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A checklist of Odonata from Baiyang Lake, Xiongan New Area, China

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Abstract

The fauna of Odonata from Baiyang Lake, Xiongan New Area, China is studied based on our field collection during May to October in 2018. As a result, 18 species are recognized, which belongs to 16 genera of 6 families. A key to all the species is provided.

Keywords: odonata, zygoptera, anisoptera, checklist, key, baiyang lake, China

1. Introduction

Baiyang Lake, also known as Lake Baiyang Lake, is located in the Xiongan New Area of Baoding, a prefecture-level city in Hebei Province, China. It is the largest freshwater lake in northern China. The lake is home to varieties of animals and plants, especially a large number of endemic dragonflies and damselflies are living there.

To investigate the fauna of this insect group, we made several field trips there during May to October in 2018. In the end, 485 specimens in total were got and distinguished. The results are summarized in a checklist including information of examined material and distribution. Besides, a key is provided in order to give a guidance in determination.

2. Material and Methods

All the material are deposited in Museum of Hebei University, Baoding, China (MHBUC). The classification follows Dijkstra *et al.* (2013) [1], Yu (2006) [5] and Sui *et al.* (1986) [3], and distribution information referred to Wang (2013) [4], Yue and Jiang (2013) [6] and Peng (2013) [2].

3. List of the Species

Order Odonata Fabricius, 1793
Suborder Zygoptera Selys, 1854
Superfamily Coenagrionoidea Kirby, 1890
Family Coenagrionidae Kirby, 1890
Genus *Ceriagrion* Selys, 1876

1) *Ceriagrion* sp.

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 1♂, alt. 8 m, 38.9955°N, 116.0189°E, 9.IX.2018, leg. H.Y. Liu.

Distribution. China, Hebei, Anxin, Baiyang Lake;

Genus *Ischnura* Charpentier, 1840

2) *Ischnura elegans* (Vander Linden, 1820)

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 4♂♀, alt. 8 m, 38.9955°N, 116.0189°E, 5.V.2018, leg. H.Y. Liu; 15♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 5.V.2018, leg. H.Y. Liu; 4♂♀, alt. -22m, 38.9838°N, 115.9834°E, 5.V.2018, leg. H.Y. Liu; 11♂♀, alt. -10 m, 38.98186°N, 115.963°E, 5.V.2018, leg. H.Y. Liu; 8♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 5.V.2018, leg. H.Y. Liu; 1♂, alt. 8 m, 38.9955°N, 116.0189°E, 3.VI.2018, leg. K. Sun; 14♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 3.VI.2018, leg. K. Sun; 10♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 3.VI.2018, leg. K. Sun; 7♂♀, alt. -10 m, 38.98186°N, 115.963°E, 3.VI.2018, leg. K. Sun; 1♀, alt. -8 m, 38.98283°N, 116.0163°E, 3.VI.2018, leg. K. Sun; 2♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 6.VII.2018, leg. H.Y. Liu; 1♂, alt. -22m, 38.9838°N, 115.9834°E,

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6.VII.2018, leg. H.Y. Liu; 4♂♀, alt. -10 m, 38.98186°N, 115.963°E, 6.VII.2018, leg. H.Y. Liu; 2♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 6.VII.2018, leg. H.Y. Liu; 3♂♀, alt. 8 m, 38.9955°N, 116.0189°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 3♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 4♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 4♂♀, alt. -10 m, 38.98186°N, 115.963°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 3♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 7♂♀, alt. 8 m, 38.9955°N, 116.0189°E, 9.IX.2018, leg. H.Y. Liu; 15♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 9.IX.2018, leg. H.Y. Liu; 19♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 9.IX.2018, leg. H.Y. Liu; 1♂, alt. 3 m, 38.9872°N, 115.9571°E, 7.X.2018, leg. H.Y. Liu; 1♀, alt. -22 m, 38.9838°N, 115.9834°E, 7.X.2018, leg. H.Y. Liu.

Distribution: China, Hebei (Anxin, Baiyang Lake), Beijing, Tianjin, Xijiang, Shanxi, Neimenggu, Shaanxi, Ningxia, Henan, Zhejiang, Shanghai, Guangdong.

3) *Ischnura asiatica* (Brauer, 1865)

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 5♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 5.V.2018, leg. H.Y. Liu; 3♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 5.V.2018, leg. H.Y. Liu; 3♂♀, alt. 8 m, 38.9955°N, 116.0189°E, 5.V.2018, leg. H.Y. Liu; 5♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 5.V.2018, leg. H.Y. Liu; 2♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 3.VI.2018, leg. K. Sun; 3♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 3.VI.2018, leg. K. Sun; 2♂♀, alt. -10 m, 38.98186°N, 115.963°E, 3.VI.2018, leg. K. Sun; 1♀, alt. 8 m, 38.9955°N, 116.0189°E, 3.VI.2018, leg. K. Sun; 1♂, alt. 38.9838°N, 115.9834°E, 6.VII.2018, leg. H.Y. Liu; 2♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 1♀, alt. -8 m, 38.98283°N, 116.0163°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 8♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 9.IX.2018, leg. H.Y. Liu; 2♂♀, alt. 8 m, 38.9955°N, 116.0189°E, 9.IX.2018, leg. H.Y. Liu; 1♂, alt. -8 m, 38.98283°N, 116.0163°E, 7.X.2018, leg. H.Y. Liu.

Distribution: China: Hebei (Anxin, Baiyang Lake), Beijing, Tianjin, Heilongjiang, Jilin, Liaoning, Shaanxi, Henan, Shandong, Jiangsu, Shanghai, Hubei, Jiangxi, Sichuan, Guangxi, Guangdong, Zhejiang, Guizhou, Hong Kong, Taiwan, Xizang.

Genus *Paracercion* Weekers & Dumont, 2004

4) *Paracercion hieroglyphicum* (Brauer, 1865)

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 10♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 5.V.2018, leg. H.Y. Liu; 1♀, alt. -22 m, 38.9838°N, 115.9834°E, 5.V.2018, leg. H.Y. Liu; 8♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 5.V.2018, leg. H.Y. Liu; 3♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 3.VI.2018, leg. K. Sun; 3♂♀, alt. -10 m, 38.98186°N, 115.963°E, 3.VI.2018, leg. K. Sun; 8♂♀, alt. 8 m, 38.9955°N, 116.0189°E, 3.VI.2018, leg. K. Sun; 4♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 6.VII.2018, leg. H.Y. Liu; 2♂♀, alt. -10 m, 38.98186°N, 115.963°E, 6.VII.2018, leg. H.Y. Liu; 1♀, alt. 8 m, 38.9955°N, 116.0189°E, 6.VII.2018, leg. H.Y. Liu; 2♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 6.VII.2018, leg. H.Y. Liu; 3♀♂, alt. 3 m, 38.9872°N,

115.9571°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 7♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 1♀, alt. -10 m, 38.98186°N, 115.963°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 7♂♀, alt. 8 m, 38.9955°N, 116.0189°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 1♂, alt. -8 m, 38.98283°N, 116.0163°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 7♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 9.IX.2018, leg. H.Y. Liu; 11♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 9.IX.2018, leg. H.Y. Liu; 1♂, alt. -10 m, 38.98186°N, 115.963°E, 9.IX.2018, leg. H.Y. Liu; 15♂♀, alt. 8 m, 38.9955°N, 116.0189°E, 9.IX.2018, leg. H.Y. Liu; 6♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 9.IX.2018, leg. H.Y. Liu; 1♀, alt. 3 m, 38.9872°N, 115.9571°E, 7.X.2018, leg. H.Y. Liu; 4♂♀, alt. -10 m, 38.98186°N, 115.963°E, 7.X.2018, leg. H.Y. Liu; 1♀, alt. 8 m, 38.9955°N, 116.0189°E, 7.X.2018, leg. H.Y. Liu.

Distribution: China: Hebei (Anxin, Baiyang Lake), Jilin, Shanxi, Shaanxi, Guilin, Shandong, Jiangsu, Hubei, Hunan, Shanghai, Zhejiang, Jiangxi, Hong Kong.

5) *Paracercion plagiosum* (Needham, 1930)

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 3♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 5.V.2018, leg. H.Y. Liu; 3♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 5.V.2018, leg. H.Y. Liu; 8♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 3.VI.2018, leg. K. Sun; 2♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 3.VI.2018, leg. K. Sun; 1♀, alt. -10 m, 38.98186°N, 115.963°E, 3.VI.2018, leg. K. Sun; 4♂♀, alt. 8 m, 38.9955°N, 116.0189°E, 3.VI.2018, leg. K. Sun; 1♂, alt. 3 m, 38.9872°N, 115.9571°E, 6.VII.2018, leg. H.Y. Liu; 3♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 6.VII.2018, leg. H.Y. Liu; 4♂♀, alt. -10 m, 38.98186°N, 115.963°E, 6.VII.2018, leg. H.Y. Liu; 1♂, alt. 8 m, 38.9955°N, 116.0189°E, 6.VII.2018, leg. H.Y. Liu; 1♀, alt. -22 m, 38.9838°N, 115.9834°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi.

Distribution: China: Hebei (Anxin, Baiyang Lake), Beijing, Jilin, Shanxi, Hubei, Zhejiang.
Family Platycnemididae Jakobson & Bianchi, 1905
Genus *Copera* Kirby, 1890

6) *Copera tokyoensis* Asahina, 1948

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 1♀, alt. -10 m, 38.98186°N, 115.963°E, 3.VI.2018, leg. K. Sun; 1♂, alt. 8 m, 38.9955°N, 116.0189°E, 3.VI.2018, leg. K. Sun; 1♂, alt. 8 m, 38.9955°N, 116.0189°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi.

Distribution: China: Hebei (Anxin, Baiyang Lake), Jiangsu, Shanghai.

Suborder Anisoptera Selys, 1854
Superfamily Aeshnoidea Leach, 1815
Family Aeshnidae Leach, 1815
Genus *Anax* Leach, 1815

7) *Anax parthenope* (Selys, 1839)

Material examined: CHINA, Hebei, Anxin, Baiyang Lake.

Distribution: China: Hebei (Anxin, Baiyang Lake), Beijing, Heilongjiang, Jilin, Shanxi, Henan, Xinjiang, Shaanxi, Shandong, Shanghai, Jiangsu, Hubei, Hunan, Sichuan,

Yunnan, Guangxi, Guizhou, Xizang, Zhejiang, Jiangxi, Fujian, Taiwan, Hong Kong.
Superfamily Gomphoidea Rambur, 1842
Family Gomphidae Rambur, 1842
Genus *Sinictinogomphus* Fraser, 1939

8) *Sinictinogomphus clavatus* (Fabricius, 1775)

Material examined: CHINA, Hebei, Anxin, Baiyang Lake.

Distribution: China: Hebei (Anxin, Baiyang Lake), Beijing, Tianjin, Heilongjiang, Jilin, Liaoning, Shaanxi, Henan, Shandong, Shanxi, Jiangsu, Hubei, Hunan, Sichuan, Yunnan, Guizhou, Guangxi, Jiangxi, Fujian, Taiwan, Hong Kong.
Superfamily Libelluloidea Leach, 1815
Family Corduliidae Selys, 1850
Genus *Epitheca* Burmeister, 1839

9) *Epitheca marginata* (Selys, 1883)

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 2♂♀, alt. -10 m, 38.98186°N, 115.963°E, 5.V.2018, leg. H.Y. Liu; 1♀, alt. -8 m, 38.98283°N, 116.0163°E, 5.V.2018, leg. H.Y. Liu.

Distribution: China: Hebei (Anxin, Baiyang Lake), Beijing, Henan, Shandong, Anhui, Jiangsu, Sichuan, Fujian, Zhejiang, Jiangxi.
Family Libellulidae Leach, 1815
Genus *Brachydiplax* Brauer, 1868

10) *Brachydiplax chalybea* Brauer, 1868

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 2♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 7.X.2018, leg. H.Y. Liu.

Distribution: China: Hebei (Anxin, Baiyang Lake), Henan, Yunnan, Shanghai, Zhejiang, Jiangxi, Fujian.
Genus *Crocothemis* Brauer, 1868

11) *Crocothemis servilia* (Drury, 1773)

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 1♀, alt. 3 m, 38.9872°N, 115.9571°E, 5.V.2018, leg. H.Y. Liu; 1♂, alt. -22 m, 38.9838°N, 115.9834°E, 5.V.2018, leg. H.Y. Liu; 2♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 5.V.2018, leg. H.Y. Liu; 1♀, alt. -10 m, 38.98186°N, 115.963°E, 3.VI.2018, leg. K. Sun; 8♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 6.VII.2018, leg. H.Y. Liu; 4♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 6.VII.2018, leg. H.Y. Liu; 2♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 6.VII.2018, leg. H.Y. Liu; 5♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 6♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 3♂♀, alt. -10 m, 38.98186°N, 115.963°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 7♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 4♂♀, alt. -10 m, 38.98186°N, 115.963°E, 9.IX.2018, leg. H.Y. Liu; 1♀, alt. -8 m, 38.98283°N, 116.0163°E, 9.IX.2018, leg. H.Y. Liu; 1♀, alt. 3 m, 38.9872°N, 115.9571°E, 7.X.2018, leg. H.Y. Liu; 3♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 7.X.2018, leg. H.Y. Liu; 3♂♀, alt. -10 m, 38.98186°N, 115.963°E, 7.X.2018, leg. H.Y. Liu; 2♂♀, alt. 8 m, 38.9955°N, 116.0189°E, 7.X.2018, leg. H.Y. Liu; 4♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 7.X.2018, leg. H.Y. Liu.

Distribution: China: Hebei (Anxin, Baiyang Lake), Beijing, Jilin, Liaoning, Tianjin, Shanxi, Henan, Shaanxi, Shandong, Anhui, Jiangsu, Hubei, Hunan, Sichuan, Guangxi, Guizhou, Yunnan, Xizang, Zhejiang, Jiangxi, Fujian, Guangdong, Hainan, Hong Kong, Taiwan.
Genus *Deielia* Kirby, 1889

12) *Deielia phaon* (Selys, 1883)

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 1♀, alt. -8 m, 38.98283°N, 116.0163°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi.

Distribution: China: Hebei (Anxin, Baiyang Lake), Beijing, Jilin, Tianjin, Henan, Shanxi, Shaanxi, Guangxi, Sichuan, Shandong, Jiangsu, Shanghai, Zhejiang, Jiangxi, Fujian, Taiwan.
Genus *Libellula* Linnaeus, 1758

13) *Libellula angelina* Selys, 1883

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 2♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 5.V.2018, leg. H.Y. Liu; 1♀, alt. -8 m, 38.98283°N, 116.0163°E, 5.V.2018, leg. H.Y. Liu.

Distribution: China: Hebei (Anxin, Baiyang Lake), Beijing, Tianjin, Henan, Anhui, Hubei, Shandong, Jiangsu, Zhejiang.
Genus *Orthetrum* Newman, 1983

14) *Orthetrum albistylum* Selys, 1848

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 1♀, alt. -22 m, 38.9838°N, 115.9834°E, 3.VI.2018, leg. K. Sun; 1♂, alt. -10 m, 38.98186°N, 115.963°E, 3.VI.2018, leg. K. Sun; 3♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 6.VII.2018, leg. H.Y. Liu; 1♀, alt. 8 m, 38.9955°N, 116.0189°E, 6.VII.2018, leg. H.Y. Liu; 4♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 4♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 3♂♀, alt. -10 m, 38.98186°N, 115.963°E, 9.IX.2018, leg. H.Y. Liu.

Distribution: China: Hebei (Anxin, Baiyang Lake), Beijing, Jilin, Heilongjiang, Liaoning, Tianjin, Neimenggu, Shanxi, Henan, Shaanxi, Gansu, Xinjiang, Shandong, Sichuan, Chongqing, Guangxi, Guizhou, Yunnan, Jiangsu, Zhejiang, Jiangxi, Shanghai, Fujian, Guangdong, Hong Kong, Taiwan, Hainan.
Genus *Pantala* Hagen, 1861

15) *Pantala flavescens* (Fabricius, 1798)

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 4♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 6.VII.2018, leg. H.Y. Liu; 2♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 6.VII.2018, leg. H.Y. Liu; 4♂♀, alt. -10 m, 38.98186°N, 115.963°E, 6.VII.2018, leg. H.Y. Liu; 2♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 6.VII.2018, leg. H.Y. Liu; 1♀, alt. 8 m, 38.9955°N, 116.0189°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 7♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 1♂, alt. -22 m, 38.9838°N, 115.9834°E, 7.X.2018, leg. H.Y. Liu; 1♂, alt. -10 m, 38.98186°N, 115.963°E, 7.X.2018, leg. H.Y. Liu.

Distribution: China: Hebei (Anxin, Baiyang Lake), Worldwide, except Australia.

Genus *Pseudothemis* Kirby, 1889

16) *Pseudothemis zonata* (Burmeister, 1839)

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 1♀, alt. -10 m, 38.98186°N, 115.963°E, 3.VI.2018, leg. K. Sun; 1♂, alt. -8 m, 38.98283°N, 116.0163°E, 6.VII.2018, leg. H.Y. Liu.

Distribution: China: Hebei (Anxin, Baiyang Lake), Beijing, Tianjin, Shandong, Shaanxi, Henan, Shandong, Jiangsu, Sichuan, Chongqing, Guangxi, Guangdong, Guizhou, Hubei, Hunan, Zhejiang, Jiangxi, Fujian, Hong Kong, Taiwan.

Genus *Rhyothemis* Hagen, 1867

17) *Rhyothemis fuliginosa* Selys, 1883

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 1♀, alt. -22 m, 38.9838°N, 115.9834°E, 6.VII.2018, leg. H.Y. Liu; 3♂♀, alt. -10 m, 38.98186°N, 115.963°E, 6.VII.2018, leg. H.Y. Liu; 1♂, alt. 8 m, 38.9955°N, 116.0189°E, 6.VII.2018, leg. H.Y. Liu; 4♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 6.VII.2018, leg. H.Y. Liu.

Distribution: China: Hebei (Anxin, Baiyang Lake), Beijing, Tianjin, Henan, Shaanxi, Sichuan, Jiangsu, Shandong, Shanxi, Hubei, Hunan, Zhejiang, Jiangxi, Fujian.

Genus *Sympetrum* Newman, 1833

18) *Sympetrum uniforme* (Selys, 1883)

Material examined: CHINA, Hebei, Anxin, Baiyang Lake: 1♀, alt. 3 m, 38.9872°N, 115.9571°E, 3.VI.2018, leg. K. Sun; 12♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 3.VI.2018, leg. K. Sun; 2♂♀, alt. -10 m, 38.98186°N, 115.963°E, 3.VI.2018, leg. K. Sun; 11♂♀, alt. 3 m, 38.9872°N, 115.9571°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 4♂♀, alt. -22 m, 38.9838°N, 115.9834°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 13♂♀, alt. -10 m, 38.98186°N, 115.963°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 6♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 3.VIII.2018, leg. H.Y. Liu, F. Zhang & H.C. Xi; 3♂♀, alt. -10 m, 38.98186°N, 115.963°E, 9.IX.2018, leg. H.Y. Liu; 3♂♀, alt. -8 m, 38.98283°N, 116.0163°E, 9.IX.2018, leg. H.Y. Liu.

Distribution: China: Hebei (Anxin, Baiyang Lake), Beijing, Jilin, Henan, Shanxi, Shaanxi.

4. Key to the species of Odonata from Baiyang Lake, China

1. Abdomen thinner; fore and hindwings with similar venation and shape; medium cell not separated by oblique veins (Zygoptera) 2.
2. Abdomen thicker; fore and hindwings with different venation and shape; medium cell separated by oblique veins. (Anisoptera) 7.
3. Most cells of wings quadrate; the veins around medium cell with anterior one slightly shorter than posterior one; tibiae with long spines *Copera tokyoensis* Asahina, 1948
4. Most cells of wings pentagon; the veins around medium cell with anterior one distinctly shorter than posterior one; tibiae with short spines (Coenagrinae) 3.
5. Abdominal ventrite IIIV of female with spines at apex (*Ischnura*) 4.
6. Abdominal ventrite IIIV of female without spines at apex 5.

7. Abdominal segment IIIV blue *Ischnura elegans* (Vander Linden, 1820)
8. Abdominal segment IX blue *Ischnura asiatica* (Brauer, 1865)
9. Forewings absent with AA veins *Ceriagrion* sp.
10. Forewings present with AA veins (*Paracercion*) 6
11. Synthorax yellow, with seven distinct black stripes at dorsal surface *Paracercion plagiosum* (Needham, 1930)
12. Synthorax unlike above in the coloration *Paracercion hieroglyphicum* (Brauer, 1865)
13. Wings with two antenodal cross veins thicker than others; the cross veins of the costal and subcostal cells not in a line 8
14. Wings with all antenodal cross veins in same thickness; the cross veins of the costal and subcostal cells in a line 9
15. Eyes contact or approaching to each other *Anax parthenope* (Selys, 1839)
16. Eyes separated far from each other *Sinictinogomphus clavatus* (Fabricius, 1775)
17. Abdominal segment II with a pair of auricular projections *Epiteca marginata* (Selys, 1883)
18. Abdominal segment II without auricular projections. (Libellulidae) 10
19. Wings mainly brown, with metallic shine *Rhyothemis fuliginosa* Selys, 1883
20. Wings mainly yellow or transparent, without metallic shine 11
21. Each wing with three brown spots *Libellula Angelina* Selys, 1883
22. Each wing at most with one colored spots 12
23. Wings uniformly yellow *Sympetrum uniforme* (Selys, 1883)
24. Wings transparent or partly yellow 13
25. The abdominal segments III and IV white or yellowish, the rest black
26. *Pseudothemis zonata* (Burmeister, 1839)
27. The abdominal segments III and IV in same color as others 14
28. The frons with metallic shine *Brachydiplax chalybea* Brauer, 1868
29. The frons without metallic shine 15
30. Eyes mixed yellow and brown *Pantala flavescens* (Fabricius, 1798)
31. Eyes in uniform color 16
32. Middle rib angled near middle *Orthetrum albistylum* Selys, 1848
33. Middle rib almost straight 17
34. The subcostal cell present with last antenodal cross veins *Deielia phaon* (Selys, 1883)
35. The subcostal cell absent with last antenodal cross vein *Crocothemis servilia* (Drury, 1773).

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