synthorax is reddish brown, the pterostigma yellowish, its abdomen is pale brownish with pale transverse stripes on segments 2-6, the female-ovipositor processes short with dentigerous plate forked, all of which are features distinct from the new species.

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