

A New Species of *Isonychia* From China (Ephemeroptera:
Oligoneuriidae)

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Abstract.—A new species, *Isonychia hainanensis*, is described and illustrated from specimens collected in Hainan Island, Guangdong Province, China.

Presently three species of *Isonychia* are known from China (Gui 1985). During studies of the mayflies of Hainan Island, a distinctive undescribed species was collected.

Isonychia hainanensis, n. sp.

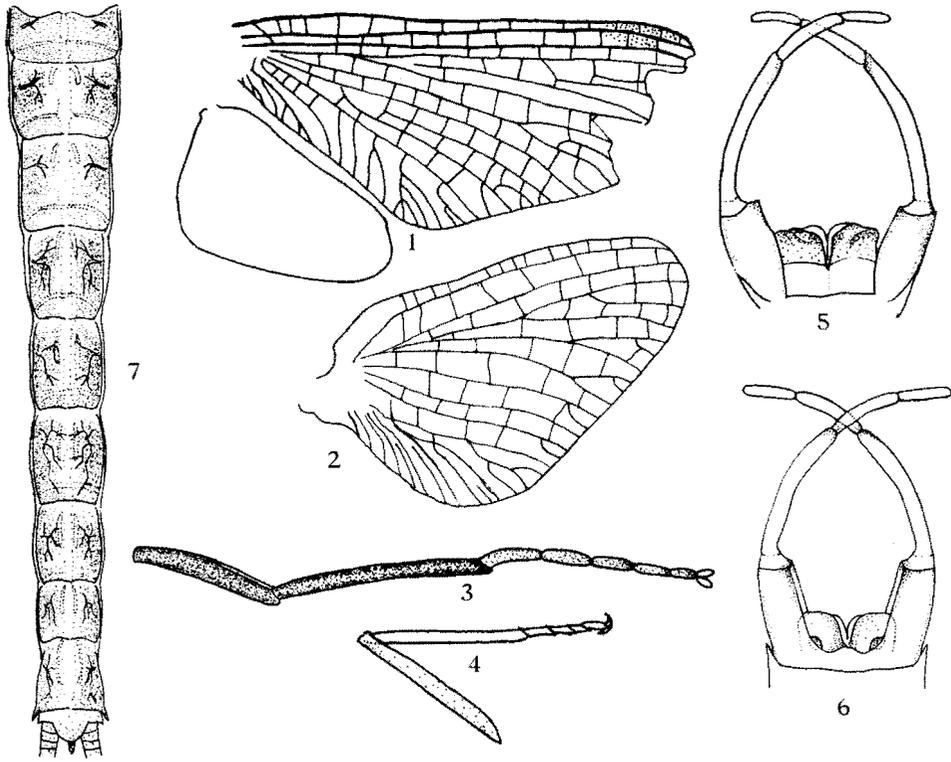
Figs. 1-11

Male Imago (in alcohol): Length of body 14 mm, forewing length 13 mm, hindwing length 5 mm. *Head*: Base of ocelli dark brown; scape and flagellum light brown. *Thorax*: Pronotum brown, bordered with white anteriorly and laterally; mesonotum and metanotum dark reddish-brown; thoracic pleura and coxae marked with contrasting areas of dark reddish-brown and white. Fore femora and tibia brown, tarsi light brown (Fig. 3). Femur of meso and meta-thoracic legs yellowish, tarsi paler (Fig. 4). Tarsal ratio: 0.8: 0.7: 0.6: 0.5: 0.4. Gill remnants present at bases of forecoxae. Forewings (Fig. 1) hyaline, veins light brown and stigmatic area dull white. MA forked beyond middle. CuA 3 branched and two unbranched veins to the margin. Vein MP of hind wing forked near margin, stem longer than fork (Fig. 2). *Abdomen*. Reddish-brown with white lateral margins. A pale middorsal stripe on terga 1-9 (Fig. 7); terga 2-9 with a pair of small submedian streaks, Pleural fold pale. Cerci reddish-brown basally, becoming paler distally. *Genitalia*. Light brown. Subgenital plate with a deep posteromedian emargination (Fig. 5 and 6). Basal joint of forceps enlarged, segment 2 longer than segment 3, segments 2 and 3 subequal to segment 1. Penis lobes truncate and apically separate (Fig. 5 and 6). In ventral aspect a small projection at base of penis lobe (Fig. 6).

Female Imago (in alcohol): Length of body 13-14 mm, forewing length 13.5-14 mm hindwing length 6 mm. Marking similar to male, but paler. Subanal plate with deep posteromedian emargination (Fig. 11). Caudal filaments marked as male. Legs as colored as male (Figs. 8-10).

Nymph.—Unknown.

Holotype: Male Imago, Allotype, female imago, Maoyang, Qongzhong County (19°N, 109°36'E), 2 June 1986.



Figures 1–7. *Isonychia hainanensis* n. sp., male imago. 1. Forewing; 2. hindwing; 3. foreleg; 4. metathoracic leg; 5. genitalia, dorsal; 6. genitalia, ventral; 7. abdomen, dorsal.

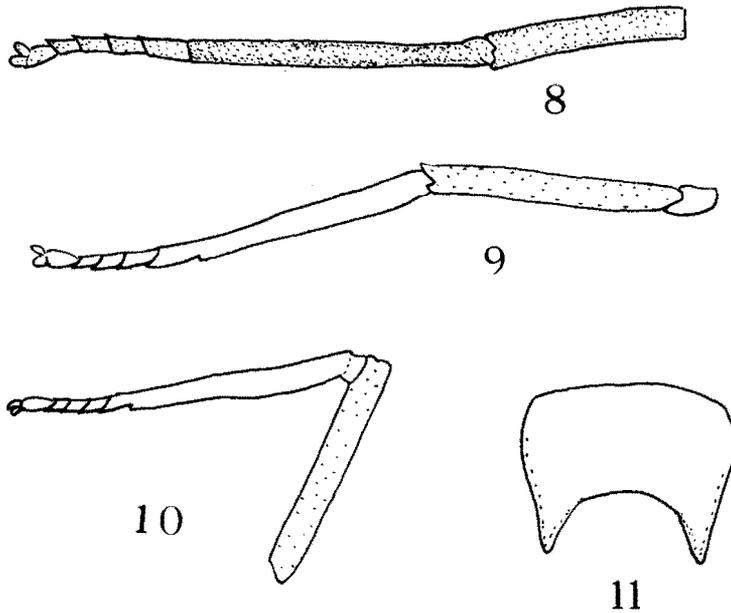
Paratypes: 1 male imago, Diaoluo Mountains, Linshui County, (18°40'N, 109°45'E), 26 May 1986, 3 male and 7 female imagoes, same data as holotype; 34 subimagoes, Jianfeng, Luodong County (18°45'N, 108°40'E) 24–27 April 1986; 1 male subimago, Bawanglin, Baisha County (19°06'N 109°05'E) 1 May 1986.

All specimens were collected by the first author and Mr. Zhang Jun and are deposited in the collection of the Department of Biology, Nanjing Teachers University.

Biology.—All specimens were collected as subimagoes, which were attracted to a gas light. These specimens were allowed to transform to adults in special subimago boxes.

The type locality, Maoyang River is a clear and slow moving stream approximately 70 m wide. The substrata is sand and small stones. The river is bordered by forests and farmland.

Diagnosis.—*Isonychia hainanensis* apparently belongs to the subgenus *Isonychia* (Kondratieff and Voshell, 1983) and may be easily distinguished from other *Isonychia* known from China (*I. formosana* (Ulmer), *I. japonica* Ulmer, and *I.*



Figures 8–11. *Isonychia hainanensis*, n. sp., female imago. 8. foreleg; 9. mesothoracic leg; 10. metathoracic leg; 11. subanal plate.

kiangsiensis Hsu) by the following combination of characters: ventral base of each penis lobe with a small projection and abdomen reddish-brown with a pale middorsal stripe and pair of submedian curved streaks.

ACKNOWLEDGMENTS

We are greatly indebted to B. C. Kondratieff, Department of Entomology, Colorado State University, Fort Collins, Colorado, who has kindly provided us with some literature for reference, and who offered some suggestions and corrections to our manuscript. I also wish to thank Mr. Noah S. Brannen for his assistance in checking the manuscript for linguistic accuracy.

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