

**Odonata from South Shensi (North China)
in the Collection of the Zoological
Museum, Copenhagen**

by

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Through the kindness of Dr. S. L. Tuxen I had an opportunity to study a fine series of dragonflies collected by Mr. E. Suenson in the southern part of Shensi Province, North China, and now preserved in the Zoological Museum, Copenhagen. Though the specimens are not so plenty in the number of species yet they apparently represent a very valuable material from this neglected, but very interesting locality. Before going further, I wish to express my cordial gratitude to Dr. Tuxen and Mr. Suenson who most kindly answered me in detail on the localities surveyed. I also thank the authorities of the Museum of Zoology, Copenhagen, of the British Museum (N. H.), London, and of the U. S. National Museum, Washington, for the privilege of studying the related material in their charge.

I. *Calopterygidae*.

1. *Mnais tenuis* Oguma.

123 ♂♂ 43 ♀♀ VI-VII. 1936.

Chinese species of the genus *Mnais* appear still in a chaotic condition. It seems, however, that there is only a single species inhabiting a greater part of China excluding southwestern subtropical provinces. This species is usually dimorphic for each sex in the wing colouration, being represented by either hyaline or orange forms. Among the present material 42 males are hyaline while 81 are orange-winged; 30 females hyaline while 13 fe-

males pale-orange. This seems a parallel phenomenon with Japanese *Mnais strigata*. Of the latter species I hope to publish a more detailed discussion in a later occasion. The true *Mnais andersoni* Mac Lachlan from Yunnan is quite different from the present species. This was ascertained when I examined the type specimens in the British Museum (N. H.). *Mnais tenuis* was first named by Oguma for Formosan specimens. Its most noticeable character is the entirely yellow metathoracic epimeron.

2. **Matrona basilaris basilaris** Selys.

18 ♂♂ 9 ♀♀ VI-VII. 1936.

Apparently these are typical *basilaris*. In the males the wing apices are becoming hyaline. The basal area of the wings covered by the minute azure cross veinlets extends only slightly beyond the nodus. In the females the pseudopterostigma are medium sized, 3 mm in the fore-wing, 2.5 mm in the hind-wing; the ventral side of the female pterothorax is for the most part yellow.

3. **Calopteryx atrata** Selys.

1 ♂ 2. VII. 1936 Chin sa gong, 800-900 m.

II. **Megapodagrionidae.**

4. **Mesopodagrion tibetanum** Mac Lachlan.

1 ♂ 12. VII. 1 ♂ 13. VI. 1 ♀ (teneral) 15. VI. 1936 Ho ping tse, 1100-1200 m.

Mesopodagrion tibetanum MacLachlan, Ann. Mag. Nat. Hist., (6), 17, p. 372 (1896) "Moupin, one male; Siao-Lou, one female".

Mesopodagrion tibetanum Morton, Trans. Ent. Soc. London, 1928, part 1, p. 112 (1928) "1 ♂ ad., 2 ♂♂ juv." (North-west Yunnan).

Mesopodagrion tibetanum Needham, Zool. Sinica, 11, (1), p. 239 (1930) "Thibet" [cited from MacLachlan (1896)].

Mesopodagrion tibetana [!] Fraser, J. Bom. Nat. Hist. Soc., 34, (4), p. 972 (1931) "Tibet and South-east [!] China".

Mesopodagrion tibetanum Fraser, Fauna Brit. India, Odonata, 1, p. 96 (1933) [cited(?) from Fraser (1931)].

Mesopodagrion tibetanum Lieftinck, Ark. f. Zool., 41 A, (10), p. 7 (1948) "5 ♂ 3 ♀ N.E. Burma, Kambaiti 2000 m, 2-11. VI."

This is a thick bodied, medium-sized Megapodagrionid species, striped with black and yellow*. It seems advisable to give the figures of the wing venation, body markings and the male caudal appendages, based upon the present material in order to help further recognition of this species. There is another pair of specimens from Tien-mu-shan, Chekiang Province, taken by Mr. E. Suen-son, 1-3. VII. 1937, which are nearly same size with the

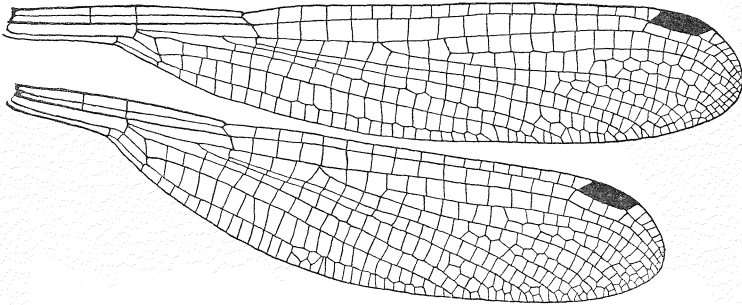


Fig. 1: *Mesopodagrion tibetanum* MacLachlan. Wing-venation, ♂, Tien-mu-shan, Chekiang, Central China.

Shensi specimens, but the black body-patterns are slightly more extended and the distal half of the male superior appendages being more slender.

I have compared these Chinese specimens with the types in the British Museum (N. H.), the type male is from Moupin, eastern Tibet, the type female (teneral) is from Siao Lou, Szechuan, both came from the MacLachlan collection. In the type male the yellow patterns are more extended than those of the Chinese ones; i. e., the posterior border of the postocular lobe being paler, the antehumeral band broad and complete, the yellow of the metepimeron broader, the lateral yellow stripe of the third abdominal segment distinct. In the type specimen,

* Fraser supposed that the pale markings of the male will be "blue" when alive, but I am unable to agree it.

the minute notched process at the posterior end of the tenth abdominal tergite is rather broadly triangular and black except the sides, whereas it is wholly yellow and acutely pointed in the Chekiang male, or rather intermediate of the former two, in the Shensi male*.

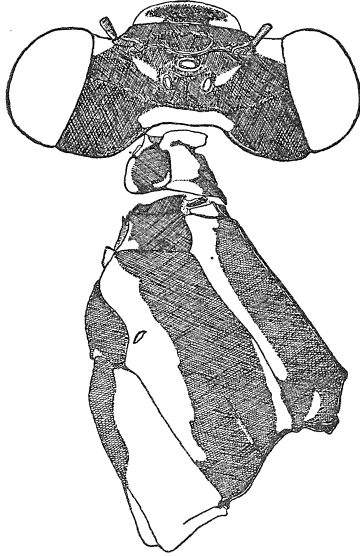


Fig. 2: *Mesopodagrion tibetanum*. Head and thorax, ♂, South Shensi.

There are several other specimens in the British Museum collection: 5 ♂♂, Yunnan, 1918, G. Forrest; M. J. Mansfield [same origin with the Morton's specimens (?), two males are teneral, two males lack abdominal end]; 2 ♀♀ Upper Burma, Seinghku Valley, 5000', 17. V. 1926, F. Kingdom Ward [the abdomen of one specimen broken].

Mesopodagrion tibetanum was described, as cited above, from East Tibet and Szechuan, but its range is now ex-



Fig. 3: *Mesopodagrion tibetanum*. Abdomen, ♂, South Shensi.

Fig. 4: The same, ♀, South Shensi.

tended as far as Upper Burma (B. M. specimen), N. E. Burma (Lieftinck, 1948), Yunnan (Morton, 1926; B. M. specimens) and North and East China (Shensi, Chekiang).

* This process is entirely lost in Fraser's figures (1931, p. 971, fig. 7; 1933, p. 97, fig. 45).

Lieftinck (1948) stated that he has "a series of both sexes from South Shensi which do not differ structurally from western specimens, but are much larger in size". His material may come from the same origin with mine, but the present material is not so large in size as compared with the type specimens. (Types: Abd. ♂ 33 ♀ 35, H. W. ♂ 30 ♀ 34; Shensi specimens: Abd. ♂ 34 (incl. app.) ♀ 31, H. W. ♂ 28.5 ♀ 31; Chekiang specimens: Abd. ♂ 36 ♀ 33, H. W. ♂ 29.5 ♀ 31).

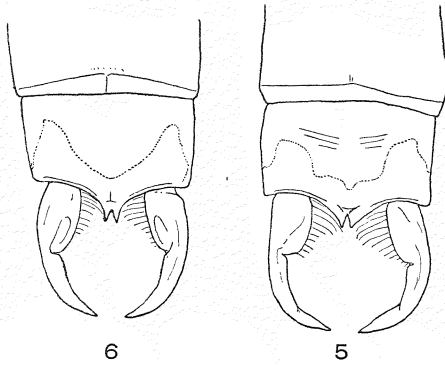


Fig. 5: *Mesopodagrion tibetanum*. Superior caudal appendage, ♂. South Shensi.

Fig. 6: The same, Tien-mu-shan, Chekiang.

There is a male specimen of *Mesopodagrion* in the U.S. National Museum taken by Graham in Seh Luh Din, 6000 ft., Szechuan, China, 12-20. VI. 1936. This is large in size and bears a label written by Dr. Chao as "*Mesopodagrion* sp. nov."

III. *Platycnemididae*.

5. *Platycnemis foliacea foliacea* Selys.

48 ♂♂ 2, 3, 4, 8. VI. 1936 Chin sa gong, 800-900 m; Tsi chia kai, 700 m.

These are the typical North Chinese *foliacea*. The aged specimens are conspicuously pruinosed. In a male the

black markings are much more extended as those of *P. foliacea sasakii* Asahina from Japan (cf. Asahina: Odonata of Shansi Province, North China, Mushi, 20, (2), 1949).

IV. *Libellulidae*.

6. *Lyriothemis pachygastra* Selys.

3 ♂♂ 1 ♀ 22-29. VII. 1936.

3 ♂♂ 3 ♀♀ 8. VI.—9. VII. 1936.

7. *Orthetrum albistylum speciosum* Uhler.

5 ♂♂ 3 ♀♀ VI, VII, 1936.

A common North Asiatic species.

8. *Orthetrum brunneum brunneum* Fonscolombe.

5 ♂♂ 14. VI. Ho ping tse, 1100-1200 m; 4. VII. Chin sa gong, 800-900 m; 6. VII. Tsi chia kai, 700 m; 16. VII. 1936 Chin sa gong, 800-900 m.

In North China this species is known to occur in "Peitaiho and Schan-si" (Sjöstedt, 1932), Jehol (Kinoshita et Asahina, 1939), Kalgan (Mori et Cho, 1939[?]), Shansi (Asahina, 1949).

9. *Orthetrum lineostigma* Selys.

8 ♂♂ 6 ♀♀, VI-VII, 1936.

This is an endemic species to North China, recorded from: Peking (Selys, 1886), Peking & Wei-hei-wei (Ris, 1911), Peking (Liu, 1929), Yenching, Kansu, etc. (Needham, 1930). The pruinosed male is closely allied to the male of the preceding species, but the distinctly bicoloured pterostigma of the former will make the separation readily.

10. *Sympetrum striolatum imitoides* Bartenef.

1 ♀ (teneral). 23. VI. 1936 Chin sa gong, 800-900 m.

1 ♀ (teneral). 10. VII. 1936 Tsi chia kai, 700 m.

11. *Sympetrum eroticum eroticum* Selys.

2 ♂♂ 4 ♀♀ 6-15. VII. 1936 Tsi chia kai (700 m) & Ho ping tse, 1100-1200 m.