

***SYMPETRUM XIAOI* SPEC. NOV.,
A NEW DRAGONFLY FROM SHANXI, CHINA
(ANISOPTERA: LIBELLULIDAE)**

F.-y. HAN and H.-q. ZHU

Department of Life Sciences, Shanxi University, Taiyuan-030006, People's Republic of China

Received November 14, 1996 / Revised and Accepted February 6, 1997

The new sp. (holotype ♂: China, Shanxi, Yang cheng: Mang R., 2-VIII-1994; deposited at Dept Life Sci., Shanxi Univ., China) is described, illustrated and compared with *S. infuscatum* (Sel.). It differs from the latter as follows: (1) pterothorax: 2nd lateral stripe incomplete above, - (2) abd. segments 6-8: lateral stripes complete, - (3) penis: 3rd segment longer and its distal cornutus baculiform. 2 ♂ paratypes are from the Xing R., Shanxi. The ♀ is unknown.

***SYMPETRUM XIAOI* SP. NOV.**

Figures 1-5

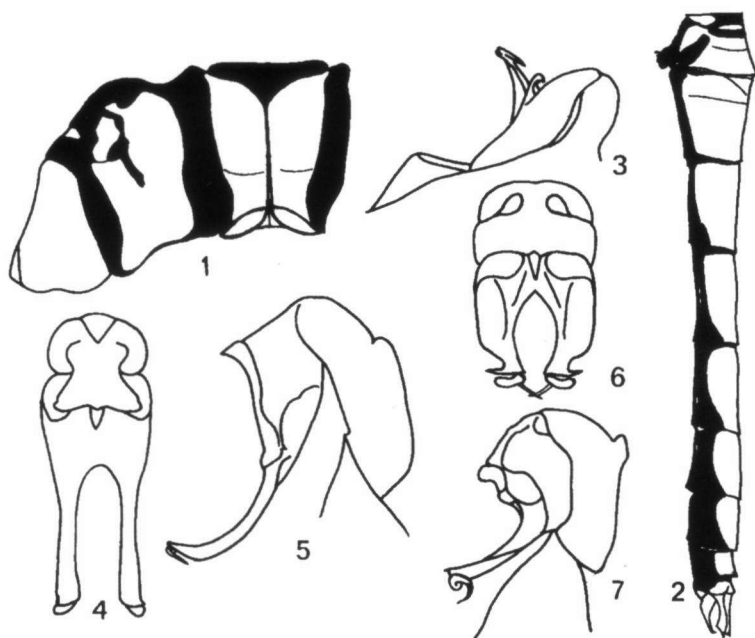
M a t e r i a l. - Holotype ♂: China, Shanxi prov., Yang cheng: Mang River, 2-VIII-1994, F.-y Han leg. (deposited at Dept Life Sci., Shanxi Univ., China). - Paratypes: 2 ♂, China, Shanxi prov., Yang cheng, Xing River, 28-VIII-1991, S.-s. Zhang leg. (deposited at Shanxi Acad. Agric. Sci.).

E t y m o l o g y. - The new species is dedicated to our teacher, Professor Dr Cai-yu X i a o.

M A L E. - **H e a d.** - Labium yellow, middle lobe brown-blackish. Labrum pale yellow, anterior margined with black. Face, frons and vertex pale yellow, a black narrow line through the ocelli decurrent at sides along margins of the eyes. Occiput yellow-brownish. Rear of eyes black with three spots and a line in a vertical row.

P r o t h o r a x. - Black above, with anterior lobe pale yellow, middle of mid-lobe marked with a V-like pale line and posterior lobe dark yellowish.

P t e r o t h o r a x. - Yellow with black stripes as in Figure 1. Mid-dorsal stripe broadly confluent with collar stripe, humeral stripe broader, 2nd lateral stripe narrowly black and incomplete above, 3rd stripe broader, and all stripes confluent beneath on the leg bases: Wings hyaline, with extreme bases tinged with amber-yellow and marked with a brown cross band covering the apices to the proximal



Figs 1-7. Structural features of the two allied *Sympetrum* species: Figs 1-5: *S. xiaoi* sp. n. ♂: (1) pterothorax; – (2) abdomen, left lateral view; – (3) hamulus and tip of penis, right lateral view; – (4) penis, ventral view; – (5) penis, left lateral view. – Figs 6-7: *S. infuscatum* (Sel.), penis: (6) ventral view; – (7) left lateral view.

end of stigma. Legs black but inner sides of anterior pair of femora pale yellow.

Abdomen. – Reddish-ochreous, with black stripes, colour pattern as in Figure 2. Segments 1-3 yellow, in the 1st and 2nd marked with black stripes. 4th segment, ventro-laterally, with a small black apical spot, which is confluent with a black ventral stripe. 5th-9th segments marked similarly, with the areas of black increasing by degrees in each successive segment. Black markings continue into segment 10, somewhat reduced in extent. Beneath blackish. Appendages pale, tips black, the superior slightly longer than the inferior.

Genitalia. – Black, the penis has its specific characteristics on the 3rd segment, its distal cornutus like a pair of rods (baculiform) and armed with a hook on its tip, as in Figures 3-5.

Measurements (in mm). – Abdomen (incl. app.) 24-28; – hind wing 29-34.

FEMALE unknown.

AFFINITIES. – The new species resembles *S. infuscatum* (Sel.) in its colour and brown wing apices. However, it differs obviously from the latter as follows:

xiaoi sp. n.

- frons yellow, not darkened on the paired prominences;
- 2nd lateral stripe narrowly, incomplete above, and 3rd stripe broader (Fig. 1)
- on each of abd. segments 6-8, the lateral stripes complete (Fig. 2);
- penis, 3rd segment and its distal baculiform cornua longer and armed with a hook on its tip (Figs 3-5).

infuscatum

(from Heilongjiang & Fujian)

- darkened on the paired prominences of the yellow frons;
- all of the stripes complete and the 2nd broader than 3rd;
- on each of abd. segments 6-8, the lateral stripes enclose a spot of ground colour;
- 3rd segment and its distal depressed cornua shorter and armed with a spiral palp on its tip (Figs 6, 7).

ACKNOWLEDGEMENTS

We wish to thank Mr JIU OU-YANG and Dr E.-b. MA, who provided the *S. infuscatum* specimens from Heilongjiang and Fujian.

REFERENCES

- HAMADA, K. & K. INOUE, 1985. *The dragonflies of Japan in colour*. Kodansha, Tokyo.
NEEDHAM, J.G., 1930. A manual of the dragonflies of China. *Zool. sin. (A)* 11: 171-172.
SUI, J.-z. & H.-g. SUN, 1984. *Common species of dragonflies from China*. Agric. Publ. House, Beijing.