

NOTERIDAE and DYTISCIDAE: Annotated check list of the Noteridae and Dytiscidae of China (Coleoptera)

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Abstract

The 11 species of Noteridae and 233 species of Dytiscidae known from China are listed together with synonyms and faunistic literature references, including 264 titles. The material collected by the CWBS in Jilin and Liaoning (Changbai Mts.) in August 1994 is reported on. The list also includes 16 species doubtfully recorded from or expected to occur in China, and seven unidentified and/or undescribed species recorded from China. All known species records are assigned to provinces when possible. The provincial records are given in a separate Table. The highest numbers of species were found for Sichuan (67), Yunnan (62), Taiwan (56), and Fujian (52). The male genitalia of the species in the *Ilybius apicalis* group are illustrated.

Key words: Coleoptera, Dytiscidae, Noteridae, China, check list

Introduction

The dytiscid fauna of large parts of Asia is still very poorly known. In the Far East, the faunas of Japan and Russia are probably those that are best known (LAFER 1989, MORI & KITAYAMA 1993, NILSSON & KHOLIN 1995). On the other hand, our knowledge of the faunas of SE Asia and China is still largely due to RÉGIMBART's (1899) monograph, although modern revisions now exist for a few genera like *Lacconectus*, *Hydrovatus*, *Hyphydrus*, *Platambus*, *Laccophilus* and *Dytiscus* (BISTRÖM 1982, 1995, BRANCUCCI 1983a, 1986, 1988, ROUGHLEY 1990).

AUBÉ (1838a) was probably the first one to publish records of Dytiscidae from China. His treatment of the world species of Dytiscidae (including Noteridae) gave explicit records of only five species from China, all of them in the genus *Cybister*. Almost 50 years later, SHARP (1882) knew 40 species from China. The knowledge of the Chinese water beetle fauna increased slowly, and RÉGIMBART's (1899) monograph of the Oriental Dytiscidae (including Noteridae) gave explicit records of 52 Chinese species. This number was almost doubled in the first treatments made by Chinese authors (FENG 1932, 1933a, 1933b, WU 1937), who listed more than 90 species. After that, the study of the Chinese fauna has made little progress as witnessed by the native literature, and a modern treatment of the fauna lists only 107 species of Dytiscidae (excluding Noteridae) as being present in Chinese museum collections (ZENG 1989).

In the meantime, the knowledge of the Chinese fauna has increased markedly in recent times as witnessed by the large number of species records found scattered in the faunistic and taxonomic literature, chiefly published in European journals. The list given below includes 11 species of Noteridae and 233 species of Dytiscidae, i.e. more than twice as many species as listed by ZENG (1989).

The main purpose of this work is to review the literature and provide an up-to-date classification of the Chinese Noteridae and Dytiscidae. As most records were taken directly from the literature without the possibility to check for misidentifications, the reliability of each record must be judged in accordance with the quality of the work in which it appeared. This means that records taken from recent taxonomic revisions are the most reliable ones, whereas more doubtful records

originate especially from the older faunistic literature. With a few exceptions, nothing is said about identification. However, the brief characterizations of each genus include references to available identification keys when possible.

Key to genera of adults and larvae of Chinese Dytiscidae were published by YANG (1994).

Material and methods

The following list is based on a combination of literature records and the examination of a large number of specimens. Besides the study of material in several museums and private collections, a small part of the CWBS material (sampling localities 64 - 101), deposited in the NMW and CASS, is also included. The remaining material of the CWBS shall be worked up later.

I tried to assign all species records from the literature to the Chinese provinces as we know them today. However, when this was not possible I have used some less precise terms like "Mongolia" and "Manchuria". The provinces are listed in the same order as they appear in the Table at the end of the paper. A few localities that I was unable to localize are listed after the provinces.

Some geographical problems are caused by the successive change of the application of regional terms like "Mongolia". In the Chinese catalogues from 1930 - 1940 Mongolia is applied in a wider sense than the current Chinese Autonomous Region Nei Mongol (Inner Mongolia). At least it was used to include also Ningxia and the north parts of Gansu and Xinjiang (MURZAEV 1954). The same problem applies to "Manchuria", in strict sense including the three provinces Heilongjiang, Jilin and Liaoning. During the Japanese occupation 1933 - 1945 Manchukuo included Manchuria s.str. plus Jehol (a province which was abolished in 1955), i.e. parts of Nei Mongol, Hebei and Liaoning.

Acronyms and CWBS localities

CASS	Chinese Academy of Sciences, Institute of Applied Ecology, Shenyang
CBG	Coll. Bellstedt, Gotha
CNU	Coll. Nilsson, Umeå
CTB	Coll. Toledo, Brescia
CWBS	China Water Beetle Survey
CWW	Coll. Wewalka, Wien
NMW	Naturhistorisches Museum, Wien

The provinces in the Table are coded as: (XJ) Xinjiang, (GS) Gansu, (QH) Qinghai, (TB) Tibet, (SC) Sichuan, (NX) Ningxia, (NM) Nei Mongol, (HL) Heilongjiang, (JL) Jilin, (LN) Liaoning, (BJ) Beijing, (TJ) Tianjin, (HEB) Hebei, (SX) Shanxi, (SD) Shandong, (SN) Shaanxi, (HEN) Henan, (AH) Anhui, (JS) Jiangsu, (SH) Shanghai, (HB) Hubei, (ZJ) Zhejiang, (JX) Jiangxi, (FJ) Fujian, (HN) Hunan, (GZ) Guizhou, (YN) Yunnan, (GX) Guangxi, (GD) Guangdong, (TW) Taiwan, (HK) Hong Kong, (HA) Hainan.

CWBS loc. 64. **Liaoning Province**; Shenyang City Region; ca. 3 km S Shenyang City; small, shallow, unshaded, rain water and ground water pools at bank of Hun He (Muddy River); 14.VIII.1994; leg. Jäch, Ji & Wang

CWBS loc. 65. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Baihe City, Baohujü District; Erdao Bai He (= 2nd White River), near bridge, 10 - 15 m wide, fast flowing, 650 m a.s.l.; 15.VIII.1994; leg. Jäch, Ji & Wang

CWBS loc. 66. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Baihe City, Baohujü District; small ground water pool, shaded, decaying leaves, in forest, ca. 10 m from the river bank; 15.VIII.1994; leg. Jäch

CWBS loc. 67. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Baihe City, Baohujü District; several unshaded pools in the surrounding of Baihe City, near Academia Sinica Changbai Mountain

Research Station, ca. 700 m a.s.l.; 15.VIII.1994; leg. Jäch, Ji & Wang

- CWBS loc. 68. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; ca. 60 km N Baihe City; Shao Tian Chi (= Small Heaven Lake), warm water (probably thermally heated), ca. 1700 m a.s.l.; 16.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 70. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; Erdao Bai He, close to loc. 68, ca. 10 m wide, gravel bank, fast flowing, 1700 m a.s.l.; 16.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 73. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; ca. 60 km N Baihe City; rain water pool (probably fed by underground aquifer), near road to Changbai Mountain, 1200 m a.s.l.; 16.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 75. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; on the way to top of Changbai Mountain, ca. 50 km N Baihe City, ca. 200 N of Bai Shan Station; stream, ca. 3 m wide, basalt, warm water (probably thermally heated), flowing through degraded primary forest, 1100 m a.s.l.; 16.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 76. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; 6 km W Baihe City; Toudao Bai He (= 1st White River), ca. 20 m wide, basalt, 600 m a.s.l.; 17.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 77. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; springfed pool, ca. 50 m from loc. 76, unshaded; 17.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 78. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; near Hongsi Forest Station, ca. 30 km NE Baihe City; stream, ca. 3 m wide, through primary broadleaf forest, basalt, ca. 650 m a.s.l.; 17.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 79. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; shallow pool with muddy edges, close to loc. 78; 17.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 80. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; ca. 30 km NE Baihe City; near Hongsi Forest Station; Sidao Bai He (= 4th White River), ca. 30 m wide, ca. 650 m a.s.l.; 17.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 81. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; near Baihe City; Erdao Bai He, below the power plant dam, ca. 4 m wide, degraded primary forest, ca. 650 m a.s.l.; 17.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 82. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; ca. 80 km SE Baihe City; Yüan Chi (Round Lake), *Sphagnum* peat bog, ca. 650 m a.s.l.; 18.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 83. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; ca. 80 km SE Baihe City; near loc. 82; shallow, unshaded roadside rain pools; 18.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 84. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; ca. 70 km SE Baihe City; blackwater stream, 3 - 5 m wide, slowly flowing, very cold water, margin with *Sphagnum*, 1100 m a.s.l.; 18.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 88. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; ca. 10 km SE Baihe City; roadside pool, unshaded, ca. 50 cm deep; 18.VIII.1994; leg. Jäch
- CWBS loc. 89. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Baihe City, Baohujü District; surroundings of Changbai Mountain Research Station, along the road to Changbai Mountain; unshaded roadside pools, ca. 750 m a.s.l.; 19.VIII.1994; leg. Jäch

- CWBS loc. 90. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Baihe City, Baohujü District; near Power Plant of Baihe City; forest pool, obviously springfed, rich in decaying organic matter, in primary forest, cool water, ca. 750 m a.s.l.; 19.VIII.1994; leg. Jäch
- CWBS loc. 91. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Baihe City; Baohujü District; Erdao Bai He Power Plant Canal, near stns. 80 and 90; ca. 750 m a.s.l.; 19.VIII.1994; leg. Jäch
- CWBS loc. 92. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Baihe City; Baohujü District; Erdao Bai He below Erdao Bai He Power Plant, near Baihe City, near loc. 81, but further upriver, below the big dam, ca. 750 m a.s.l.; 19.VIII.1994; leg. Jäch
- CWBS loc. 93. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Baihe City, Baohujü District; near Power Plant of Baihe City, near loc. 90; unshaded, springfed pools, cold water, ca. 750 m a.s.l.; 19.VIII.1994; leg. Jäch
- CWBS loc. 94. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; ca. 62 km N Baihe City; hot spring, 1 km below the waterfall, temp. varying between 10°C - 50°C within a few centimeters, ca. 1800 m a.s.l.; 20.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 95. **Jilin Province**; Yanbian Korean Autonomous Prefecture; Antu County; Changbai Shan Biosphere Reserve; ca. 62 km N Baihe City; Erdao Bai He, including pools on gravel bank, upstream of loc. 70, ca. 1750 m a.s.l.; 20.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 96. **Liaoning Province**; Jinzhou City Region; Beizhen County; Yiwulü Shan; ca. 5 km NW Beizhen City (= Guaning); Toudao Gou He (= 1st Valley River), 2 - 5 m wide, only partly shaded, flowing through Chinese Pine (*Pinus tabulaeformis*) forest, strongly washed out due to heavy spates which occurred 2 weeks before, ca. 200 m a.s.l.; 22.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 97. **Liaoning Province**; Jinzhou City Region; Beizhen County; Yiwulü Shan, ca. 20 km NW Beizhen City; Sandao Gou He (= 3rd Valley River), ca. 5 m wide, unshaded, flowing through shrub vegetation, granite, ca. 300 m a.s.l.; 23.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 98. **Liaoning Province**; Jinzhou City Region; Beizhen County; Yiwulü Shan, ca. 17 km NW Beizhen City; Sandao Gou He, downriver of loc. 97, where it enters the plain, 10 m wide, granite, including small pools on the gravel bank, ca. 150 m a.s.l.; 23.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 99. **Liaoning Province**; Jinzhou City Region; Beizhen County; Yiwulü Shan, ca. 17 km NW Beizhen City; Sandao Gou He near loc. 98; several shallow pools, rain water or ground water, unshaded, mud, sand; 23.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 100. **Liaoning Province**; Jinzhou City Region; Beizhen County; Yiwulü Shan, ca. 10 km W Beizhen City; Erdao Gou He (2nd Valley River), ca. 20 m wide, unshaded, slowly flowing through plain, shallow, sandy bottom and margin; 23.VIII.1994; leg. Jäch, Ji & Wang
- CWBS loc. 101. **Liaoning Province**; Jinzhou City Region; Beizhen County; Yiwulü Shan, ca. 15 km W Beizhen City; upstream of loc. 100; small stream, ca. 1 m wide, partly through secondary forest, granite, ca. 200 m a.s.l.; 23.VIII.1994; leg. Jäch, Ji & Wang

Family Noteridae

Genus *Neohydrocoptus* SATÔ

Chiefly a tropical genus with some 28 species found in the Old World tropics. The two Chinese species can be identified with the key given by VAZIRANI (1969a; as *Hydrocoptus*). NILSSON & al. (1989) showed that the generic name *Hydrocoptus* had to be replaced with *Neohydrocoptus*.

***Neohydrocoptus bivittis* (MOTSCHULSKY)**

Hydrocoptus bivittis MOTSCHULSKY, 1859:44 (orig. descr.); FENG 1932:17 (Hainan); WU 1937:197 (Hainan); VAZIRANI 1969a:224 (China).

Neohydrocoptus bivittis (MOTSCHULSKY, 1859); MORI & KITAYAMA 1993:45 (China).

This species is known from India, Sri Lanka, Burma and S China. In China recorded only from Hainan, but probably more widespread in the tropical part.

***Neohydrocoptus subvittulus* (MOTSCHULSKY)**

Hydrocoptus subvittulus MOTSCHULSKY, 1859:43 (orig. descr.); FENG 1932:17 (Fujian); WU 1937:197 (Fujian); VAZIRANI 1969a:223 (China); ZHAO 1981:110 (Fujian).

This species is known from India, Sri Lanka, Indonesia and S China. In China recorded only from Fujian, but probably more widespread in the tropical part.

Genus *Canthydrus* SHARP

Chiefly a tropical genus with about 100 species found in the Neotropical, Afrotropical, Oriental and Australian Region. No key is available that includes all the species recorded from China. However, ZIMMERMANN's (1930) key includes three species which are widespread in China. WEWALKA (1992) revised the *C. flavus* group in SE Asia.

***Canthydrus flavus* (MOTSCHULSKY)**

Hydrocanthus flavus MOTSCHULSKY, 1855a:83 (orig. descr.).

Canthydrus flavus (MOTSCHULSKY, 1855); SHARP 1882:279 (China); ZIMMERMANN 1930:44 (China); FENG 1932:18 (Hubei, Fujian, Guangdong, Taiwan, Hainan); TAKIZAWA 1932:19 (China); WU 1937:199 (Hubei, Fujian, Guangdong, Taiwan, Hainan); KAMIYA 1938a:4 (China); SEKI 1944:90 (Taiwan); VAZIRANI 1969a:227 (China); ZHAO 1981:110 (Fujian); WEWALKA 1992:804 (Guangdong, Taiwan, Hong Kong).

Canthydrus fulvescens RÉGIMBART, 1889:149 (orig. descr.).

A widespread Oriental species that ranges from India to Sumatra and north to China.

***Canthydrus nitidulus* SHARP**

Canthydrus nitidulus SHARP, 1882:278 (orig. descr., Jiangxi, Taiwan); RÉGIMBART 1899:249 (Jiangxi, Taiwan); ZIMMERMANN 1930:44 (China); FENG 1932:18 (Sichuan, Beijing, Jiangsu, Hubei, Zhejiang, Jiangxi, Fujian, Guangdong, Hainan); TAKIZAWA 1932:20 (China); KAMIYA 1938a:5 (China), 1943:457 (Central China); WU 1937:199 (Sichuan, Beijing, Jiangsu, Hubei, Zhejiang, Jiangxi, Fujian, Guangdong, Hainan, Taiwan); ZHAO 1981:110 (Fujian); MORI & KITAYAMA 1993:49 (China).

This species is known from Japan, China, Cambodia and Vietnam (VAZIRANI 1977). It is widespread in E China from Beijing south to Hainan.

***Canthydrus politus* SHARP**

Canthydrus politus SHARP, 1873:51 (orig. descr.), 1882:278 (China); RÉGIMBART 1899:251 (Shanghai); ZIMMERMANN 1930:44 (China); FENG 1932:18 (Sichuan, Liaoning, Beijing, Shandong, Jiangsu, Shanghai, Hubei, Fujian), 1933a:323 (Hubei); TAKIZAWA 1932:20 (China); GSCHWENDTNER 1933:159 (Hubei); KAMIYA 1938a:5 (China); WU 1937:199 (Sichuan, Liaoning, Beijing, Shandong, Jiangsu, Shanghai, Hubei, Fujian); ZAITZEV 1953:98 (Shanghai); Zhao 1981:110 (Fujian); LAFER 1989:229 (Shanghai); LEE & al. 1992:47 (Sichuan, Liaoning, Beijing, Hebei, Shandong, Jiangsu, Shanghai, Hubei, Fujian); LI 1992:34 (Liaoning).

This species was described from Japan and later also recorded from China where it is obviously widespread.

***Canthydrus ritsemae* (RÉGIMBART)**

Hydrocanthus ritsemae RÉGIMBART, 1880:213 (orig. descr.).

Canthydrus ritsemae (RÉGIMBART, 1880); WEWALKA 1992:806 (syn., Hong Kong).

Canthydrus javanus WEHNCKE, 1883:149 (orig. descr.).

Canthydrus pseudoflavus ROCCHI, 1986:31 (orig. descr.).

This species is widespread in SE Asia from India and Nepal to the Sunda Islands. It was first recorded from China by WEWALKA (1992).

Canthydrus testaceus* (BOHEMAN)Hydrocanthus testaceus* BOHEMAN, 1858:19 (orig. descr., China).*Canthydrus testaceus* (BOHEMAN, 1858): FENG 1932:19 (China); WU 1937:200 (China).

This species was described from China without detailed locality. I know of no other records.

[*Canthydrus bakeri* PESCHET]*Canthydrus bakeri* PESCHET, 1921:693 (orig. descr.).*Canthydrus guttula* AUBÉ, 1838: TAKIZAWA 1932:20 (misident., Taiwan).*Canthydrus guttula* AUBÉ, 1838: KANO 1931:177 (misspell., misident., Taiwan); MIWA 1932:141 (misspell., misident., Taiwan).

KANO's (1931) record of this species from Taiwan needs confirmation. It was described from the Philippines and seemingly also occurs in Laos, Borneo and New Guinea.

[*Canthydrus proximus* SHARP]*Canthydrus proximus* SHARP, 1882:278 (orig. descr.); FENG 1932:87 (? China); VAZIRANI 1977:7 (China).

This species is known from Thailand and Vietnam. FENG (1932) first included it in his list of Chinese species, but later (FENG 1933a) deleted it. It has probably never been collected in China.

Genus *Noterus* CLAIRVILLE

This Palearctic genus includes six species, of which four have been recorded from China. All known species are included in ZAITZEV's (1953) key.

Noterus angustulus* ZAITZEVNoterus angustulus* ZAITZEV, 1953:95 (orig. descr.); LAFER 1989:229 (key, ? China).*Noterus crassicornis* (MÜLLER, 1776): FENG 1933a:323 (misident., Beijing); GSCHWENDTNER 1933:159 (misident., Beijing); WU 1937:198 (misident., Beijing); KAMIYA 1940:115 (misident., Jilin).

This species was described from Primorye, and occurs also in NE China and Korea. I have suggested that all Chinese records of *N. crassicornis* represent *N. angustulus*. Assuming that this is correct, *N. angustulus* in China is confined to the northeast.

Noterus clavicornis* (DE GEER)Dytiscus clavicornis* DE GEER, 1774:402 (orig. descr.).*Noterus clavicornis* (DE GEER, 1774): GSCHWENDTNER 1923:99 (Xinjiang), 1933:159 (Shaanxi); FENG 1933a:323 (Shaanxi); WU 1937:198 (Shaanxi); VAZIRANI 1969a:226 (S China).

This chiefly West Palearctic species reaches NE China. It is known also from Heilongjiang (CWW).

Noterus granulatus* RÉGIMBARTNoterus granulatus* RÉGIMBART, 1883:225 (orig. descr., "Chine: Doo-choo-foo (Stimpson)" [= ? Yantai, Shandong]); RÉGIMBART 1899:246; FENG 1932:18 (China); WU 1937:198.

This species was described from a single female from "Chine: Doo-choo-foo (Stimpson)" (RÉGIMBART 1883), later given as "Ch'ufu" (WU 1937). ZAITZEV (1953:96) suggested that it is a junior synonym of *N. japonicus* SHARP.

Noterus japonicus* SHARPNoterus japonicus* SHARP, 1873:52 (orig. descr.); ZIMMERMANN 1930:41 (Shandong, Fujian); FENG 1932:18 (Jilin, Liaoning, Beijing, Jiangsu, Hubei, Fujian, Hainan, Jiangxi); TAKIZAWA 1932:18 (China); WU 1937:198 (Jilin, Liaoning, Beijing, Jiangsu, Hubei, Fujian, Hainan, Jiangxi); KAMIYA 1938a:3 (China), 1940:115 (Jilin, Liaoning); BALFOUR-BROWNE 1946:453 (Heilongjiang); ZAITZEV 1953:96 (Shandong, Shaanxi); ZHAO 1981:111 (Fujian); LAFER 1989:229 (NE and E China); LEE & al. 1992:46 (Jilin, Liaoning, Beijing, Hebei, Jiangsu, Hubei, Fujian, Hainan, Jiangxi); LI 1992:34 (Liaoning); MORI & KITAYAMA 1993:47 (China).

CWBS: Jilin: loc. 67 (10 exs.), loc. 68 (2 exs.), loc. 79 (3 exs.), loc. 82 (3 exs.), loc. 83 (1 ex.), loc. 88 (5 exs.); Liaoning: loc. 99 (3 exs.)

The distribution of this species includes Japan, Primorye, Korea and east China.

Family Dytiscidae

Subfamily Copelatinae

Genus *Lacconectus* MOTSCHULSKY

This genus is confined to the Oriental Region and includes some 40 species. All species recorded from China can be identified with the keys in BRANCUCCI's (1986) revision.

Lacconectus formosanus (KAMIYA)

Platynectes formosanus KAMIYA, 1938a:30 (orig. descr., Taiwan), 1938b:71 (Taiwan).

Lacconectus formosanus (KAMIYA, 1938): BRANCUCCI 1986:124 (Fujian, Taiwan).

This species was first described from Taiwan, and later also recorded from S China (Fujian) and Vietnam (BRANCUCCI 1986).

Lacconectus basalis SHARP

Lacconectus basalis SHARP, 1882:598 (orig. descr.); BRANCUCCI 1986:126 (Taiwan).

This species is widespread in SE Asia. It was first recorded from Taiwan by BRANCUCCI (1986), but no records are known from Mainland China.

Lacconectus laccophiloides ZIMMERMANN

Lacconectus laccophiloides ZIMMERMANN, 1928:175 (orig. descr.); BRANCUCCI 1986:141 (syn.).

Lacconectus kurosawai SATÔ, 1979:39 (orig. descr.); ZENG 1989:7 (Guangdong).

This species was described from the Philippines. BRANCUCCI (1986) recognized three subspecies, occurring on Palawan, Balabac and Luzon. The subspecific assignment of ZENG's (1989) specimens from China is unknown.

Genus *Copelatus* ERICHSON

A large genus with about 400 described species. The distribution is almost worldwide with centers of diversity in South America, Africa and Indo-Australia. A revision of this genus is needed. Six of the nine species recorded from China are included in SATÔ's (1985) key.

Copelatus andamanicus RÉGIMBART

Copelatus andamanicus RÉGIMBART, 1899:302 (orig. descr.); SATÔ 1990a:81 (syn., Taiwan).

Copelatus subfasciatus ZIMMERMANN, 1919a:76 (orig. descr., Taiwan); MIWA 1931a:17 (Taiwan); KAMIYA 1932a:14 (Taiwan), 1934:1 (Taiwan), 1938a:27 (Taiwan), 1938b:66 (Taiwan); SEKI 1944:91 (Taiwan).

Copelatus sociennus ryukyuensis SATÔ, 1961a:8 (orig. descr.).

Copelatus tokaraensis NAKANE, 1963:25 (orig. descr.).

This species is known from the Andaman Islands, Borneo, Taiwan and Japan (SATÔ 1985).

Copelatus bangalorensis VAZIRANI

Copelatus bangalorensis VAZIRANI, 1970a:311 (orig. descr.); ZENG 1989:6 (Shanghai, Yunnan, Guangxi).

This species was originally described from India.

Copelatus japonicus SHARP

Copelatus japonicus SHARP, 1884:445 (orig. descr.); RÉGIMBART 1899:300 (? Yunnan); GUIGNOT 1952:25 (syn.); ZAITZEV 1953:209 (Yunnan); LEE & al. 1992:50 (Hubei, Fujian, Yunnan).

Copelatus chinensis RÉGIMBART, 1899:298 (orig. descr., Hubei); FENG 1932:26 (Hubei, Fujian); ZIMMERMANN 1934:142 (Hubei); Wu 1937:211 (Hubei, Fujian); ZAITZEV 1953:208 (China); ZHAO 1981:110 (Fujian).

Copelatus collocaulosus FALKENSTRÖM, 1932:192 (orig. descr., Sichuan).

Copelatus collocaulosus FALKENSTRÖM, 1933:14 (orig. descr., Sichuan); Wu 1937:211 (Sichuan); GSCHWENDTNER 1939:40 (syn.); ZAITZEV 1953:209 (Sichuan).

This species is known from Japan, Quelpart Island and China (SATÔ 1985, NILSSON & al. 1995).

***Copelatus sociennus* J.BALFOUR-BROWNE**

Copelatus sociennus J.BALFOUR-BROWNE in GUIGNOT, 1952:26 (orig. descr., Hong Kong); YANO & al. 1983:107 (Taiwan).

This species is known from Nepal and China.

***Copelatus tenebrosus* RÉGIMBART**

Copelatus tenebrosus RÉGIMBART, 1880:210 (orig. descr.); ZIMMERMANN 1927:32 (Yünnan); FENG 1933a:326 (Fujian); WU 1937:211 (Fujian); ZHAO 1981:110 (Fujian); YANO & al. 1983:107 (Taiwan); SATÔ 1985:62 (Taiwan); ZENG 1989:6 (Yünnan, Taiwan).

Copelatus pusillus SHARP, 1882:580 (orig. descr.).

Copelatus hisamatsui SATÔ, 1961a:8 (orig. descr.).

This species is widespread in SE Asia north to the Ryukyu Islands (SATÔ 1985) and S China.

***Copelatus takakurai* SATÔ**

Copelatus takakurai SATÔ, 1985:63 (orig. descr.); ZENG 1989:6 (China).

This species was described from Japan. ZENG (1989) recorded it from China but the exact location remains unknown.

***Copelatus weymarni* J.BALFOUR-BROWNE**

Copelatus weymarni J.BALFOUR-BROWNE, 1946:440 (orig. descr., Heilongjiang); SATÔ 1985:63 (descr.); ZENG 1989:6 (NE China, Shanghai); LI 1992:35 (Liaoning).

Copelatus japonicus SHARP, 1884: LAFER 1989:243 (misident., China).

? *Copelatus subfasciatus* ZIMMERMANN, 1919: KAMIYA 1940:121 (misident., Liaoning).

Additional record: Hebei, Beidaihe, 9.V.1994, leg. S. Hellqvist, 15 exs., CNU.

This species was described from Heilongjiang province. It is known also from Russia (Primorye), Korea and Japan. In China it is confined to the northeast. ZENG's (1989) record from Shanghai needs confirmation.

***Copelatus zimmermanni* GSCHWENDTNER**

Copelatus zimmermanni GSCHWENDTNER, in ZIMMERMANN 1934:143 (orig. descr., Zhejiang); ZAITZEV 1953:211 (Zhejiang).

This species was described from China. It occurs also in Japan (SATÔ 1985).

***Copelatus rimosus* GUIGNOT**

Copelatus rimosus GUIGNOT, 1952:27 (orig. descr., Yünnan).

This species was described from Yünnan. I know of no other records.

Subfamily Hydroporinae

Genus *Hydrovatus* MOTSCHULSKY

A large genus with about 220 species of worldwide distribution in tropical and subtropical regions. Our treatment of this genus follows BISTRÖM's (1995) revision that permits identification of the nine species so far recorded from China.

***Hydrovatus subrotundatus* MOTSCHULSKY**

Hydrovatus subrotundatus MOTSCHULSKY, 1859:41 (orig. descr.); BISTRÖM 1995 (descr., distr., syn.).

Hydroporus carbonarius CLARK, 1863:423 (orig. descr., China).

Hydrovatus carbonarius (CLARK, 1863); RÉGIMBART 1899:232 ("Danes Island"); ZIMMERMANN 1930:62 (China); FENG 1932:21 (Fujian); WU 1937:203 (Fujian); ZHAO 1981:111 (Fujian).

Hydrovatus ferrugatus RÉGIMBART, 1877:LXXIX (orig. descr.); ZENG 1989:2 (Hunan, Yünnan, Guangxi).

Hydrovatus elevatus SHARP, 1882:328 (orig. descr.).

Hydrovatus orientalis SHARP, 1882:805 (orig. descr.).

Hydrovatus javanus CSIKI, 1938:126 (orig. descr.).

This species is widespread in the Oriental Region (incl. S China).

***Hydrovatus acuminatus* MOTSCHULSKY**

Hydrovatus acuminatus MOTSCHULSKY, 1859:42 (orig. descr.); SHARP 1882:326 (Jiangxi, Taiwan); RÉGIMBART 1899:236 (Jiangxi, Taiwan); ZIMMERMANN 1930:63 (China); MIWA 1931a:16 (Taiwan); KAMIYA 1932a:12 (Taiwan), 1934:1 (Taiwan); 1938a:9, 1938b:32 (China), 1943:459 (Central China); FENG 1932:21 (Hubei, Jiangxi, Fujian); TAKIZAWA 1933:166 (Taiwan); WU 1937:203 (Hubei, Jiangxi, Fujian, Taiwan); ZHAO 1981:110 (Fujian); WEWALKA 1982:116 (Taiwan); YANO & al. 1983:109 (Taiwan); ZENG 1989:2 (Shaanxi, Jiangsu, Hubei, Jiangxi, Fujian, Hunan, Yunnan, Guangxi, Guangdong, Taiwan, Hainan); BISTRÖM 1995 (syn., Jiangxi, Fujian, Taiwan).

Hydrovatus acuminatus furvus GUIGNOT, 1950:25 (orig. descr.).

Hydrovatus obscurus MOTSCHULSKY, 1859:43 (orig. descr.).

Hydroporus badius CLARK, 1863:424 (orig. descr., "Danes Island on the coast of China").

Hydroporus malaccæ CLARK, 1863:425 (orig. descr.).

Hydrovatus consanguineus RÉGIMBART, 1880:212 (orig. descr.).

Hydrovatus sordidus SHARP, 1882:327 (orig. descr.).

Hydrovatus humilis SHARP, 1882:327 (orig. descr.).

Hydrovatus affinis RÉGIMBART, 1895:108 (orig. descr.).

Hydrovatus obscurus RÉGIMBART, 1895:108 (orig. descr.).

Hydrovatus ferrugineus ZIMMERMANN, 1919b:127 (repl. name).

This species is widespread in the Old World tropics and also enters the South Palearctic (BISTRÖM 1995). It is seemingly widespread in E China.

***Hydrovatus seminarius* MOTSCHULSKY**

Hydrovatus seminarius MOTSCHULSKY, 1859:42 (orig. descr.); BISTRÖM 1995 (syn.).

Hydrovatus fuscus SHARP, 1882:326 (orig. descr., China); RÉGIMBART 1899:234 (China); FENG 1933a:324 (Jiangxi, Taiwan); WU 1937:203 (Jiangxi); WEWALKA 1982:117 (Taiwan).

Hydaticus fuscus (SHARP, 1882); FENG 1932:31 (Jiangxi, Taiwan).

Hydrovatus tinctus SHARP, 1882:328 (orig. descr.).

Hydrovatus matsuii NAKANE, 1990a:198 (orig. descr.).

This species occurs throughout the Oriental Region (BISTRÖM 1995). Literature records from China (as *H. fuscus*) need confirmation.

***Hydrovatus rufoniger* (CLARK)**

Hydroporus rufoniger CLARK, 1863:423 (orig. descr., China).

Hydrovatus rufoniger (CLARK, 1863); FENG 1932:22 (China); WU 1937:204 (China).

Hydrovatus atricolor RÉGIMBART, 1880:212 (orig. descr.).

Hydrovatus politus SHARP, 1882:332 (orig. descr.).

Hydrovatus rufoniger rufoniger (CLARK, 1863); BISTRÖM 1995 (syn., China).

This species is widespread in the Oriental Region and in Australia. It was described from China, but BISTRÖM (1995) did not examine any specimens with more detailed locality data.

***Hydrovatus bonvouloiri* SHARP**

Hydrovatus bonvouloiri SHARP, 1882:335 (orig. descr.); FENG 1932:21 (Fujian); WU 1937:203 (Fujian); ZHAO 1981:110 (Fujian); SATÔ & BRANCUCCI 1984:2 (syn., Taiwan); ZENG 1989:2 (Fujian, Yunnan); MORI & KITAYAMA 1993:65 (China); BISTRÖM 1995 (descr.).

Hydrovatus loochooensis KAMIYA, 1938a:5 (orig. descr.).

This widespread species is known from India to Java and north to Japan (BISTRÖM 1995).

***Hydrovatus confertus* SHARP**

Hydrovatus confertus SHARP, 1882:329 (orig. descr.); FENG 1932:21 (Fujian); WU 1937:203 (Fujian); ZHAO 1981:111 (Fujian); ZENG 1989:2 (Hunan, Yunnan, Guangxi, Hainan); BISTRÖM 1995 (descr., Shanghai).

This species is widespread in the Oriental Region.

***Hydrovatus subtilis* SHARP**

Hydrovatus subtilis SHARP, 1882:329 (orig. descr.); LEE & al. 1992:47 (Taiwan); BISTRÖM 1995 (descr.); NILSSON & al. 1995:361 (Taiwan).

Hydrovatus adachii KAMIYA, 1932b:4 (orig. descr.).

Verified records of this species are known from Taiwan, the Andaman Islands, Thailand, Laos and Indonesia (BISTRÖM 1995). No records are known from continental China.

***Hydrovatus obtusus* MOTSCHULSKY**

Hydrovatus obtusus MOTSCHULSKY, 1855a:82 (orig. descr.); BISTRÖM 1995 (syn., ? Fujian).

Hydrovatus acutus SHARP, 1882:330 (orig. descr.); FENG 1932:21 (Hubei, Fujian, Hainan).

Hydrovatus confertus var. *acutus* SHARP, 1882: FENG 1933a:324 (Hubei, Zhejiang, Fujian, Hainan); WU 1937:203 (Hubei, Zhejiang, Fujian, Hainan); ZHAO 1981:111 (Fujian).

This species is widespread in the Oriental Region.

***Hydrovatus pinguis* RÉGIMBART**

Hydrovatus pinguis RÉGIMBART, 1892:114 (orig. descr.).

This species is known from India, Nepal, Burma and Yunnan (CWW).

Genus *Microdytes* J.BALFOUR-BROWNE

So far, eight species are described from India, Nepal, Burma, Taiwan and the Ryukyu Islands (SATŌ 1981, NILSSON & al. 1995). The two following species are best identified from the study of the original descriptions. The genus is being revised currently by G. Wewalka.

***Microdytes taiwanus* SATŌ**

Microdytes taiwanus SATŌ, 1990b:101 (orig. descr., Taiwan).

This species was described from Taiwan. No other records are known.

***Microdytes uenoi* SATŌ**

Microdytes uenoi SATŌ, 1972a:49 (orig. descr.); NILSSON & al. 1995:361 (Taiwan).

This species was described from the Ryukyu Islands.

Genus *Allopachria* ZIMMERMANN

This small genus includes five species described from the Oriental Region. The genus is being revised currently by G. Wewalka.

***Allopachria flavomaculata* (KAMIYA)**

Hyphydrus flavomaculatus KAMIYA, 1938a:12 (orig. descr.).

Nipponhydrus flavomaculatus (KAMIYA, 1938); ZHENG 1989:2 (Guangxi).

This species was described from Japan. ZHENG's (1989) record from Guangxi is the only one from China.

***Allopachria wangi* WEWALKA & NILSSON**

Allopachria wangi WEWALKA & NILSSON in NILSSON & WEWALKA 1994:991 (orig. descr., Taiwan).

This species was described from Taiwan. No other records are known.

***Allopachria* sp.**

Nipponhydrus deumaculatus ZENG, 1989:2 (nom. nud., Guizhou).

To my knowledge, this species has not been described formally.

Genus *Hygrotus* STEPHENS

The genus is confined to the Holarctic region and includes about 70 species. Most of the 16 species recorded from China can be identified with the keys in ZAITZEV (1953). In the earlier literature this genus was divided into *Hygrotus* (the first three species) and *Coelambus*. The East Palearctic species of this genus are in need of a revision and the literature records are not very reliable.

***Hygrotus inaequalis* (FABRICIUS)**

Dytiscus inaequalis FABRICIUS, 1777:239 (orig. descr.).

Hygrotus inaequalis (FABRICIUS, 1777): KAMIYA 1940:120 (Manchuria).

Hygrotus inaequalis hokkaidensis (SATÔ, 1972): LI 1992:35 (Liaoning).

CWBS: Jilin: st. 77 (1 ex.), loc. 88 (5 exs.), loc. 89 (2 exs.)

A Palearctic species. In China it is confined to the northeast.

***Hygrotus aequalis* FALKENSTRÖM**

Hygrotus aequalis FALKENSTRÖM, 1932:192 (orig. descr., Sichuan).

Hygrotus aequalis FALKENSTRÖM, 1933:11 (orig. descr., Sichuan); WU 1937:209 (Sichuan); GSCHWENDTNER 1939:32 (Sichuan).

This species is known only from Sichuan.

***Hygrotus quinquelineatus* (ZETTERSTEDT)**

Hyphydrus quinquelineatus ZETTERSTEDT, 1828:234 (orig. descr.).

Hygrotus quinquelineatus (ZETTERSTEDT, 1828): KAMIYA 1940:121 (Manchuria); BRINCK 1946:149 (Heilongjiang).

This northern Palearctic species in China is confined to the northeast.

***Hygrotus trilineatus* (FENG)**

Coelambus trilineatus FENG, 1936:6 (orig. descr., Shaanxi); GSCHWENDTNER 1939:32 (Shaanxi); ZAITZEV 1953:144 (Shaanxi); ZENG 1989:3 (Xinjiang, Gansu, Nei Mongol, Shaanxi).

This species was described from Shaanxi. Seemingly it is widespread in the East Steppe and West Desert regions of China.

***Hygrotus discedens* (SHARP)**

Coelambus discedens SHARP, 1882:396 (orig. descr., Jiangxi); ZIMMERMANN 1930:111 (Jiangxi); FENG 1932:24 (Jiangxi); ZAITZEV 1953:128 (E China).

Hygrotus discedens (SHARP, 1882): FENG 1932:24 (Jiangxi); WU 1937:209 (Beijing, Jiangxi).

This species is known only from China.

***Hygrotus chinensis* (SHARP)**

Coelambus chinensis SHARP, 1882:398 (orig. descr., Jiangxi); RÉGIMBART 1899:200 (Sichuan, Jiangxi); ZIMMERMANN 1930:100 (China); FENG 1932:23 (Beijing, Jiangxi); WU 1937:208 (Beijing, Jiangxi, S Mongolia); BRINCK 1946:149 (Heilongjiang, Liaoning); BALFOUR-BROWNE 1946:438 (syn., Heilongjiang); ZAITZEV 1953:135 (Xinjiang, Sichuan, Zhejiang); LAFER 1989:236 (China); ZENG 1989:3 (Nei Mongol, Hebei, Jiangxi); LEE & al. 1992:48 (Beijing, Hebei, Jiangxi); LI 1992:35 (Liaoning).

Coelambus vittatus SHARP, 1884:441 (orig. descr.); ZAITZEV 1953:136 (Manchuria); LAFER 1989:236 (NE China).

CWBS: Jilin: loc. 89 (1 ex.); Liaoning: loc. 64 (2 exs.), loc. 99 (1 ex.)

This species is widespread in China, and occurs also in Japan, Korea, and Primorye. The synonymy with *H. vittatus* was suggested first by BALFOUR-BROWNE (1946). However, the identity of these two names demands further study as they may represent two valid species (H. Fery, in litt.).

***Hygrotus impressopunctatus* (SCHALLER)**

Dytiscus impressopunctatus SCHALLER, 1783:312 (orig. descr.).

Coelambus impressopunctatus (SCHALLER, 1783): FENG 1933a:325 (Shaanxi), 1936:7 (Shaanxi); WU 1937:208 (Shaanxi); KAMIYA 1938a:17 (Manchuria), 1940:119 (Liaoning); ZAITZEV 1953:135 (Xinjiang); LAFER 1989:236 (N China); ZENG 1989:3 (Heilongjiang, Hebei, Shaanxi).

Coelambus impressopunctatus roborovskii ZAITZEV, 1953:135 (orig. descr., Xinjiang).

Hygrotus impressopunctatus (SCHALLER, 1783): BALFOUR-BROWNE 1946:438 (Heilongjiang).

Coelambus impressopunctatus hiurai SATÔ, 1972:54 (orig. descr.).

A Holarctic species. The Palearctic range extends from Europe to northern China, Japan and Kamchatka.

***Hygrotus urgensis* (JAKOVLEV)**

Coelambus urgensis JAKOVLEV, 1899:507 (orig. descr.); FENG 1932:24 (Mongolia); WU 1937:208 (Mongolia); FERY 1992:349 (descr.).

This species occurs in Transbaikalia and Mongolia. It is uncertain if FENG's (1932) record from Mongolia refers to Chinese Mongolia. However, the Zaitzev collection at the Zoological Institute in St. Petersburg includes specimens from Qinghai (H. Fery, in litt.).

Hygrotus unguicularis* (CROTCH)Hydroporus unguicularis* CROTCH, 1874:73 (orig. descr.).*Coelambus mongolicus* JAKOVLEV, 1899:506 (orig. descr.); FENG 1932:24 (Mongolia); WU 1937:208 (Mongolia); ZENG 1989:3 (Nei Mongol).

The Palearctic range of this Holarctic species includes E Siberia, Transbaikalia and Mongolia. In China it is restricted to Inner Mongolia. The synonymy given above is discussed by ROUGHLEY & NILSSON (in prep.).

Hygrotus marklini* (GYLLENHAL)Hyphydrus marklini* GYLLENHAL, 1813:689 (orig. descr.).*Coelambus marklini* (GYLLENHAL, 1813); ZAITZEV 1953:140 (N and NE China); LAFER 1989:235 (NE and N China).*Hydroporus astur* SHARP, 1882:468 (orig. descr.).*Coelambus awajewi* JAKOVLEV, 1899:508 (orig. descr., Gansu); FENG 1932:23 (Mongolia); WU 1937:207 (Mongolia).

A Holarctic species. The Palearctic range extends from Europe to Mongolia, northern China and the Magadan region.

Hygrotus semenowi* (JAKOVLEV)Coelambus semenowi* JAKOVLEV, 1899:504 (orig. descr., Gansu); FENG 1933a:331 (Liaoning); GSCHWENDTNER 1933:163 (Liaoning), 1939:31 (syn., Beijing, Liaoning); WU 1937:208 (Liaoning, Mongolia).*Hygrotus semenowi* (JAKOVLEV); BRINCK 1946:153 (Manchuria); LAFER 1989:236 (Gansu, Beijing).

This species was first described from Gansu. According to the literature, it occurs in N China from Gansu to Beijing, and in Primorye. However, some of these records probably are based on misidentifications (H. Fery, in litt.).

Hygrotus distinctus* (FENG)Coelambus distinctus* FENG, 1936:7 (orig. descr., Beijing).

This species was described from Beijing. It was synonymized erroneously with *H. semenowi* by GSCHWENDTNER (1939). According to the original description it differs from this species, but may be conspecific with some other species of this difficult group (H. Fery, in litt.).

Hygrotus caspius* (WEHNCKE)Hydroporus caspius* WEHNCKE, 1875a:234 (orig. descr.).*Coelambus caspius* (WEHNCKE, 1875); KAMIYA 1935:7, 1940:118 (Hebei).*Coelambus reitteri* ZAITZEV, 1908a:268 (orig. descr.); 1953:142 (Gansu); LAFER 1989:237 (Gansu).

This species was described originally from European Russia. The synonymy given above needs confirmation.

Hygrotus confluens* (FABRICIUS)Dytiscus confluens* FABRICIUS, 1787:193 (orig. descr.).*Coelambus confluens* (FABRICIUS, 1787); KAMIYA 1940:118 (Manchuria); LAFER 1989:237 (NE China).

A widespread Palearctic species. In China it is known from the northeastern parts.

Hygrotus enneagrammus* (AHRENS)Hydroporus enneagrammus* AHRENS, 1833:645 (orig. descr.).*Coelambus enneagrammus* (AHRENS, 1833); ZAITZEV 1908b:417 (Xinjiang).

Chiefly a steppe species known to occur from Central Europe to Central Asia and W China.

Hygrotus flaviventris* (MOTSCHULSKY)Hydroporus flaviventris* MOTSCHULSKY, 1860a:303 (orig. descr.).*Coelambus flaviventris* (MOTSCHULSKY, 1860); ZAITZEV 1953:143 (Xinjiang, Manchuria); LAFER 1989:237 (NE and W China).*Coelambus enneagrammus* (AHRENS, 1833); KAMIYA 1940:119 (misident., Manchuria).

This species is widespread in Central Asia and some of the surrounding regions from European Russia to China. In China known from Xinjiang, Manchuria, and Qinghai (H. Fery, in litt.).

Genus *Herophydrus* SHARP

The approximately 65 species of this genus are confined largely to Africa and the Oriental Region. Traditionally, most of the Oriental species were placed in the genus *Hyphoporus*, here viewed as a synonym of *Herophydrus*. A generic revision of the *Hygrotus* group of genera is needed. The Chinese species can be identified by combining the keys given by ZAITZEV (1953) and VAZIRANI (1969b).

Herophydrus musicus (KLUG)

Hydroporus musicus KLUG, 1833: t. 33(12) (orig. descr.).

Herophydrus musicus (KLUG, 1833); GSCHWENDTNER 1923:99 (Xinjiang).

This species is widespread in the South Palearctic and occurs also in India and Burma.

Herophydrus rufus (CLARK)

Hyphydrus rufus CLARK, 1863:423 (orig. descr.).

Hyphoporus rufus (CLARK, 1863); RÉGIMBART 1899:206 (China); ZIMMERMANN 1930:116 (S China); WU 1937:209 (Hubei, Fujian, Guangdong, Hainan); ZHAO 1981:111 (Fujian); ZENG 1989:3 (Hubei, Fujian, Guangxi, Guangdong, Hainan); NILSSON & al. 1995:362 (Taiwan).

Herophydrus rufus (CLARK, 1863); SATŌ & BRANCUCCI 1984:2 (syn.).

Hyphoporus rotundatus GSCHWENDTNER, 1931a:21 (orig. descr., Taiwan); MIWA 1931a:17 (Taiwan), 1931b:92 (type data); KAMIYA 1932a:13 (Taiwan), 1934:1 (Taiwan), 1938a:18 (Taiwan), 1938b:48 (Taiwan); FENG 1932:24 (Hubei, Fujian, Guangdong, Hainan); Takizawa 1933:172 (Taiwan).

This species is widespread in SE Asia north to the Ryukyu Islands (SATŌ & BRANCUCCI 1984).

Herophydrus kempī (GSCHWENDTNER)

Hyphoporus kempī GSCHWENDTNER, 1936a:368 (orig. descr.); VAZIRANI 1969b:211 (descr.); ZENG 1989:3 (Yunnan).

This species was described from India, where it is known from Assam and Rajasthan (VAZIRANI 1969b). ZENG's (1989) record from Yunnan is the only one from China.

Herophydrus sp.

Hyphoporus sp. ZENG, 1989:3 (Yunnan).

ZENG (1989) recorded an unidentified *Herophydrus* species from Yunnan.

Genus *Hyphydrus* ILLIGER

A large genus with more than 100 species in Europe, Asia, Africa and Australia. My treatment of the genus follows BISTRÖM's (1982) revision, which can be used for the identification of the eight species recorded from China.

Hyphydrus lyratus SWARTZ

Hyphydrus lyratus SWARTZ in SCHÖNHERR, 1808:29 (orig. descr.); SHARP 1882:383 (China); RÉGIMBART 1899:207 (Taiwan); MIWA 1931a:17 (Taiwan); KAMIYA 1932a:12 (Taiwan), 1934:1 (Taiwan); 1938a:13, 1938b:37 (China); FENG 1932:22 (Hubei, Fujian, Taiwan); TAKIZAWA 1933:168 (Taiwan); WU 1937:204 (Hubei, Fujian, Taiwan); ZHAO 1981:111 (Fujian); YANO & al. 1983:109 (Taiwan); ZENG 1989:2 (Hubei, Fujian, Yunnan, Guangxi, Guangdong, Taiwan, Hainan); MORI & KITAYAMA 1993:57 (China).

Hyphydrus lyratus lyratus SWARTZ, 1808; BISTRÖM 1982:22 (syn., Fujian, Guizhou, Hong Kong, Taiwan), 1984:51 (Hong Kong).

Hyphydrus nigronotatus CLARK, 1863:421 (orig. descr., China).

Hyphydrus bisulcatus CLARK, 1863:422 (orig. descr.).

Hydroporus fossulipennis MACLEAY, 1871:122 (orig. descr.).

This species occurs throughout the Oriental Region and also in Australia. The subspecies *H. l. lyratus* is widespread in SE Asia from China to Australia (BISTRÖM 1982).

Hyphydrus falkenstromi GSCHWENDTNER

Hyphydrus falkenstromi GSCHWENDTNER, 1939:25 (orig. descr., Beijing, Fujian).

Hyphydrus falkenstromi GSCHWENDTNER, 1939; BISTRÖM 1982:42 (descr., Liaoning, Beijing, Tianjin, Shandong, Jiangsu, Fujian).

Hyphydrus brincki GUIGNOT, 1946:72 (orig. descr., China).

This species is known so far only from China, where it is confined to the east.

***Hyphydrus japonicus* SHARP**

Hyphydrus japonicus SHARP, 1873:54 (orig. descr.); ZIMMERMANN 1919a:76 (Taiwan); MIWA 1931a:17 (Taiwan); KAMIYA 1932a:12 (Taiwan), 1938a:12, 1938b:36 (China), 1940:116 (Liaoning); ZAITZEV 1953:109 (N China); BISTRÖM 1982:44 (syn., records from Taiwan doubtful and probably referring to *H. orientalis*); LAFER 1989:235 (NE and E China); ZENG 1989:2 (Sichuan, Hebei, Shaanxi, Shanghai, Hunan, Guizhou, Yunnan); LI 1992:35 (Liaoning); PU & al. 1992:482 (Yunnan); MORI & KITAYAMA 1993:59 (China).

Hyphydrus frontalis SHARP, 1882:381 (orig. descr.).

Hyphydrus vagus BRINCK, 1943:4 (orig. descr., Sichuan).

Hyphydrus japonicus vagus BRINCK, 1943: BISTRÖM 1982:44 (descr., Sichuan, Shaanxi).

Hyphydrus paromoeus GUIGNOT, 1954:40 (orig. descr.).

CWBS: Jilin: loc. 73 (1 ex.), loc. 89 (6 exs.)

BISTRÖM (1982, 1983) recognized two subspecies: *H. j. japonicus* in Japan, and *H. j. vagus* BRINCK in mainland China and South Korea. Moreover, he considered the literature records from Taiwan as doubtful. It is widespread in S and Central China.

***Hyphydrus detectus* FALKENSTRÖM**

Hyphydrus detectus FALKENSTRÖM, 1936a:87 (orig. descr., Sichuan, Jiangsu); BRINCK 1946:149 (Heilongjiang, Liaoning); BALFOUR-BROWNE 1946:437 (Heilongjiang); BISTRÖM 1982:45 (Sichuan, Manchuria, Shandong, Jiangsu, Zhejiang, Fujian); ZENG 1989:2 (Sichuan, Jiangsu, Jiangxi).

Hyphydrus picti GUIGNOT, 1936:133 (orig. descr., Jiangsu).

Hyphydrus chinensis HLISNIKOVSKY, 1954:85 (orig. descr., Jiangsu).

Hyphydrus orientalis var. *reductus* HLISNIKOVSKY, 1954:86 (orig. descr., Sichuan).

This species is known from E China and probably occurs in Korea (BISTRÖM 1982).

***Hyphydrus orientalis* CLARK**

Hyphydrus orientalis CLARK, 1863:419 (orig. descr., Fujian); SHARP 1882:382 (Jiangxi, Taiwan); MIWA 1931a:17 (Taiwan); KAMIYA 1932a:12 (Taiwan), 1934:1 (Taiwan); 1938a:13, 1938b:38 (China); FENG 1932:22 (Sichuan, Beijing, Jiangsu, Shanghai, Hubei, Zhejiang, Jiangxi, Fujian, Yunnan, Guangdong, Taiwan, Hainan, Shandong, Hong Kong); TAKIZAWA 1933:168 (Taiwan); WU 1937:205 (Sichuan, Beijing, Jiangsu, Shanghai, Hubei, Zhejiang, Jiangxi, Fujian, Yunnan, Guangdong, Taiwan, Hainan, Shandong, Hong Kong); ZAITZEV 1953:109 (China); ZHAO 1981:111 (Fujian); BISTRÖM 1982:47 (syn., Gansu, Sichuan, Jiangsu, Hubei, Zhejiang, Jiangxi, Fujian, Guizhou, Yunnan, Taiwan); ZENG 1989:2 (Sichuan, Hebei, Shandong, Jiangsu, Hubei, Zhejiang, Jiangxi, Fujian, Yunnan, Guangxi, Guangdong, Taiwan).

Hyphydrus eximius CLARK, 1863:421 (orig. descr., China); HLISNIKOVSKY 1954:87 (Jiangsu).

This species is known from China and Vietnam. The literature records from Japan and Korea were considered doubtful by BISTRÖM (1982). It also has been found in Xinjiang (CWW).

***Hyphydrus pulchellus* CLARK**

Hyphydrus pulchellus CLARK, 1863:420 (orig. descr., Fujian); SATŌ 1961a:7 (Taiwan); BISTRÖM 1982:95 (syn., Fujian); ZENG 1989:2 (Jiangxi, Hunan, Guangxi, Guangdong, Taiwan); LI 1992:35 (Liaoning); MORI & KITAYAMA 1993:58 (China).

Hyphydrus orbicularis RÉGIMBART, 1899:212 (orig. descr.).

Hyphydrus wui GSCHWENDTNER, 1933:161 (orig. descr., Fujian); FENG 1933a:324 (Fujian); WU 1937:205 (Fujian); ZHAO 1981:111 (Fujian).

Hyphydrus jeanelli GUIGNOT, 1934:269 (orig. descr.).

This species is known from Japan to Burma and Vietnam (BISTRÖM 1982). Most Chinese records are from the southeast. LI's (1992) record from Liaoning needs confirmation.

***Hyphydrus birmanicus* RÉGIMBART**

Hyphydrus birmanicus RÉGIMBART, 1888:614 (orig. descr.); ZENG 1989:2 (Yunnan).

This species is known only from Burma and Yunnan.

***Hyphydrus excoffieri* RÉGIMBART**

Hyphydrus excoffieri RÉGIMBART, 1899:210 (orig. descr., Yunnan); FENG 1932:22 (Yunnan); WU 1937:204 (Yunnan); BISTRÖM 1982:101 (Yunnan, Gansu, Hubei).

Hyphidrus exoffieri RÉGIMBART, 1899; ZIMMERMANN 1930:68 (misspell., Yünnan).

This species is known from China and Vietnam.

Genus *Bidessus* SHARP

A Palearctic/Ethiopian genus with 46 species (BISTRÖM 1988). Only one species has been recorded from China.

Bidessus unistriatus (SCHRANK)

Dytiscus unistriatus SCHRANK, 1781:205 (orig. descr.).

Bidessus unistriatus (SCHRANK, 1781): FENG 1933a:325 (Hebei), 1936:3 (Shaanxi); WU 1937:207 (Hebei).

A chiefly European species that is absent only from the northernmost part. One record is known from Mongolia. All literature records from China need confirmation.

Genus *Pseuduvarus* BISTRÖM

A monobasic genus confined to the Afrotropical and Oriental Region. It can be separated from other *Bidessini* with BISTRÖM's (1988) key.

Pseuduvarus vitticollis (BOHEMAN)

Hydroporus vitticollis BOHEMAN, 1848:256 (orig. descr.).

Pseuduvarus vitticollis (BOHEMAN, 1848): BISTRÖM 1988:10 (syn.); NILSSON & al. 1995:363 (syn., Taiwan).

Bidessus gentilis SHARP, 1890:344 (orig. descr.).

This species is widespread in the Old World tropics, ranging from Africa and Madagascar to Sri Lanka, India, Pakistan and Malaysia (BISTRÖM 1982, VAZIRANI 1977). In China it is known only from Taiwan.

Genus *Hydroglyphus* MOTSCHULSKY

A relatively large genus with some 80 species in Europe, Asia, Australia and Africa (BISTRÖM 1988). Eleven species so far have been recorded from China. Species identification is difficult as no modern revision is available for the Asiatic species.

Hydroglyphus annamita (RÉGIMBART)

Bidessus annamita RÉGIMBART, 1889:153 (orig. descr.); FENG 1932:23 (China); WU 1937:206 (China).

This species was described from Vietnam. It has been included in old Chinese catalogues without detailed locality information.

Hydroglyphus hummeli (FALKENSTRÖM)

Bidessus hummeli FALKENSTRÖM, 1932:191 (orig. descr., Sichuan).

Bidessus hummeli FALKENSTRÖM, 1933:9 (orig. descr., Sichuan); WU 1937:206 (Sichuan); GSCHWENDTNER 1939:28 (Sichuan); ZAITZEV 1953:116 (Sichuan).

Hydroglyphus hummeli (FALKENSTRÖM, 1932): BISTRÖM 1988:14 (cat.).

This species is known only from Sichuan.

Hydroglyphus flammulatus (SHARP)

Bidessus flammulatus SHARP, 1882:359 (orig. descr., Jiangxi); RÉGIMBART 1899:230 (Jiangxi); ZIMMERMANN 1930:76 (Jiangxi); FALKENSTRÖM 1933:8 (Sichuan); FENG 1932:23 (Jiangxi); WU 1937:206 (Jiangxi, Sichuan).

Guignotus flammulatus (SHARP, 1882): VAZIRANI 1969a:315 (penis depicted).

Hydroglyphus flammulatus (SHARP, 1882): YANO & al. 1983:108 (Taiwan).

Bidessus antennatus RÉGIMBART, 1892:118 (orig. descr.); ZIMMERMANN 1919a:76 (Taiwan); MIWA 1931a:17 (Taiwan); KAMIYA 1932a:12 (Taiwan), 1934:1 (Taiwan), 1938a:15 (Taiwan), 1938b:41 (Taiwan); TAKIZAWA 1933:170 (Taiwan); SEKI 1944:91 (Taiwan).

This species is widespread in the Oriental Region where it occurs from India to Indonesia and north to China and Japan (VAZIRANI 1977).

***Hydroglyphus pusillus* (FABRICIUS)**

Dytiscus pusillus FABRICIUS, 1781:297 (orig. descr.).

Bidessus pusillus (FABRICIUS, 1781): ZAITZEV 1953:115 (China south to Yunnan); LAFER 1989:235 (China).

Bidessus geminus (FABRICIUS, 1781): BRINCK 1946:149 (Liaoning).

? *Bidessus confusus* (KLUG, 1833): KAMIYA 1940:117 (misident., Heilongjiang, Liaoning).

? *Guignotus confusus* (KLUG, 1833): ZENG 1989:2 (misident., Sichuan, Guizhou, Yunnan, Guangxi).

CWBS: Jilin: loc. 76 - 81 (12 exs.); Liaoning: loc. 64 (20 exs.), loc. 98 (2 exs.), loc. 99 (18 exs.), loc. 100 (2 exs.)

A widespread Palearctic species known from North Africa and most parts of Europe south of 63°N latitude, and eastwards to Mongolia and China. It is widespread in China. It is known also from Henan (CWW).

***Hydroglyphus orientalis* (CLARK)**

Hydroporus orientalis CLARK, 1863:427 (orig. descr., China).

Bidessus orientalis (CLARK, 1863): RÉGIMBART 1899:226 (Fujian); ZIMMERMANN 1930:76 (China); FENG 1932:23 (Hubei, Fujian, Hainan); WU 1937:207 (Hubei, Zhejiang, Fujian, Hainan); ZHAO 1981:110 (Fujian).

Guignotus orientalis (Clark, 1863): ZENG 1989:2 (Hubei, Zhejiang, Fujian, Hunan, Guizhou, Yunnan, Guangxi, Hainan).

This species is widespread in the Oriental Region. In China it is confined to the southeast.

***Hydroglyphus inconstans* (RÉGIMBART)**

Bidessus inconstans RÉGIMBART, 1892:119 (orig. descr.).

Guignotus inconstans (RÉGIMBART, 1892): ABE 1989:2 (descr., distr.).

Hydroglyphus inconstans (RÉGIMBART, 1892): NILSSON & al. 1995:363 (Taiwan).

Hydroporus intermixtus WALKER, 1858: RÉGIMBART 1899:227 (misident.).

This widespread Oriental species occurs from India and Sri Lanka to Sumatra and north to the Ryukyu Islands (VAZIRANI 1977, ABE 1989) and Taiwan.

***Hydroglyphus japonicus* (SHARP)**

Hydroporus japonicus SHARP, 1873:54 (orig. descr.).

Bidessus japonicus (SHARP, 1873): SHARP 1882:357 (Jiangxi); RÉGIMBART 1899:223 (Jiangxi); ZIMMERMANN 1930:75 (China); FENG 1932:23 (Beijing, Jiangsu, Hubei, Zhejiang, Jiangxi, Fujian, Guangdong); WU 1937:206 (Beijing, Jiangsu, Hubei, Zhejiang, Jiangxi, Fujian, Guangdong); KAMIYA 1940:117 (Heilongjiang); Zaitzev 1953:115 (China); ZHAO 1981:110 (Fujian); LAFER 1989:235 (NE and E China).

Guignotus japonicus (SHARP, 1873): LI 1992:35 (NE China); MORI & KITAYAMA 1993:67 (China).

Guignotus japonicus tangweii LI, 1992:36 (orig. descr., Liaoning).

Guignotus japonicus yingkouensis LI, 1992:36 (orig. descr., Liaoning).

CWBS: Jilin: loc. 65 (1 ex.), loc. 67 (12 exs.), loc. 73 (20 exs.), loc. 77 (46 exs.), loc. 79 (5 exs.), loc. 82 (70 exs.), loc. 83 (12 exs.), loc. 84 (1 ex.), loc. 88 (23 exs.), loc. 89 (30 exs.), loc. 93 (7 exs.); Liaoning: loc. 64 (50 exs.), loc. 99 (3 exs.)

This species belongs to an unresolved complex of very similar forms, widespread in East Asia. *Hydroglyphus japonicus* was described from Japan, and occurs in eastern China.

***Hydroglyphus amamiensis* (SATÔ)**

Bidessus japonicus (SHARP, 1873): MIWA 1932:145 (Taiwan); TAKIZAWA 1933:170 (Taiwan); KAMIYA 1934:1 (Taiwan), 1938a:16 (Taiwan), 1938b:43 (Taiwan).

Guignotus japonicus (SHARP, 1873): SATÔ 1983:164 (in part, syn.).

Guignotus japonicus amamiensis SATÔ, 1961a:7 (orig. descr.).

Hydroglyphus amamiensis (SATÔ, 1961): NILSSON & al. 1995:364 (Taiwan).

Hydroglyphus japonicus (SHARP, 1873): YANO & al. 1983:108 (Taiwan).

? *Bidessus yoshimurai* KAMIYA, 1932: FENG 1933a:325 (Hubei); GSCHWENDTNER 1933:163 (Hubei); WU 1937:207 (Hubei).

This species belongs to a complex of forms of uncertain taxonomic status. The complex is widespread in the Far East north to Primorye. The recognition of *Hydroglyphus amamiensis* as a valid species and not as a subspecies of *H. japonicus* follows NILSSON & al. (1995).

***Hydroglyphus traessarti* (FENG)**

Bidessus traessarti FENG, 1936:4 (orig. descr., Tianjin).

Bidessus japonicus var. *traessarti* FENG, 1936: GSCHWENDTNER 1939:28 (misspell., Tianjin).

Bidessus japonicus var. *traessarti* FENG, 1936: ZAITZEV 1953:115 (status).

Guignotus traessarti (FENG, 1936): ZENG 1989:3 (misspell., Sichuan, Heilongjiang, Hebei, Shaanxi, Jiangsu, Hubei, Zhejiang, Jiangxi, Fujian, Hunan, Guizhou, Yunnan, Guangxi, Guangdong).

This species belongs to the *H. japonicus* complex. Its taxonomic status demands further study. According to ZENG (1989) it occurs in most parts of China.

***Hydroglyphus regimbarti* (GSCHWENDTNER)**

Bidessus regimbarti GSCHWENDTNER, 1936a:367 (orig. descr.).

Guignotus regimbarti (GSCHWENDTNER, 1936): ZENG 1989:3 (Sichuan, Shaanxi, Guizhou, Yunnan, Guangxi).

This species was described from India. ZENG (1989) recorded it from China.

***Hydroglyphus licenti* (FENG)**

Bidessus licenti FENG, 1936:3 (orig. descr., Tianjin); GSCHWENDTNER 1939:28 (Beijing, Tianjin).

Guignotus licenti (FENG, 1936): BALFOUR-BROWNE 1946:437 (Heilongjiang, Zhejiang); ZENG 1989:2 (Xinjiang, Gansu, Sichuan, Shaanxi, Jiangxi, Hunan, Guizhou, Guangxi, Guangdong).

Hydroglyphus licenti (FENG, 1936): BISTRÖM 1988:14 (cat.).

This species obviously is endemic to China.

Genus *Liodessus* GUIGNOT

A widespread genus, including about 44 species (BISTRÖM 1988). Only one species is known from China.

***Liodessus megacephalus* (GSCHWENDTNER)**

Bidessus megacephalus GSCHWENDTNER, 1931a:21 (orig. descr., Taiwan); MIWA 1931a:17 (Taiwan), 1931b:92 (type data); KAMIYA 1932a:13 (Taiwan), 1934:1 (Taiwan), 1938a:16 (Taiwan), 1938b:44 (Taiwan); TAKIZAWA 1933:170 (Taiwan); SATŌ 1964:61 (syn.).

Bidessus maculosus GSCHWENDTNER, 1931b:462 (orig. descr., Fujian); FENG 1932:23 (Fujian), 1933a:325 (Fujian); GSCHWENDTNER 1933:163 (Fujian); WU 1937:206 (Fujian); ZAITZEV 1953:121 (S China); ZHAO 1981:110 (Fujian).

Bidessus tokunagai KAMIYA, 1932b:5 (orig. descr.).

Uvarus maculosus (GSCHWENDTNER, 1931): ZENG 1989:3 (Fujian).

This species is known from E China and Japan.

Genus *Leiodytes* GUIGNOT

A small genus with 19 species which occur in the Ethiopian and the Oriental Region (BISTRÖM 1988). Two or three species have been found in China. The Oriental species need to be revised.

***Leiodytes gracilis* (GSCHWENDTNER)**

Clypeodytes gracilis GSCHWENDTNER, 1933:162 (orig. descr., Hubei); FENG 1933a:325 (Hubei); WU 1937:206 (Hubei); ZAITZEV 1953:123 (China).

As indicated by BISTRÖM (1988), the generic placement of this species needs confirmation.

***Leiodytes perforatus* (SHARP)**

Bidessus perforatus SHARP, 1882:363 (orig. descr., Jiangxi); FENG 1932:23 (Jiangxi, Guangdong); WU 1937:206 (Jiangxi, Guangdong).

Clypeodytes perforatus (SHARP, 1882): RÉGIMBART 1899:221 (Jiangxi); ZIMMERMANN 1930:74 (Jiangxi); ZAITZEV 1953:123 (China); VAZIRANI 1977:41 (China); ZENG 1989:2 (Sichuan, Jiangxi, Hunan, Guizhou, Yunnan, Guangxi, Guangdong, Hainan).

Leiodytes perforatus (SHARP, 1882): NILSSON & al. 1995:364 (Taiwan).

This species is known from S China and Vietnam (VAZIRANI 1977).

[*Leiodytes frontalis* (SHARP)]

Bidessus frontalis SHARP, 1884:440 (orig. descr.); KANO 1931:177 (Taiwan).

Leiodytes frontalis (SHARP, 1884): BISTRÖM 1988:27 (cat.).

This species is widespread in Japan (MORI & KITAYAMA 1993). KANO's (1931) record from Taiwan needs confirmation.

Genus *Clypeodytes* RÉGIMBART

This genus includes about 36 species from Africa, Asia and Australia (BISTRÖM 1988). The single species recorded from China can be identified using VAZIRANI's (1969a) description.

***Clypeodytes bufo* (SHARP)**

Bidessus bufo SHARP, 1890:344 (orig. descr.); FENG 1933a:325 (Hubei); WU 1937:205 (Hubei).

Clypeodytes bufo (Sharp, 1890): GSCHWENDTNER, 1933:162 (Hubei); ZENG 1989:2 (Hubei, Guizhou, Hainan).

This species occurs in India and Sri Lanka. The Chinese records need confirmation.

Genus *Hydroporus* CLAIRVILLE

This large genus is mainly Holarctic. It includes about 200 species, chiefly in the boreal region. The ten species recorded from China can be identified with the keys given by ZAITZEV (1953) and NILSSON & NAKANE (1993).

***Hydroporus tibetanus* ZAITZEV**

Hydroporus tibetanus ZAITZEV, 1953:169 (orig. descr., Tibet).

This species was described from Tibet and I know of no subsequent records.

***Hydroporus glasunovi* ZAITZEV**

Hydroporus glasunovi ZAITZEV, 1905:26 (orig. descr.); 1953:171 (Xinjiang).

Hydroporus macrocephalus GSCHWENDTNER, 1923:100 (orig. descr.).

This species occurs in the mountains of Central Asia. In China it is confined to Xinjiang.

***Hydroporus penitus* GUIGNOT**

Hydroporus penitus GUIGNOT, 1945:20 (orig. descr.).

This species was described from Lake Khanka (either in Heilongjiang or in South Primorye). Its identity demands further study.

***Hydroporus angusi* NILSSON**

Hydroporus angusi NILSSON, 1990a:33 (orig. descr.).

CWBS: Jilin: loc. 77 (1 ex.)

This species was described from the Irkut Valley in Siberia. It was collected later in Primorye, Sakhalin and Hokkaido. Here it is newly recorded from China.

***Hydroporus brevisculus* POPPIUS**

Hydroporus striola var. *breviusculus* POPPIUS, 1905:14 (orig. descr.).

Hydroporus brevisculus POPPIUS, 1905: ZAITZEV 1953:159 (descr., status); LAFER 1989:240 (key).

CWBS: Jilin: loc. 77 (1 ex.)

This East Palearctic species was known previously only from Russia (Yakutsk, Amursk, Primorye and Sakhalin). Here it is recorded for the first time from China.

***Hydroporus uenoi* NAKANE**

Hydroporus uenoi NAKANE, 1963:25 (orig. descr.); NILSSON & NAKANE 1993:424 (descr., distr.).

Hydroporus striola (GYLLENHAL, 1826): BALFOUR-BROWNE 1946:437 (misident., Heilongjiang).

? *Hydroporus saghalienensis* TAKIZAWA, 1933: ZENG 1989:3 (misident., Qinghai, Heilongjiang).

CWBS: Jilin: loc. 79 (7 exs.), loc. 83 (3 exs.), loc. 88 (4 exs.), loc. 89 (2 exs.), loc. 90 (1 ex.), loc. 93 (8 exs.)

This species is widespread in the Far East where it is known from Japan, Sakhalin and from Kamchatka south to N China. It shows a pronounced variation in size, colour and microsculpture and may represent a complex of two or more cryptic species.

[*Hydroporus nigellus* MANNERHEIM]

Hydroporus nigellus MANNERHEIM, 1853:163 (orig. descr.).

Hydrocoptus obscuripes MOTSCHULSKY, 1860b:100 (orig. descr.).

Hydroporus obscuripes (MOTSCHULSKY, 1860); FENG 1932:25 (Mongolia); WU 1937:209 (Beijing).

FENG (1932) recorded this species from "China: (Mongolia)", but most probably it has not been recorded in the Chinese part of Mongolia. WU's (1937) record from Beijing is doubtful.

***Hydroporus submuticus* THOMSON**

Hydroporus submuticus THOMSON, 1874:537 (orig. descr.); NILSSON & NAKANE 1993:421 (descr., syn.).

Hydroporus konoï NAKANE, 1963:25 (orig. descr.).

CWBS: Jilin: loc. 67 (1 ex.), loc. 79 (2 exs.), loc. 90 (1 ex.), loc. 93 (1 ex.)

A widespread northern Palearctic species. Here it is recorded for the first time from China.

***Hydroporus acutangulus* THOMSON**

Hydroporus acutangulus THOMSON, 1856:202 (orig. descr.); BRINCK 1946:154 (Manchuria).

This species belongs to a Holarctic complex of forms or species that needs to be revised. Males from Sakhalin and Primorye show some slight differences in penis shape compared to European material. I have no idea of the source of BRINCK's (1946) record of *H. acutangulus* from Manchuria.

***Hydroporus discretus* FAIRMAIRE & BRISOUT**

Hydroporus discretus FAIRMAIRE & BRISOUT in Fairmaire, 1859:28 (orig. descr.); ZENG 1989:3 (Xinjiang).

A chiefly European species whose range to the east reaches the mountains of Central Asia. ZENG (1989) recorded it as new to China.

***Hydroporus goldschmidtii* GSCHWENDTNER**

Hydroporus goldschmidtii GSCHWENDTNER, 1923:101 (orig. descr., Xinjiang); ZIMMERMANN 1931:130 (Xinjiang); ZAITZEV 1953:164 (Xinjiang).

Hydroporus goldschmidtii var. *recidivus* GSCHWENDTNER, 1923:103 (orig. descr., Xinjiang).

This species was described from Kirghizia and Xinjiang. Later it was reported also from Uzbekistan.

Genus *Neonectes* J.BALFOUR-BROWNE

This genus includes two East Palearctic species [*N. natrix* and *N. jakovlevi* (ZAITZEV, 1905)], and *N. babai* SATÔ, 1990b, described from Taiwan. It could be that some of the Nearctic species currently placed in *Oreodytes* (ZIMMERMAN 1985) belong to *Neonectes*. Another possibility is that *Neonectes* should be synonymized with *Oreodytes*.

***Neonectes natrix* (SHARP)**

Hydroporus natrix SHARP, 1884:443 (orig. descr.).

Neonectes natrix (SHARP, 1884); LI 1992:35 (Liaoning).

CWBS: Jilin: loc. 78 (1 ex.)

This species was described from Japan, and has been found later in Primorye and Korea. In China it is known only from Jilin and Liaoning in the NE.

***Neonectes babai* SATÔ**

Neonectes babai SATÔ, 1990b:102 (orig. descr., Taiwan); NILSSON & al. 1995:364 (Taiwan).

This species is not known outside of Taiwan from where it was described.

Genus *Oreodytes* SEIDLITZ

This Holarctic genus comprises some 25 species. The Nearctic species were revised by ZIMMERMAN (1985) and LARSON (1990). Only five species occur in Europe, and the Palearctic fauna also includes 4 Asian species. Most species occur in running water or at exposed lake margins, generally at high altitudes or high latitudes. The two species recorded from China can be identified with the key given by ZAITZEV (1953).

Oreodytes sanmarkii (C.R. SAHLBERG)

Hyphydrus sanmarkii C.R. SAHLBERG, 1826:172 (orig. descr.).

Hyphydrus rivalis GYLLENHAL, 1827:384 (orig. descr.).

Oreodytes rivalis (GYLLENHAL, 1827): LI 1992:35 (Jilin).

CWBS: Jilin: loc. 65 (1 ex.), loc. 78 (13 exs.), loc. 81 (3 exs.), loc. 91 (1 ex.), loc. 92 (1 ex.)

This Holarctic species is in North America confined to the western low Arctic (LARSON 1990). It is transcontinental in the northern Palearctic. In China it is known only from Jilin.

Oreodytes dauricus (MOTSCHULSKY)

Hydrocoptus dauricus MOTSCHULSKY, 1860b:100 (orig. descr.).

Deronectes dauricus (MOTSCHULSKY, 1860): BRINCK 1946:154 (Manchuria).

This species occurs in Transbaikalia and the Amur Territory in the Far East of Russia. I have not found the source of BRINCK's (1946) record from Manchuria.

Genus *Scarodytes* GOZIS

This mainly western Palearctic genus is most diverse in the Mediterranean region. The classification of species is problematic. Eight species are recognized. The species occur in running waters and ponds with little vegetation.

[*Scarodytes halensis* (FABRICIUS)]

Dytiscus halensis FABRICIUS, 1787:192 (orig. descr.).

Deronectes halensis (FABRICIUS, 1787): FENG 1933a:326 (misident., Gansu); WU 1937:210 (misident., Gansu).

This European species most probably was misidentified by FENG (1933a), and probably does not occur in China.

Genus *Stictotarsus* ZIMMERMANN

As defined by NILSSON & ANGUS (1992) this genus includes 27 species, of which most are confined to southernmost North America. Six species are known from the Palearctic, with one species seemingly shared with North America. The single species recorded from China was earlier placed in the genus *Potamonectes*.

Stictotarsus emmerichi (FALKENSTRÖM)

Deronectes emmerichi FALKENSTRÖM, 1936a:88 (orig. descr., Sichuan); GSCHWENDTNER 1939:38 (Sichuan).

Potamonectes emmerichi (FALKENSTRÖM, 1936): ZAITZEV 1953:196 (Sichuan).

? *Hydroporus griseostriatus* (DE GEER, 1774): ZAITZEV 1908b:418 (misident., Tibet).

? *Deronectes griseostriatus* (DE GEER, 1774): SHARP 1882:434 (misident., Tibet); ZIMMERMANN 1933:156 (misident., Tibet).

? *Potamonectes griseostriatus* (DE GEER, 1774): ZENG 1989:3 (misident., Qinghai, Tibet).

This species belongs to a very difficult complex of cytospecies (R. Angus, in litt.). The status of *S. emmerichi*, described from Sichuan, is uncertain, but lacking evidence to the contrary I prefer to regard it as a separate species.

Genus *Nebrioporus* RÉGIMBART

As defined by NILSSON & ANGUS (1992), this genus includes 44 species, of which most occur in the Mediterranean region. The genus is chiefly Palearctic, but occurs in all regions except the Australian and Neotropical ones. Preferred habitats are mainly running waters, but also include stagnant waters from large lakes to small silt ponds. Identification of most of the nine species recorded from China is possible by combining keys published by ZAITZEV (1953), VAZIRANI (1970b) and HENDRICH & MAZZOLDI (1995).

Nebrioporus hostilis (SHARP)

Deronectes hostilis SHARP, 1884:448 (orig. descr.); KAMIYA 1938a:22 (Manchuria); 1940:120 (Liaoning).

Potamonectes hostilis (SHARP, 1884): LEE & al. 1992:48 (China); LI 1992:35 (NE China).

Nebrioporus hostilis (SHARP, 1884): NILSSON & ANGUS 1992:287 (generic revision); NILSSON & al. 1995:364 (Taiwan).

Potamonectes depressus (FABRICIUS, 1775): LAHER 1989:242 (misident., NE China).

CWBS: Hilin: loc. 65 (4 exs.), loc. 79 (1 ex.), loc. 89 (1 ex.), loc. 93 (3 exs.), loc. 95 (1 ex.); Liaoning: loc. 96 (1 ex.), loc. 98 (1 ex.).

This species is known from Primorye, Kyushu, Taiwan and NE China.

Nebrioporus amurensis (SHARP)

Deronectes amurensis SHARP, 1882:427 (orig. descr.); FENG 1932:25 (Beijing), 1933a:326 (Shandong); WU 1937:210 (Beijing, Shandong).

Hydroporus amurensis (SHARP, 1882): RÉGIMBART 1899:194 (Sichuan, Beijing).

Potamodytes amurensis (SHARP, 1882): GSCHWENDTNER 1933:163 (Shandong)

Potamonectes amurensis (SHARP, 1882): BALFOUR-BROWNE 1946:439 (Heilongjiang); ZENG 1989:3 (Xinjiang, Sichuan, Hebei, Shaanxi, Guizhou).

This species was described from Irkutsk and later reported from China. Its identity is uncertain, and ZIMMERMANN (1933) suggested that it was identical with *N. airumlus*. It has been recorded from most parts of China.

Nebrioporus formaster (ZAITZEV)

Hydroporus formaster ZAITZEV, 1908a:269 (orig. descr.).

Potamonectes formaster (ZAITZEV, 1908): ZAITZEV 1953:197 (Xinjiang).

This species is known from the mountains of Transbaikalia and Xinjiang.

[*Nebrioporus assimilis* (PAYKULL)]

Dytiscus assimilis PAYKULL, 1798:236 (orig. descr.).

Potamodytes assimilis (PAYKULL, 1798): GSCHWENDTNER 1923:104 (Xinjiang).

GSCHWENDTNER's (1923) record of this European species from the Tian Shan is doubtful and most likely refers to another species.

Nebrioporus airumlus (KOLENATI)

Hydroporus airumlus KOLENATI, 1845:85 + pl. 2:15 (orig. descr.).

Deronectes airumlus (KOLENATI, 1845): FENG 1932:25 (Gansu, Beijing, Shandong, Jiangsu, Hebei), 1936:8 (Gansu, Shaanxi); ZIMMERMANN 1933:166 (China); WU 1937:210 (Gansu, Beijing, Shandong, Jiangsu, Hebei).

Potamonectes airumlus (KOLENATI, 1845): ZAITZEV 1953:198 (Beijing); LAHER 1989:242 (Beijing).

Nebrioporus airumlus (KOLENATI, 1845): HENDRICH & MAZZOLDI 1995:4 (descr., Beijing, Yunnan).

This widespread species occurs from the Ukraine eastwards via the Caucasus and Central Asia to China (ZAITZEV 1953). In China it is confined to the N and W.

Nebrioporus browni (GUIGNOT)

Potamonectes browni GUIGNOT, 1949:44 (orig. descr., Guizhou).

Nebrioporus browni (GUIGNOT, 1949): HENDRICH & MAZZOLDI 1995:4 (descr., Sichuan, Guizhou).

This species was described from Guizhou.

Nebrioporus sichuanensis HENDRICH & MAZZOLDI

Nebrioporus sichuanensis HENDRICH & MAZZOLDI, 1995:4 (orig. descr., Sichuan).

This species is known only from the type locality in N Sichuan.

***Nebrioporus laticollis* (ZIMMERMANN)**

Deronectes laticollis ZIMMERMANN, 1933:163 (orig. descr., Shandong).

Potamonectes laticollis (ZIMMERMANN, 1933): ZAITZEV 1953:215 (Shandong); LAFER 1989:242 (Shandong).

Nebrioporus laticollis (Zimmermann, 1933): HENDRICH & MAZZOLDI 1995:2 (descr., Shandong).

This species was described from Shandong. No other records are known to me.

***Nebrioporus indicus* (SHARP)**

Deronectes indicus SHARP, 1882:431 (orig. descr.).

Potamonectes indicus (SHARP, 1882): ZENG 1989:3 (Tibet, Yunnan).

This species was described from India. ZENG (1989) recorded it from Yunnan and Tibet.

***Nebrioporus manii* (VAZIRANI)**

Potamonectes manii VAZIRANI, 1970b:124 (orig. descr.); ANGELINI 1978:387 (descr.); ZENG 1989:3 (Yunnan).

This species was described from Kashmir and later also reported from Pakistan (ANGELINI 1978). ZENG (1989) recorded it from Yunnan.

Subfamily Colymbetinae

Genus *Hydronebrius* JAKOVLEV

This small genus includes four Asiatic species, one of which was described recently from China.

***Hydronebrius amplicolis* TOLEDO**

Hydronebrius amplicolis TOLEDO, 1994:207 (orig. descr., Sichuan).

The only representative of the genus *Hydronebrius* in China was described recently from Sichuan where it was collected at an altitude of 3,000 m a.s.l. This species occurs also in Yunnan (CWW).

Genus *Platynectes* RÉGIMBART

This chiefly tropical genus includes some 35 species in the Neotropical, Oriental and Australian Regions. Three species occur in China.

***Platynectes babai* SATÔ**

Platynectes dissimilis SHARP, 1873: KAMIYA 1938a:29, 1938b:70 (misident., Taiwan).

Platynectes babai SATÔ, 1982:3 (orig. descr., Taiwan).

This species was described from Taiwan. No records are known from outside this island. It was first recorded from Taiwan by KAMIYA (1938a) as *P. dissimilis*.

***Platynectes dissimilis* SHARP**

Platynectes dissimilis SHARP, 1873:50 (orig. descr.), 1882:543 (China); RÉGIMBART 1899:288 (Shaanxi, Hubei, Hong Kong); FENG 1932:26 (Shaanxi, Hubei, Fujian, Hong Kong); GSCHWENDTNER 1935:70 (China); WU 1937:212 (Shaanxi, Hubei, Fujian, Hong Kong); KAMIYA 1938a:29 (in part, China); ZAITZEV 1953:270 (China); GUÉORGUIEV 1972:46 (Shaanxi, Hubei, Fujian, Hong Kong); ZHAO 1981:111 (Fujian); ZENG 1989:6 (Shaanxi, Hunan, Jiangxi, Fujian, Guangdong, Hong Kong); NILSSON & al. 1995:365 (Taiwan).

Platynectes semperi RÉGIMBART, 1899: KAMIYA 1932a:14 (misident., Taiwan).

Platynectes decempunctatus var. *semperi* RÉGIMBART, 1899: MIWA 1931a:18 (misident., Taiwan); KAMIYA 1934:5 (Taiwan).

This species was earlier mixed up with *P. babai* in Taiwan. The true *P. dissimilis* is known from Burma, China and maybe also India (VAZIRANI 1977).

Genus *Platambus* THOMSON

The genus is confined to the Palearctic and Oriental Region. BRANCUCCI (1988) and WEWALKA & BRANCUCCI (1995) recognized 27 species, of which at least 11 occur in China. The species generally live in running waters.

Platambus fimbriatus SHARP

Platambus fimbriatus SHARP, 1884:445 (orig. descr.); KAMIYA 1938a:30 (Manchuria), 1940:122 (Jilin); BRANCUCCI 1988:179 (descr., China); LAHER 1989:248 (China); LI 1992:35 (NE China); WEWALKA & BRANCUCCI 1995 (Sichuan).

Platambus kansouisi FENG, 1936:9 (orig. descr., Gansu); GSCHWENDTNER 1939:46 (syn.); ZENG 1989:6 (Gansu, Hebei).

This species is known from Primorye, Korea, Japan and China.

Platambus excoffieri RÉGIMBART

Platambus excoffieri RÉGIMBART, 1899:281 (orig. descr., Yunnan); FENG 1932:26 (Gansu, Sichuan, Yunnan), 1936:9 (Hebei); WU 1937:212 (Gansu, Sichuan, Yunnan); BRANCUCCI 1988:186 (descr., Tibet, Sichuan, Shandong, Zhejiang, Guizhou, Yunnan); ZENG 1989:6 (Sichuan, Hebei); PU & al. 1992:482 (Yunnan); WEWALKA & BRANCUCCI 1995 (Yunnan).

Platambus fimbriatus excoffieri RÉGIMBART, 1899; GSCHWENDTNER 1934:73 (misident., Sichuan, Yunnan); GSCHWENDTNER 1935:65 (misident., Sichuan, Yunnan); ZAITZEV 1953:273 (misident., Gansu, Yunnan).

The range of this species is restricted to China, where it is widespread.

Platambus schaeffleini BRANCUCCI

Platambus schaeffleini BRANCUCCI, 1988:188 (orig. descr., Yunnan); WEWALKA & BRANCUCCI 1995 (Yunnan).

This species was described from Yunnan and also recorded from Vietnam.

Platambus balfourbrowniei VAZIRANI

Platambus balfourbrowniei VAZIRANI, 1965:28 (orig. descr.); WEWALKA & BRANCUCCI 1995 (Yunnan).

This species was known previously from India and Nepal (BRANCUCCI 1988).

Platambus guttulus (RÉGIMBART)

Platynectes guttula RÉGIMBART, 1899:283 (orig. descr., Shanghai); FENG 1932:26 (Shanghai); GSCHWENDTNER 1935:68 (China); WU 1937:212 (Shanghai).

Platambus guttulus (RÉGIMBART, 1899); BRANCUCCI 1988:205 (class., Shanghai).

A rare species known only from the type locality near Shanghai.

Platambus angulicollis (RÉGIMBART)

Agabus angulicollis RÉGIMBART, 1899:273 (orig. descr.); FENG 1932:27 (Tibet, Beijing), 1936:8 (Shanxi); WU 1937:213 (Tibet, Mongolia, Beijing); ZENG 1989:6 (Tibet, Nei Mongol, Hebei, Shaanxi).

Gaurodytes angulicollis (RÉGIMBART, 1899); ZIMMERMANN 1934:161 (Tibet, Sichuan); ZAITZEV 1953:264 (Sichuan, Tibet).

Platambus angulicollis (RÉGIMBART, 1899); BRANCUCCI 1988:209 (descr., Tibet).

Obviously a rare species, so far known only from China and Mongolia.

Platambus lineatus GSCHWENDTNER

Platambus lineatus GSCHWENDTNER, 1935:62 (orig. descr.); BRANCUCCI 1982:122 (descr., distr.).

? *Hydronebrius striatus* ZENG & PU, 1992:482 (orig. descr., Sichuan); Zeng 1989:7 (Sichuan).

This species is known from North Pakistan, North India, Nepal (CWW, NMW) and Bhutan. As the description of *Hydronebrius striatus*, described recently from Sichuan, conforms with *P. lineatus* in all aspects, I think that they are identical.

Platambus punctatipennis BRANCUCCI

Platambus punctatipennis BRANCUCCI, 1984:153 (orig. descr., Fujian), 1988:214 (descr., Fujian); WEWALKA & BRANCUCCI 1995 (Jiangxi).

Obviously a rare species, confined to southeast China.

Platambus jilanzhui WEWALKA & BRANCUCCI

Platambus jilanzhui WEWALKA & BRANCUCCI, 1995:98 (orig. descr., Beijing, Liaoning, Jilin).

This species is common in northeastern China.

***Platambus schillhammeri* WEWALKA & BRANCUCCI**

Platambus schillhammeri WEWALKA & BRANCUCCI, 1995:99 (orig. descr., Hunan).

This species is probably confined to southeast China.

***Platambus* sp.**

Platambus sp. ZENG, 1989:6 (Hainan).

The specimens from Hainan listed by ZENG (1989) may belong to an undescribed species.

[*Platambus pictipennis* SHARP]

Platambus pictipennis SHARP, 1873:49 (orig. descr.); BRANCUCCI 1988:186 (Taiwan); LI 1992:35 (Jilin).

This species is recorded from Sakhalin, Japan and Taiwan (BRANCUCCI 1988) and Jilin (LI 1992). The record from Taiwan is somewhat unexpected and maybe wrong. Also the record from Jilin needs confirmation.

Genus *Agabus* LEACH

A large, mainly Holarctic genus with some 200 species. The species are found in most kinds of limnic environments, with a certain preference for smaller, stagnant waters. The classification of subgenera is not firmly based, and I recognize only species groups. So far, 49 species have been recorded from China. Most species are included in ZAITZEV's (1953) key, that should be used together with more recent keys for the *A. congener* and the *A. optatus* group (NILSSON 1990b, 1995). Accurate identification of the species in the very difficult *A. japonicus* group is more or less impossible due to the absence of a modern revision.

The *optatus* group

***Agabus insolitus* SHARP**

Agabus insolitus SHARP, 1884:444 (orig. descr.).

Agabus stygius RÉGIMBART, 1899:279 (misident., in part, Hubei); FENG 1932:113 (in part, Hubei); WU 1937:214 (in part, Hubei).

This species is known from Japan and China (Hubei).

***Agabus ussuriensis* NILSSON, in press**

Agabus optatus SHARP, 1884: ZENG 1989:6 (misident., Hebei, Shaanxi, Fujian); LI 1992:35 (misident., Liaoning).

Gaurodytes optatus (SHARP, 1884): ZIMMERMANN 1934:191 (misident., in part); ZAITSEV 1953:240 (misident., in part); LAFER 1989:244 (misident., in part, NE China).

Agabus ussuriensis NILSSON, in press (orig. descr.).

CWBS: Jilin: loc. 93 (5 exs.); Liaoning: loc. 96 (29 exs.), loc. 101 (6 exs.)

This species is known from South Primorye, Korea and China. Most probably, the cited Chinese literature records of *A. optatus* refer to *A. ussuriensis*.

[*Agabus koreanus* NILSSON, in press]

Agabus miyamotoi (NAKANE, 1959): LEE & al. 1992b:63 (misident.).

Agabus koreanus NILSSON, in press (orig. descr.).

This species is known from South Primorye and Korea. Most probably it occurs also in N China.

***Agabus stygius* RÉGIMBART**

Agabus stygius RÉGIMBART, 1899:279 (orig. descr., Sichuan); FENG 1932:113 (in part, Tibet), 1936:8 (Hebei); WU 1937:214 (in part, Tibet).

Gaurodytes stygius (RÉGIMBART, 1899): ZAITZEV 1953:240 (China, Tibet).

This species was described from Sichuan (NILSSON 1995, in press), and not from Tibet as stated in the original description. As it is known only from the female types, its identity is somewhat uncertain. FENG's (1936) record from Hebei is uncertain.

***Agabus ater* (FALKENSTRÖM)**

Colymbinetes ater FALKENSTRÖM, 1936a:97 (orig. descr., Sichuan); GSCHWENDTNER 1939:48 (descr., Sichuan); BRINCK 1948:113 (class.); ZAITZEV 1953:284 (Sichuan); GUÉORGUEV 1972:59 (descr., Sichuan).

Agabus ater (FALKENSTRÖM, 1936): NILSSON 1995, in press (class., Sichuan, Guizhou, Yunnan).

This species is known only from China. It was described from Sichuan. NILSSON (1995, in press) examined material also from Guizhou and Yunnan.

***Agabus princeps* (RÉGIMBART)**

Platynectes princeps RÉGIMBART, 1888:615 (orig. descr.), 1899:282 (descr.); FENG 1932:108 (descr.); GSCHWENDTNER 1935:68 (China); Wu 1937:212 (China); BRINCK 1948:113 (class.); VAZIRANI 1970a:344 (descr.); ZENG 1989:6 (Yunnan).

Colymbinetes princeps (RÉGIMBART, 1888): GUÉORGUEV 1972:59 (class., descr.); VAZIRANI 1977:69 (cat.).

Agabus princeps (RÉGIMBART, 1888): NILSSON 1995, in press (class., Yunnan, Hong Kong)

This species is known from Burma, Vietnam, and China (Yunnan, Hong Kong).

The *chalconatus* group***Agabus aenescens* POPPIUS**

Agabus aenescens POPPIUS, 1905:18 (orig. descr.); FERY & NILSSON 1993:89 (syn., distr.).

Agabus altaicus (GEBLER, 1848): BALFOUR-BROWNE 1946:444 (misident., Manchuria).

This Siberian species was recorded from Manchuria without detailed locality information.

The *arcticus* group***Agabus granulatus* (FALKENSTRÖM)**

Gaurodytes granulatus FALKENSTRÖM, 1936a:95 (orig. descr., Sichuan); GSCHWENDTNER 1939:42 (Sichuan); ZAITZEV 1953:256 (Sichuan).

This species was described from Sichuan. No other records are known.

[*Agabus conspicuus* SHARP]

Agabus conspicuus SHARP, 1873:48 (orig. descr.); Li 1992:35 (Liaoning).

This species occurs throughout Japan, on South Sakhalin, the South Kurils, and in Korea. The record from Liaoning needs confirmation.

The *confinis* group***Agabus angusi* NILSSON**

Agabus angusi NILSSON, 1994a:172 (orig. descr., Heilongjiang).

Agabus clypealis (THOMSON, 1867): J.BALFOUR-BROWNE 1946:443 (misident., Heilongjiang).

This species occurs from Lake Baikal to northernmost China (Heilongjiang).

***Agabus congener* (THUNBERG)**

Dytiscus congener THUNBERG, 1794:75 (orig. descr.).

Agabus congener (THUNBERG, 1794): ZENG 1989:6 (Qinghai); Li 1992:35 (Jilin).

CWBS: Jilin: loc. 67 (1 ex.), loc. 68 (1 ex.), loc. 79 (7 exs.), loc. 83 (1 ex.), loc. 84 (3 exs.)

This species belongs to a group of poorly differentiated forms of unknown taxonomic rank. The Chinese and Primorye specimens are very similar to Swedish material of *A. congener*. However, the males differ in having shorter protarsal claws and slightly less dilated pro- and mesotarsi. It could be that these populations belong to an undescribed species, but before a decision is made the geographical variation in the structure of the male tarsi needs a better documentation.

***Agabus tibetanus* ZAITZEV**

Agabus tibetanus ZAITZEV, 1908b:425 (orig. descr., Qinghai); Wu 1937:215 (Tibet); NILSSON 1990b:156 (redescri.).

Gaurodytes tibetanus (ZAITZEV, 1908): ZIMMERMANN 1934:206 (Tibet); ZAITZEV 1953:250 (eastern Tibet).

Additional record: Qinghai, Quingshuije, 4200 m, 1.-5.VII.1992, 1 ♂, CHB.

This species was described from Qinghai. The literature records from Tibet are wrong.

***Agabus turcmenus* GUIGNOT**

Agabus turcmenus GUIGNOT, 1957:93 (orig. descr.).

Additional record: Xinjiang, 50 km NNE Narat, 10 km S Chorma, 2500 m, leg. J. Turna, 19.VII.1993, 2 ♂♂ + 1 ♀, CTB.

This species was described from Kirghizia. Here it is recorded for the first time from China.

The *japonicus* group***Agabus aequabilis* (GSCHWENDTNER)**

Gaurodytes aequabilis GSCHWENDTNER, 1923:105 (orig. descr., Xinjiang); ZAITZEV 1953:255 (Xinjiang).

This species was described from Xinjiang and later also reported from Uzbekistan. It is very similar to *A. aequalis* SHARP, of which it may be a junior synonym.

***Agabus aequalis* SHARP**

Agabus aequalis SHARP, 1882:501 (orig. descr.).

Additional record: Sichuan: "Tatsienlu" [= Kangding Xian], Yüling, ex. coll. Reitter, 1 ♂, CWW.

CWBS: Jilin: loc. 66 (1 ex.), loc. 93 (2 exs.)

This East Palearctic species was known previously from Transbaikalia, Primorye and South Sakhalin. Here it is recorded for the first time from China.

***Agabus ezo* NAKANE**

Agabus ezo NAKANE, 1989:23 (orig. descr.); NILSSON & al. 1995:365 (Taiwan).

The *Agabus japonicus* group of species needs to be revised. NAKANE (1989) described *A. ezo* as a subspecies of *A. japonicus* from Hokkaido. NILSSON & al. (1995) gave it species rank.

***Agabus fulvipennis* RÉGIMBART**

Agabus fulvipennis RÉGIMBART, 1899:277 (orig. descr., Sichuan, Hubei); FENG 1932:27 (Tibet, Hubei), 1936:8 (Shanxi); WU 1937:213 (Tibet, Hubei); NILSSON & al. 1995:366 (Taiwan).

Gaurodytes fulvipennis (RÉGIMBART, 1899): ZAITZEV 1953:256 (China and Tibet).

Gaurodytes chinensis ZIMMERMANN, 1919b:211 (orig. descr., Jiangxi), 1934:211 (Jiangxi).

Cybister chinensis (ZIMMERMANN, 1919): FENG 1932:35 (Sichuan, Shandong).

Agabus chinensis (ZIMMERMANN, 1919): FENG 1933a:327 (Shandong, Jiangxi, Hebei); WU 1937:213 (Shandong, Jiangxi, Hebei).

The Chinese species of the *A. japonicus* group are more or less impossible to identify due to the absence of a modern revision. I followed FENG (1933) in the synonymy given above. As the locality "Mou-Pin" assigned to Tibet in the original description in fact belongs to Sichuan, all literature references to Tibet should be read Sichuan.

***Agabus hummeli* (FALKENSTRÖM)**

Gaurodytes hummeli FALKENSTRÖM, 1936b:2 (orig. descr., Sichuan); ZAITZEV 1953:253 (Sichuan); NILSSON & al. 1995:366 (Taiwan).

This species was described from Sichuan, and later recorded also from Taiwan.

***Agabus japonicus* SHARP**

Agabus japonicus SHARP, 1873:50 (orig. descr.), 1882:501 (N China); RÉGIMBART 1899:279 (Sichuan, Hubei, Taiwan); MIWA 1931a:18 (Taiwan); KAMIYA 1932a:15 (Taiwan), 1938a:35, 1938b:80 (China); FENG 1932:27 (Jiangsu, Hubei, Taiwan); FALKENSTRÖM 1936a:93 (Sichuan); WU 1937:214 (Jiangsu, Hubei, Taiwan); ZENG 1989:6 (Sichuan, Hebei, Jiangxi, Fujian, Yunnan, Guangxi, Taiwan); LI 1992:35 (Liaoning); MORI & KITAYAMA 1993:116 (China); NILSSON & al. 1995:365 (Taiwan).

Gaurodytes japonicus (SHARP, 1873): ZIMMERMANN 1934:213 (China, Taiwan); LAFER 1989:247 (China).

Gaurodytes japonicus falkenstromi ZAITZEV, 1953:254 (orig. descr., China).

Agabus optatus SHARP, 1884: LEE & al. 1992:51 #13 (print. error, Hubei, Jiangsu, "Chanyang").

This species was described from Japan, and also it occurs at least in Sakhalin, Korea and China. It is seemingly widespread in E and Central China.

***Agabus kokoosson* FENG**

Agabus kokoosson FENG, 1936:8 (orig. descr., Shanxi).

Gaurodytes kokoosson (FENG, 1936): GSCHWENDTNER 1939:45 (Shanxi); ZAITZEV 1953:262 (Shanxi).

This species was described from a female from Shanxi. No other records are known.

***Agabus mucronatus* (FALKENSTRÖM)**

Gaurodytes mucronatus FALKENSTRÖM, 1936a:89 (orig. descr., Sichuan); GSCHWENDTNER 1939:44 (Sichuan); ZAITZEV 1953:255 (Sichuan).

Additional record: Mts. of S Shaanxi, leg. E. Suenson, 18.VIII.1936, 2 ♂♂ + 1 ♀, CNU.

This species was described from Sichuan.

***Agabus regimbarti* ZAITZEV**

Agabus regimbarti ZAITZEV, 1906a:174 (orig. descr., China); FENG 1932:28 (China); WU 1937:214 (China).

Gaurodytes regimbarti (ZAITZEV, 1906): ZIMMERMANN 1934:212 (Sichuan); ZAITZEV 1953:253 (Sichuan, Shanxi, Guizhou).

Agabus amoenus SOLSKY, 1874: RÉGIMBART 1899:276 (misident., Sichuan, Jiangxi, Guizhou); FENG 1932:27 (Gansu, Liaoning, Beijing, Shandong); WU 1937:213 (Gansu, Tibet, Sichuan, Liaoning, Beijing, Shandong).

Gaurodytes amoenus (SOLSKY, 1874): FALKENSTRÖM 1933:18, 1936a:93 (misident., Sichuan); ZIMMERMANN 1934:212 (misident., China); FENG 1936:8 (misident., Shanxi).

Agabus amoenus sinuaticollis (RÉGIMBART, 1899): ZENG 1989:6 (in part, Heilongjiang, Hebei, Shaanxi, Jiangxi, Guizhou).

? *Agabus brunneus* KAMIYA, 1935:8 (orig. descr.).

? *Agabus orientalis* KAMIYA, 1938a:36 (orig. descr., Beijing); 1940:123 (Heilongjiang).

Gaurodytes orientalis (KAMIYA, 1938): GSCHWENDTNER 1939:42 (Manchuria, Yünnan); ZAITZEV 1953:246 (Manchuria, Yünnan); LAFER 1989:246 (NE and E China).

CWBS: Liaoning: loc. 101 (1 ex.)

This species belongs to a complex that needs to be revised. I follow ZAITZEV (1953) and assign all Chinese records to *A. regimbarti*, instead of *A. amoenus* SOLSKY. The synonymy with *A. brunneus* and *A. orientalis* needs confirmation.

***Agabus rufipennis* (GSCHWENDTNER)**

Gaurodytes rufipennis GSCHWENDTNER, 1933:163 (orig. descr., Fujian), 1939:44 (Fujian); ZAITZEV 1953:254 (Fujian).

Agabus rufipennis (GSCHWENDTNER, 1933): FENG 1933a:327 (Fujian); WU 1937:214 (Fujian); ZHAO 1981:110 (Fujian).

This species was described from Fujian. Its status needs confirmation. ZAITZEV (1953) reported it also from Japan.

***Agabus sinuaticollis* RÉGIMBART**

Agabus sinuaticollis RÉGIMBART, 1899:278 (orig. descr.).

Gaurodytes sinuaticollis (RÉGIMBART, 1899): ZIMMERMANN 1934:212 (Yünnan, Jiangxi); ZAITZEV 1953:254 (Yünnan).

Agabus amoenus sinuaticollis (RÉGIMBART, 1899): ZENG 1989:6 (in part, Xinjiang, Gansu, Tibet, Sichuan, Yünnan).

The status of this species needs to be revised.

The *fuscipennis* group

[*Agabus coxalis* SHARP]

Agabus coxalis SHARP, 1882:535 (orig. descr.); FENG 1932:28 (Mongolia); WU 1937:215 (Mongolia).

This Holarctic species occurs in Eurasia from Turkey to East Siberia. FENG's (1933) and WU's (1937) records from "China: (Mongolia)" most probably do not refer to China.

The *clavicornis* group

***Agabus clavicornis* SHARP**

Agabus clavicornis SHARP, 1882:536 (orig. descr.); BALFOUR-BROWNE 1946:443 (syn., Heilongjiang).

Agabus verus BROWN, 1931:115 (orig. descr.).

A Holarctic species. The Palearctic distribution is restricted to eastern Siberia, northern Mongolia and NE China.

The *labiatus* group

Agabus mandsuricus (GUIGNOT)

Ilybius mandsuricus GUIGNOT, 1956a:139, 1956b:396 (orig. descr., Manchuria).

Agabus mandsuricus (GUIGNOT, 1956): WEWALKA 1986:109 (redescr., class., Heilongjiang).

Agabus charini LAFER, 1988:54 (orig. descr.).

This species is known from Manchuria and South Primorye.

The *adpressus* group

Agabus udege NILSSON

Agabus udege NILSSON, 1994a:170 (orig. descr.).

Agabus adpressus AUBÉ, 1837: KAMIYA 1940:122 (misident., Manchuria).

Gaurodytes adpressus (AUBÉ, 1837): LAFER 1989:244 (misident., NE China).

CWBS: Jilin: loc. 75 (1 ex.), loc. 79 (3 exs.), loc. 83 (1 ex.)

This species was described from mountain streams of South Primorye.

The *taiwanensis* group

Agabus taiwanensis NILSSON & WEWALKA

Agabus taiwanensis NILSSON & WEWALKA, 1994:993 (orig. descr., Taiwan).

This species was described from Taiwan. No other records are known.

The *affinis* group

Agabus kholini NILSSON

Agabus kholini NILSSON, 1994b:45 (orig. descr.).

CWBS: Jilin: loc. 82 (12 exs.)

This species was described recently from Primorye. Here it is recorded for the first time from China.

Agabus laferi NILSSON

Agabus laferi NILSSON, 1994b:47 (orig. descr.).

Agabus affinis (PAYKULL, 1798): BALFOUR-BROWNE 1946:443 (misident., Heilongjiang).

This species was described from Heilongjiang and Primorye.

The *guttatus* group

Agabus basalis (GEBLER)

Colymbetes basalis GEBLER, 1830:65 (orig. descr.).

Gaurodytes basalis (GEBLER, 1830): ZAITZEV 1953:224 (Xinjiang).

Colymbetes songoricus GEBLER, 1859:450 (repl. name).

Agabus pallidipennis JAKOVLEV, 1897:40 (orig. descr.).

This species is widespread in the highlands of Central Asia, from the Pamir to the Altai, W Mongolia and Xinjiang.

Agabus biguttatus (OLIVIER)

Dytiscus biguttatus OLIVIER, 1795:26 (orig. descr.).

Gaurodytes biguttatus winkleri GSCHWENDTNER, 1923:104 (orig. descr., Xinjiang); ZAITZEV 1953:227 (Xinjiang).

Additional record: Sichuan, Quinhei-Shan, Wolong, 2000 - 2800 m, 13.-29.VI.1989, leg. T. Nadler, 1 ♂, CBG.

A widespread Palearctic species. It occurs in the mountains of Central Asia and in the Himalayas. In China it is known from Xinjiang and Sichuan.

Agabus blatta JAKOVLEV

Agabus blatta JAKOVLEV, 1897:39 (orig. descr., Xinjiang).

Gaurodytes blatta (JAKOVLEV, 1897): GSCHWENDTNER 1923:104 (Xinjiang); ZIMMERMANN 1934:163 (Xinjiang); ZAITZEV 1953:225 (Xinjiang).

Additional record: Qinghai, Chaca, 80 km W "Kuku noor" [= Qinghai Hu], 3500 m, 19.-20.VII.1989, leg. T. Nadler, 3 ♂♂ + 1 ♀, CBG.

This species was described from the Tian Shan in Xinjiang.

***Agabus brandti* HAROLD**

Agabus brandti HAROLD, 1880:148 (orig. descr., Beijing); RÉGIMBART 1899:272 (Sichuan, Beijing); FENG 1932:27 (Tibet, Beijing); WU 1937:213 (Tibet, Beijing); ZENG 1989:7 (Qinghai, Tibet, Hebei).

Gaurodytes brandti (HAROLD, 1880): ZIMMERMANN 1934:162 (Sichuan, Beijing); ZAITZEV 1953:225 (China); LAFER 1989:244 (NE China).

Agabus jeholensis KAMIYA, 1935:8 (orig. descr., Hebei), 1940:123 (Manchuria).

Gaurodytes jeholensis (KAMIYA, 1935): GSCHWENDTNER 1939:41 (Manchuria); ZAITZEV 1953:230 (N China).

Additional record: Yunnan: Lijiang 1800 m, 23.VI-21.VII.1992, leg. S. Bcevar, 1 ♂, CNU, 1 ♂ + 2 ♀♀, CHB.

CWBS: Jilin: loc. 70 (1 ex.), loc. 94 (2 exs.); Liaoning: loc. 96 (38 exs.), loc. 97 (15 exs.)

This species is confined to China, Mongolia and Primorye. Literature records from Tibet probably are wrong and refer to RÉGIMBART's (1899) record from Sichuan. In China it has been recorded from Sichuan north to Beijing and Manchuria.

***Agabus longissimus* RÉGIMBART**

Agabus longissimus RÉGIMBART, 1899:275 (orig. descr., Sichuan); WU 1937:214 (Mongolia); BRANCUCCI 1983b:169 (descr.).

Gaurodytes longissimus (RÉGIMBART, 1899): ZAITZEV 1953:226 (Tibet, Sichuan).

This rare species was described from Sichuan. Literature records from Tibet probably are wrong and refer to RÉGIMBART's (1899) record from Sichuan. BRANCUCCI (1983b) provided an old record from Sikkim. WU (1937) recorded it from "China: Mongolia".

***Agabus ommani* ZAITZEV**

Agabus ommani ZAITZEV, 1908b:424 (orig. descr., Qinghai); FENG 1932:27 (Tibet); WU 1937:214 (Tibet); ZENG 1989:7 (Qinghai, Tibet).

Gaurodytes ommani (ZAITZEV, 1908): ZAITZEV 1953:226 (Qinghai).

This species was described from Qinghai and I know of no subsequent records. The literature references to Tibet should be read Qinghai.

***Agabus svenhedini* (FALKENSTRÖM)**

Gaurodytes svenhedini FALKENSTRÖM, 1932:192 (orig. descr., Xinjiang); ZAITZEV 1953:227 (Xinjiang).

Gaurodytes Sven-Hedini FALKENSTRÖM, 1933:16 (orig. descr., Xinjiang).

Gaurodytes svenhedini FALKENSTRÖM, 1933: GSCHWENDTNER 1939:41 (misspell., China).

Agabus svenhedini (FALKENSTRÖM, 1933): WU 1937:214 (Xinjiang).

This species was described from Xinjiang. No subsequent records are known.

The *nebulosus* group

***Agabus conspersus* (MARSHAM)**

Dytiscus conspersus MARSHAM, 1802:427 (orig. descr.).

Agabus conspersus (MARSHAM, 1802): ZENG 1989:6 (Xinjiang, Qinghai, Tibet, Zhejiang).

This species ranges from West and South Europe eastwards to SW Siberia and India. Some of ZENG's (1989) Chinese records may represent some other species of the *A. nebulosus* group.

***Agabus dichrous* SHARP**

Agabus dichrous SHARP, 1878:169 (orig. descr.).

Gaurodytes dichrous (SHARP, 1878): ZAITZEV 1953:260 (syn., Xinjiang, Sichuan).

Agabus luteolus RÉGIMBART, 1899:275 (orig. descr., Sichuan); FENG 1932:28 (Mongolia); WU 1937:215 (Mongolia); FALKENSTRÖM 1936a:90 (Sichuan).

Gaurodytes luteolus (RÉGIMBART, 1899): GSCHWENDTNER 1923:105 (Xinjiang).

This species occurs in the mountains of Central Asia.

***Agabus friedrichi* (FALKENSTRÖM)**

Gaurodytes friedrichi FALKENSTRÖM, 1936a:91 (orig. descr., Sichuan); GSCHWENDTNER 1939:41 (Sichuan); ZAITZEV 1953:261 (Sichuan).

Additional record: Gansu: "Richthofen-Geb." [= Qilian Shan], Tenkar, 20.V.1951, leg. P. Eichinger, 2 ♀♀, CNU. ZAITZEV (1953) reported on specimens from Kirghizia.

The *tristis* group***Agabus bipustulatus* (LINNAEUS)**

Dytiscus bipustulatus LINNAEUS, 1767:666 (orig. descr.).

Agabus bipustulatus (LINNAEUS, 1767): BALFOUR-BROWNE 1946:445 (Manchuria); ZAITZEV 1953:233 (Xinjiang).

A widespread polymorphic Palearctic species. Seemingly it is absent from most of Siberia, but is recorded from W and NE China. It should not be confused with *A. solskii* JAKOVLEV, 1897, described from Turkestan and later recorded as far east as Pakistan (ANGELINI 1978).

Group unknown***Agabus* spp.**

Agabus sp. ZENG 1989:7 (1 ex. - Qinghai; 2 exs. - Heilongjiang).

The unidentified *Agabus* specimens listed by ZENG (1989) may represent undescribed species.

Genus *Ilybius* Erichson

This Holarctic genus includes about 30 species. The six species so far recorded from China can be identified with ZAITZEV's (1953) key in combination with NILSSON's (1994c) treatment of the *crassus* complex. The chiefly Asiatic *apicalis* group needs to be revised. I follow ZAITZEV's (1953) synonymy and include only three species in this group plus *I. intermedius* FENG which is of unknown taxonomic status. LEECH's (1955) key is useful and is supplemented here with penis drawings (Figs. 1 - 7).

***Ilybius lateralis* (GEBLER)**

Colymbetes lateralis GEBLER, 1832:40 (orig. descr.).

Ilybius lateralis (GEBLER, 1832): BALFOUR-BROWNE 1946:448 (Heilongjiang); ZAITZEV 1953:282 (Manchuria); LEECH 1955:80 (Heilongjiang); LAFER 1989:249 (NE China).

Ilybius limbatus SHARP, 1882:557 (orig. descr.).

This species occurs from the Amur Region south to Heilongjiang and west to Transbaikalia.

***Ilybius apicalis* SHARP**

Ilybius apicalis SHARP, 1873:51 (orig. descr.); RÉGIMBART 1899:289 (Sichuan, Shanghai, Hubei, Jiangxi); KAMIYA 1940:124 (Heilongjiang, Jilin, Liaoning), 1943:459 (Central China); FENG 1932:29 (Beijing, Shandong, Hubei, Jiangxi), 1933a:332 (Liaoning, Shaanxi, Jiangsu); GSCHWENDTNER 1935:90 (China); FALKENSTRÖM 1936c:225 (Sichuan); FENG 1936:10 (Gansu, Jilin, Shaanxi); WU 1937:216 (Liaoning, Beijing, Shandong, Shaanxi, Hubei, Jiangxi); BRINCK 1946:149 (Heilongjiang, Jilin); BALFOUR-BROWNE 1946:449 (Heilongjiang); ZAITZEV 1953:282 (Manchuria); LAFER 1989:249 (NE and E China); LEE & al. 1992:51 (Liaoning, Beijing, Hebei, Shandong, Shaanxi, Hubei, Jiangxi); LI 1992:35 (Liaoning); MORI & KITAYAMA 1993:120 (China).

? *Ilybius angustulus* RÉGIMBART, 1899: BALFOUR-BROWNE 1946:450 (misident., Heilongjiang).

This species occurs in Korea, Primorye, South Sakhalin, the South Kurils, throughout Japan, and in China south to Jiangxi.

***Ilybius cinctus* SHARP**

Ilybius cinctus SHARP, 1878:169 (orig. descr., Xinjiang), 1882:560 Xinjiang); RÉGIMBART 1899:289 (Xinjiang); GSCHWENDTNER 1935:91 (Xinjiang); BALFOUR-BROWNE 1946:447 (Heilongjiang, Tianjin); ZAITZEV 1953:283 (syn., Liaoning, Hubei); LEECH 1955:80 (Heilongjiang).

Ilybius angustulus RÉGIMBART, 1899:289 (orig. descr., Sichuan); FENG 1932:29 (Liaoning, Beijing, Shaanxi, Hubei, records wrong according to FENG 1933a:331); FALKENSTRÖM 1936c:227 (Sichuan); FENG 1936:10 (Gansu);

WU 1937:216 (China); BRINCK 1946:150 (Heilongjiang, Jilin); ZENG 1989:7 (Gansu, Sichuan, Heilongjiang, Liaoning, Hebei, Shaanxi, Jiangsu, Hubei, Yunnan, Guangxi).

? *Ilybius chinensis* CSIKI, 1901:102 (orig. descr., Beijing); FENG 1932:29 (Mongolia); WU 1937:216 (Mongolia).

This species was first described from Xinjiang, and later reported from most parts of China. Outside China it occurs west to Caucasus and north to Mongolia.

***Ilybius intermedius* FENG**

Ilybius intermedius FENG, 1936:10 (orig. descr., Jilin).

Ilybius intermediatus FENG, 1936: GSCHWENDTNER 1939:46 (misspell., Beijing).

The identity of this species needs confirmation.

[*Ilybius fuliginosus* (FABRICIUS)]

Dytiscus fuliginosus FABRICIUS, 1792:191 (orig. descr.).

Ilybius fuliginosus turcestanicus GSCHWENDTNER, 1934:74 (orig. descr.); GSCHWENDTNER 1935:81 (Xinjiang); ZAITZEV 1953:282 (Xinjiang).

GSCHWENDTNER (1934) described the subspecies *I. f. turcestanicus* from "Semirjetschensk: Tischkan". Most likely the type locality belongs to Kazakhstan and not to Xinjiang as stated by ZAITZEV (1953).

***Ilybius chishimanus* KÔNO**

Ilybius chishimanus KÔNO, 1944:80 (orig. descr.); LI 1992:35 (Jilin); NILSSON 1994c:57 (syn.).

Ilybius weymarni J.BALFOUR-BROWNE, 1946:446 (orig. descr., Heilongjiang).

Ilybius ater (DE GEER, 1774); KAMIYA 1940:124 (misident., Manchuria); LAFER 1989:249 (misident., NE China).

CWBS: Jilin: loc. 67 (3 exs.), loc. 68 (1 ex.), loc. 77 (2 exs.), loc. 79 (4 exs.), loc. 83 (1 ex.), loc. 89 (1 ex.), loc. 90 (1 ex.), loc. 93 (11 exs.)

This species is widespread in East Siberia, the Far East of Russia and NE China (NILSSON 1994c).

***Ilybius poppiusi* ZAITZEV**

Ilybius poppiusi ZAITZEV, 1907:208 (orig. descr.); BALFOUR-BROWNE 1946:445 (Heilongjiang); SATÔ & NILSSON 1988:126 (distr.).

This species is widespread in East Siberia and also recorded from Mongolia, NE China and Hokkaido.

***Ilybius* sp.**

Ilybius rufus ZENG, 1989:7 (nom. nud., Heilongjiang).

The specimens from Heilongjiang listed by ZENG (1989) as *I. rufus* may belong to an undescribed species.

Genus *Rhantus* DEJEAN

A large genus with almost 100 species, known from all major zoogeographical regions of the world. Nine species have been reported from China. Species identification demands consultation of BALKE's (1990, 1992) revision of the genus.

[*Rhantus grapii* (GYLLENHAL)]

Dytiscus grapii GYLLENHAL, 1808:505 (orig. descr.).

Nartus grapi (GYLLENHAL, 1808): FENG 1933b:327 (misident., Gansu); WU 1937:217 (misident., Gansu).

This European species was reported by FENG (1933b) from Gansu. Most probably this record is based on a misidentification.

***Rhantus suturalis* (MACLEAY)**

Colymbetes suturalis MACLEAY, 1825:31 (orig. descr.).

Rhantus suturalis (MACLEAY, 1825): BALFOUR-BROWNE 1946:450 (Heilongjiang); LEECH 1955:81 (Heilongjiang); BALKE 1990:198 (Gansu, Qinghai, Heilongjiang), 1992:292 (syn., faun.).

Colymbetes pulvrosus STEPHENS, 1828:69 (orig. descr.).

Rhantus pulverosus (STEPHENS, 1828): SHARP 1882:609 (China); MIWA 1932:145 (Taiwan); KAMIYA 1935:9 (Hebei), 1938a:43, 1938b:93 (Manchuria, Taiwan), 1940:125 (Liaoning); FENG 1936:11 (Shanxi); WU 1937:216 (Liaoning, Beijing, Shandong, Jiangsu, Hubei, Zhejiang, Fujian); SATO 1961a:9 (Taiwan); ZHAO 1981:111 (Fujian); LAFER 1989:250 (NE and E China); ZENG 1989:7 (Xinjiang, Gansu, Tibet, Nei Mongol, Heilongjiang, Liaoning, Hebei, Shanxi, Jiangsu, Hubei, Zhejiang, Fujian, Guizhou, Yunnan, Guangxi); LEE & al. 1992:52 (Liaoning, Beijing, Hebei, Shandong, Jiangsu, Hubei, Zhejiang, Fujian); LI 1992:36 (Liaoning); PU & al. 1992:483 (Yunnan).

Rhantus regimbarti JAKOVLEV, 1896:182 (orig. descr., Xinjiang); FENG 1932:30 (Mongolia); WU 1937:217 (Mongolia); ZAITZEV 1953:288 (Xinjiang).

Rhantus annamita RÉGIMBART, 1899:309 (orig. descr.).

Rhantus chinensis FALKENSTRÖM, 1936c:228 (orig. descr., Sichuan).

Rhantus birmanicus VAZIRANI, 1970a:352 (orig. descr.).

Rhantus sikkimensis RÉGIMBART, 1899: BRINCK 1946:150 (misident., Heilongjiang, Jilin, Liaoning).

Rhantus punctatus (FOURCROY, 1785): RÉGIMBART 1899:306 (Beijing).

CWBS: Jilin: loc. 67 (3 exs.), loc. 77 (1 ex.), loc. 82 (3 exs.), loc. 89 (21 exs.), loc. 93 (1 ex.); Liaoning: loc. 64 (2 exs.), loc. 99 (1 ex.), loc. 100 (1 ex.)

This species is widely distributed in the Palearctic, Oriental and Australian Regions. It was described as *R. chinensis* from Sichuan, and has been confused with several other species. It is seemingly widespread in China, most frequently being collected in the W and NE.

***Rhantus friedrichi* FALKENSTRÖM**

Rhantus friedrichi FALKENSTRÖM, 1936c:227 (orig. descr., Sichuan); BALKE 1992:285 (descr., Sichuan).

This species was described from a single female from Sichuan. Its identity is a bit uncertain.

***Rhantus notaticollis* (AUBÉ)**

Colymbetes notaticollis AUBÉ, 1837a:107 (orig. descr.).

Rhantus notaticollis (AUBÉ, 1837): BRINCK 1946:150 (Heilongjiang); BALFOUR-BROWNE 1946:451 (Heilongjiang).

Rhantus exoletus (FORSTER, 1771): KAMIYA 1938a:41, 1940:124 (misident., Manchuria).

CWBS: Jilin: loc. 82 (1 ex.), loc. 83 (1 ex.)

This widespread Palearctic species was reported from Manchuria by KAMIYA (1940) and BRINCK (1946) and its distribution in Asia was mapped by BALKE (1992).

***Rhantus sikkimensis* RÉGIMBART**

Rhantus sikkimensis RÉGIMBART, 1899:306 (orig. descr.); FENG 1936:11 (Hebei); GSCHWENDTNER 1939:47 (Yunnan); ZAITZEV 1953:287 (Sichuan, Yunnan); BALKE 1992:289 (syn., descr.).

Rhantus punjabensis VAZIRANI, 1970a:355 (orig. descr.).

This species is known from India, Pakistan, China, Burma and Thailand (BALKE 1992). In China it is known only from Sichuan and Yunnan.

***Rhantus thibetanus* RÉGIMBART**

Rhantus thibetanus RÉGIMBART, 1899:307 (orig. descr., Sichuan); FENG 1932:30 (Tibet); GSCHWENDTNER 1936b:82 (Tibet, E China); WU 1937:217 (Tibet); BALKE 1992:286 (syn., descr.).

Rhantus laticollis RÉGIMBART, 1899:308 (orig. descr., Hubei, Jiangxi).

Rhantus aequimarginatus FALKENSTRÖM, 1936c:232 (orig. descr., Sichuan); GSCHWENDTNER 1939:47 (syn.); ZAITZEV 1953:288 (Sichuan, Central China).

The literature references to Tibet probably are wrong.

***Rhantus formosanus* KAMIYA**

Rhantus formosanus KAMIYA, 1938a:42 (orig. descr., Taiwan), 1938b:92 (Taiwan); NILSSON & al. 1995:366 (Taiwan).

Rhantus erraticus SHARP, 1884: MIWA 1932:145 (misident., Taiwan).

This species was described from Taiwan. Some more recent records were provided by NILSSON & al. (1995).

***Rhantus vermiculatus* MOTSCHULSKY**

Rhantus vermiculatus MOTSCHULSKY, 1860b:101 (orig. descr.); BALKE 1990:204 (syn., Heilongjiang).

This species was long mixed up with *R. frontalis* (MARSHAM). The distribution includes Siberia (Baikal Region), Mongolia and NE China.

***Rhantus sexualis* ZIMMERMANN**

Rhantus sexualis ZIMMERMANN, 1919b:219 (orig. descr.); ZENG 1989:7 (Tibet); BALKE 1992:288 (distr., China).

This species is known from India, Nepal and China (BALKE 1992).

***Rhantus yessoensis* SHARP**

Rhantus yessoensis SHARP, 1891:6 (orig. descr.); FENG 1932:30 (Fujian); GSCHWENDTNER 1936b:78 (China); WU 1937:217 (Fujian); ZAITZEV 1953:290 (China); ZHAO 1981:111 (Fujian); LAFER 1989:250 (E China); ZENG 1989:7 (Jiangxi, Fujian, Hunan); LEE & al. 1992:52 (Fujian); LI 1992:36 (Liaoning); MORI & KITAYAMA 1993:123 (China).

This species is known from Japan and E China. Li's (1992) record from Liaoning needs confirmation.

Genus *Colymbetes* CLAIRVILLE

A small genus with 21 species in the Holarctic Region. In the Palearctic, most species occur in the eastern part, with only 5 species in Europe. The species are inhabitants of various smaller stagnant waters, often of a limited duration. The six species recorded from China can be identified with ZAITZEV's (1953) key.

***Colymbetes dahuricus* AUBÉ**

Colymbetes dahuricus AUBÉ, 1838b:99 (orig. descr.); KAMIYA 1940:126 (Manchuria); ZENG 1989:7 (NE China).

CWBS: Jilin: loc. 82 (1 ex.)

This Holarctic species is known from Canada and Alaska in North America. In the Palearctic it is restricted to East Siberia, the Far East of Russia and NE China.

***Colymbetes tolli* ZAITZEV**

Colymbetes dolabratus (PAYKULL, 1798): LAFER 1989:250 (in part, misident., Sakhalin).

Colymbetes dahuricus AUBÉ, 1837: KAMIYA 1938a:44, 1940:139 (misident., Sakhalin).

Colymbetes tolli ZAITZEV, 1907:209 (orig. descr.).

? *Colymbetes striatus* (LINNAEUS, 1758): BALFOUR-BROWNE 1946:451 (misident., Heilongjiang).

The *Colymbetes* of East Asia need to be revised. The above interpretation of names suggests that *C. tolli* occurs in East Siberia, Sakhalin, Hokkaido, and Heilongjiang.

***Colymbetes minimus* ZAITZEV**

Colymbetes minimus ZAITZEV, 1908b:420 (orig. descr., Tibet); FENG 1933a:328 (Tibet); GSCHWENDTNER 1936b:93 (Tibet); WU 1937:217 (Tibet); ZAITZEV 1953:301 (Tibet); ZENG 1989:7 (Qinghai, Tibet).

Rhantus minimus (ZAITZEV, 1908): FENG 1932:29 (Tibet).

This species probably is endemic to Tibet and Qinghai.

***Colymbetes magnus* FENG**

Colymbetes magnus FENG, 1936:12 (orig. descr., Tianjin); GSCHWENDTNER 1939:48 (Tianjin); ZAITZEV 1953:298 (Tianjin); ZENG 1989:7 (Heilongjiang, Tianjin).

This species is known so far only from northeastern China.

***Colymbetes semenowi* (JAKOVLEV)**

Cymatopterus semenowi JAKOVLEV, 1896:176 (orig. descr., Xinjiang).

Colymbetes semenowi (JAKOVLEV, 1896): FENG 1933a:328 (Xinjiang); GSCHWENDTNER 1936b:99 (Xinjiang); ZAITZEV 1953:300 (Xinjiang).

Cymatopterus kokujewi JAKOVLEV, 1896:176 (orig. descr.).

? *Colymbetes fuscus* (LINNAEUS, 1758): ZENG 1989:7 (misident., Xinjiang, Tibet).

This species was described from Xinjiang. It occurs in Central Asia west to Ciscaucasia (ZAITZEV 1953).

***Colymbetes tschitscherini* (JAKOVLEV)**

Cymatopterus tschitscherini JAKOVLEV, 1896:177 (orig. descr., Xinjiang).

Colymbetes tschitscherini (JAKOVLEV, 1896): ZAITZEV 1908b:417 (Xinjiang); FENG 1933a:328 (Xinjiang); GSCHWENDTNER 1936b:100 (Xinjiang); ZAITZEV 1953:300 (Xinjiang).

This species was described from Xinjiang. No other records are known.

Subfamily Laccophilinae

Genus *Neptosternus* SHARP

This genus includes about 37 species, chiefly in the Afrotropical and Oriental Regions. So far, 18 species have been described from the Oriental Region. Two of these have been reported from SE China, and a seemingly undescribed species is known from Taiwan. A taxonomic revision of the genus is in preparation by M. Balke and L. Hendrich.

Neptosternus coomani PESCHET

Neptosternus coomani PESCHET, 1923:175 (orig. descr.); ZENG 1989:4 (Guangdong).

This species was described from Vietnam and first reported from China by ZENG (1989).

Neptosternus pocsi SATÔ

Neptosternus pocsi SATÔ, 1972b:149 (orig. descr.); ZENG 1989:4 (Guangdong).

This species was described from Vietnam and first reported from China by ZENG (1989).

Neptosternus sp.

Neptosternus sp. NILSSON & al. 1995:366 (Taiwan).

A single female of this genus from Taiwan could not be assigned to any of the known species.

Genus *Laccoporus* J.BALFOUR-BROWNE

A small dibasic genus known only from Tibet. The genus may be separated from other Laccophilinae with BRANCUCCI's (1983c) key to the world genera.

Laccoporus nigrutilus (GSCHWENDTNER)

Laccophilus apicicornis var. *nigrutilus* GSCHWENDTNER, 1936a:367 (orig. descr., Tibet).

Laccoporus nigrutilus (GSCHWENDTNER, 1936): VAZIRANI 1970c:563 (class., Tibet).

This species was described from Tibet and no other records are known.

Laccoporus viator J.BALFOUR-BROWNE

Laccoporus viator J.BALFOUR-BROWNE, 1939:104 (orig. descr., Tibet); VAZIRANI 1970c:563 (Tibet).

This species was described from Tibet and no other records are known. VAZIRANI (1970c) suggested that *L. viator* and *L. nigrutilus* may be conspecific.

Genus *Laccophilus* LEACH

This large genus has a worldwide distribution and includes more than 250 species. The Oriental and East Palearctic species were revised by BRANCUCCI (1983a). So far, 24 species have been recorded from China.

Laccophilus wittmeri BRANCUCCI

Laccophilus wittmeri BRANCUCCI, 1983a:260 (orig. descr.); ZENG 1989:4 (Guangdong).

This species was described from Vietnam and also reported from Laos. The only Chinese record is given by ZENG (1989) from Guangdong.

Laccophilus minutus (LINNAEUS)

Dytiscus minutus LINNAEUS, 1758: 412 (orig. descr.).

Laccophilus minutus (LINNAEUS, 1758): BRANCUCCI 1983a:265 (descr., Yünnan); LAFER 1989:235 (NE and E China); ZENG 1989:4 (Xinjiang).

A widespread Palearctic species that also enters parts of the Oriental Region (BRANCUCCI 1983a).

***Laccophilus lewisius* SHARP**

Laccophilus lewisius SHARP, 1873: 52 (orig. descr.); ZIMMERMANN 1930:51 (Shanghai, Fujian); FENG 1932:19 (Sichuan, Jilin, Beijing, Shandong, Anhui, Jiangsu, Zhejiang); TAKIZAWA 1932:23 (China); WU 1937:201 (Sichuan, Jilin, Beijing, Shandong, Anhui, Jiangsu, Zhejiang); KAMIYA 1938a:7 (China), 1943:458 (Central China); ZAITZEV 1953:105 (China); BRANCUCCI 1983a:270 (descr., Shanghai, Zhejiang, Fujian, Hunan); LAFER 1989:235 (NE and E China); ZENG 1989:3 (Sichuan, Jilin, Hebei, Shandong, Anhui, Jiangsu, Zhejiang, Jiangxi, Fujian, Hunan); LEE & al. 1992:50 (Sichuan, Jilin, Beijing, Hebei, Shandong, Anhui, Jiangsu, Zhejiang).

This species is known from Japan and China. Older records from Primorye (ZAITZEV 1953) may refer to the next species. It is widespread in the eastern half of China.

***Laccophilus lewisoides* BRANCUCCI**

Laccophilus lewisoides BRANCUCCI, 1983a:272 (orig. descr., Hebei, Jiangsu, Shanghai).

This species was described from China. It is known also from Primorye and Korea.

***Laccophilus kempfi* GSCHWENDTNER**

Laccophilus kempfi GSCHWENDTNER, 1936a: 366 (orig. descr.).

Laccophilus kempfi holmeni BRANCUCCI, 1983a:276 (orig. descr., Yunnan).

This species was first described from India. BRANCUCCI (1983a) recorded it from Thailand and Yunnan. These populations were assigned to a separate subspecies, *L. kempfi holmeni*.

***Laccophilus kobensis* SHARP**

Laccophilus kobensis SHARP, 1873: 53 (orig. descr.); ZIMMERMANN 1930:51 (Shandong, Fujian); TAKIZAWA 1932:23 (China); WU 1937:201 (China); KAMIYA 1938a:6 (China); ZAITZEV 1953:105 (Shandong, Fujian); BRANCUCCI 1983a:277 (descr., Shandong, Fujian).

This species was originally described from Japan.

***Laccophilus difficilis* SHARP**

Laccophilus difficilis SHARP, 1873: 53 (orig. descr.), 1882:301 (China); RÉGIMBART 1899:254 (Shanghai, Yunnan); ZIMMERMANN 1930:49 (China); TAKIZAWA 1932:22 (China); FALKENSTRÖM 1933:7, 1936a:81 (Sichuan); FENG 1932:19 (Sichuan, Jilin, Beijing, Jiangsu, Shanghai, Hubei, Zhejiang, Fujian, Yunnan, Guangdong, Hainan); WU 1937:200 (Sichuan, Jilin, Beijing, Jiangsu, Shanghai, Hubei, Zhejiang, Fujian, Yunnan, Guangdong, Hainan); KAMIYA 1938a:6 (Manchuria), 1940:116 (Liaoning), 1943:458 (Central China); BRINCK 1946:148 (Heilongjiang, Jilin, Liaoning); BALFOUR-BROWNE 1946:451 (Heilongjiang); ZAITZEV 1953:102 (Shanghai, Yunnan); ZHAO 1981:111 (Fujian); BRANCUCCI 1983a:279 (descr., Sichuan, Heilongjiang, Beijing, Shanxi, Jiangsu, Shanghai, Hubei, Zhejiang, Jiangxi, Fujian, Guizhou, Yunnan); LAFER 1989:235 (NE and E China); ZENG 1989:4 (Sichuan, Heilongjiang, Jilin, Hebei, Shaanxi, Jiangsu, Hubei, Zhejiang, Jiangxi, Fujian, Guizhou, Yunnan, Guangdong); LEE & al. 1992:50 (Sichuan, Jilin, Beijing, Hebei, Jiangsu, Shanghai, Zhejiang, Fujian, Yunnan, Guangdong, Hainan); LI 1992:35 (NE China); PU & al. 1992:482 (Yunnan); MORI & KITAYAMA 1993:94 (China).

CWBS: Liaoning: loc. 65 (1 ex.)

This species was described first from Japan. It occurs also in Primorye, Korea and China, where it is widespread in the eastern part (BRANCUCCI 1983a).

***Laccophilus vagelineatus* ZIMMERMANN**

Laccophilus vagelineatus ZIMMERMANN, 1922:19 (orig. descr.), 1930:50 (Fujian); FENG 1932:20 (Jiangsu, Fujian); WU 1937:202 (Jiangsu, Fujian); ZAITZEV 1953:104 (Manchuria, Fujian); ZHAO 1981:111 (Fujian); BRANCUCCI 1983a:282 (descr., Anhui, Jiangsu, Hubei, Zhejiang, Fujian); LAFER 1989:235 (NE and E China); ZENG 1989:4 (Anhui, Jiangsu, Zhejiang, Jiangxi, Yunnan).

This species was first described from Primorye. Later recorded also from Korea and China, where it is widespread in the eastern parts.

***Laccophilus biguttatus* KIRBY**

Laccophilus biguttatus KIRBY, 1837: 69 (orig. descr.); ROUGHLEY & NILSSON 1994:93 (syn., distr.).

Laccophilus apicicornis REITTER, 1899:198 (orig. descr.); FENG 1933a:324 (Mongolia); WU 1937:200 (Mongolia); ZAITZEV 1953:102 (N China, Tibet); BRANCUCCI 1983a:283 (descr., Tibet); ZENG 1989:3 (Nei Mongol).

? *Laccophilus uniformis* FENG, 1936:1 (orig. descr., Hebei); preoccupied by MOTSCHULSKY, 1859.

? *Laccophilus fengi* GUIGNOT, 1942:86 (repl. name).

This Holarctic species is transcontinental in North America. The Palearctic range extends from Scandinavia to Siberia and Mongolia. ZAITZEV (1953) recorded it from N China and Tibet. However, literature records from Tibet are wrong and in fact refer to *Laccoporus nigrutilus*, described as a variety of *L. apicicornis*. The identity of *L. uniformis* FENG, described from Hebei, is unknown, but most likely it is identical with *L. biguttatus* (cf. GSCHWENDTNER 1939).

***Laccophilus transversalis* RÉGIMBART**

Laccophilus transversalis RÉGIMBART, 1877:LXXIX (orig. descr.).

Laccophilus unifasciatus SHARP, 1882: 303 (orig. descr.).

Laccophilus lituratus SHARP, 1882:313 (orig. descr.).

Laccophilus transversalis lituratus SHARP, 1882: BRANCUCCI 1983a:290 (descr., Fujian, Hong Kong); ZENG 1989:4 (SE China, Yunnan).

This polymorphic species is widely distributed in the Oriental Region east of India, and in Australia. BRANCUCCI (1983a) recognized three subspecies, of which *L. transversalis lituratus* occurs from Thailand to SE China.

***Laccophilus siamensis* SHARP**

Laccophilus siamensis SHARP, 1882:306 (orig. descr.); YANO & al. 1983:110 (Taiwan).

Laccophilus assimilis RÉGIMBART, 1883:226 (orig. descr.).

Laccophilus siamensis siamensis (SHARP, 1882); ZENG 1989:4 (Yunnan).

Laccophilus siamensis taiwanensis BRANCUCCI, 1983a:302 (orig. descr., syn., Fujian, Taiwan); ZENG 1989:4 (Jiangxi, Fujian, Guangxi, Guangdong, Taiwan, Hainan).

This polymorphic species is distributed over most of the Oriental Region. BRANCUCCI (1983a) recognized four different subspecies, of which *L. s. taiwanensis* is confined to Fujian and Taiwan. ZENG (1989) assigned specimens from Yunnan to *L. s. siamensis*, widespread in SE Asia from Burma to Indonesia.

***Laccophilus ellipticus* RÉGIMBART**

Laccophilus ellipticus RÉGIMBART, 1889:152 (orig. descr.); FENG 1932:19 (Fujian, Hainan); WU 1937:201 (Fujian, Hainan); ZHAO 1981:111 (Fujian); BRANCUCCI 1983a:312 (syn., ? China); ZENG 1989:4 (Fujian, Guangdong, Hainan).

This species is widespread in the Oriental Region from India to Sumatra (BRANCUCCI 1983). In China it is confined to the SE.

***Laccophilus flexuosus* AUBÉ**

Laccophilus flexuosus AUBÉ, 1838a:430 (orig. descr.); SHARP 1882:310 (Taiwan); BRANCUCCI 1983a:320 (syn., Hubei, Fujian, Guizhou, Guangdong, Taiwan, Hong Kong); ZENG 1989:4 (Jiangsu, Fujian, Guangdong, Taiwan, Hainan).

Laccophilus solutus SHARP, 1882:315 (orig. descr., China); RÉGIMBART 1899:255 (China); ZIMMERMANN 1930:52 (China); FENG 1932:20 (Hubei, Fujian); WU 1937:202 (Hubei, Fujian); ZAITZEV 1953:105 (China); ZHAO 1981:111 (Fujian).

Laccophilus cognatus SHARP, 1882:316 (orig. descr.).

Laccophilus chloroticus RÉGIMBART, 1887:267 (orig. descr.).

Laccophilus formosanus TAKIZAWA, 1932:22 (orig. descr., Taiwan); KAMIYA 1934:1 (descr.).

This widespread species is known from India and Nepal to Vietnam and north to Japan (BRANCUCCI 1983a). It was described as *L. solutus* from China and as *L. formosanus* from Taiwan. In China it is confined to the SE.

***Laccophilus ponticus* SHARP**

Dytiscus variegatus GERMAR, 1817:3 (orig. descr.); preoccupied by GEOFFROY, 1785.

Laccophilus ponticus SHARP, 1882:311 (orig. descr.).

Laccophilus obsoletus (WESTHOFF, 1881); BRANCUCCI 1983a:324 (misident., descr.); ZENG 1989:3 (Xinjiang).

This species occurs throughout the Palearctic Region (BRANCUCCI 1983a). The only specified Chinese record I have seen is from Xinjiang.

***Laccophilus medialis* SHARP**

Laccophilus medialis SHARP, 1882:309 (orig. descr.); ZENG 1989:3 (Yunnan, Guangdong).

This species is widespread in the Oriental Region, from India to Indonesia (BRANCUCCI 1983a). ZENG (1989) recorded it from S China.

***Laccophilus chinensis* BOHEMAN**

Laccophilus chinensis BOHEMAN, 1858:21 (orig. descr., China); SHARP 1882:315 (China); RÉGIMBART 1899:260 (Hong Kong); ZIMMERMANN 1919a:75 (Taiwan), 1930:52 (China); MIWA 1931a:16 (Taiwan); TAKIZAWA 1932:22 (China); KAMIYA 1932a:11, 1934:1, 1938a:6, 1938b:26 (China); FENG 1932:19 (Fujian, Hong Kong); WU 1937:200 (Fujian, Hong Kong); ZHAO 1981:111 (Fujian); WEWALKA 1982:120 (Taiwan); BRANCUCCI 1983a:331 (Sichuan, Fujian, Guizhou, Taiwan); YANO & al. 1983:109 (Taiwan); ZENG 1989:4 (Sichuan, Jiangxi, Fujian, Hunan, Yunnan, Guangdong, Taiwan, Hong Kong, Hainan).

This widespread species is known from India and Nepal to Vietnam and north to Japan (BRANCUCCI 1983a). It was described from China, where it is widespread in the SE.

***Laccophilus sharpi* RÉGIMBART**

Laccophilus sharpi RÉGIMBART, 1889:151 (orig. descr.); RÉGIMBART 1899:257 (Fujian); ZIMMERMANN 1919a:75 (Taiwan), 1930:52 (China); MIWA 1931a:16 (Taiwan); TAKIZAWA 1932:23 (China); FENG 1932:20 (Sichuan, Beijing, Jiangsu, Fujian, Guangdong, Hainan); KAMIYA 1934:1, 1938a:7, 1938b:28 (China); WU 1937:201 (Sichuan, Beijing, Jiangsu, Fujian, Guangdong, Hainan); BRINCK 1946:148 (Liaoning); ZAITZEV 1953:105 (China); SATO 1961a:8 (Taiwan); ZHAO 1981:111 (Fujian); BRANCUCCI 1983a:347 (syn., Sichuan, Shanxi, Anhui, Jiangsu, Hubei, Zhejiang, Jiangxi, Fujian, Guizhou, Guangdong, Taiwan, Hong Kong, Hainan); YANO & al. 1983:109 (Taiwan); ZENG 1989:4 (Sichuan, Hebei, Jiangsu, Jiangxi, Fujian, Hunan, Guizhou, Yunnan, Guangxi, Guangdong, Taiwan, Hong Kong, Hainan); LI 1992:35 (Jilin); PU & al. 1992:482 (Yunnan).

Laccophilus similis RÉGIMBART, 1889:150 (orig. descr.); FENG 1933a:324 (Hubei, Fujian, Guangdong, Hainan); WU 1937:202 (Hubei, Fujian, Guangdong, Hainan); ZHAO 1981:111 (Fujian).

Laccophilus samosir CSIKI, 1937:125 (orig. descr.).

An extremely widespread species known from Arabia to Australia and northwards to Korea and Japan (BRANCUCCI 1983a). It is seemingly widespread in continental China except for the W.

***Laccophilus parvulus* AUBÉ**

Laccophilus parvulus AUBÉ, 1838a:429 (orig. descr.).

Laccophilus orientalis AUBÉ, 1838a:431 (orig. descr.).

Laccophilus undulifer MOTSCHULSKY, 1859:44 (orig. descr.).

Laccophilus proteus RÉGIMBART, 1877:LXXIX (orig. descr.).

Laccophilus obtusus SHARP, 1882:311 (orig. descr.).

Laccophilus parvulus obtusus SHARP, 1882: BRANCUCCI 1983a:360 (syn., Sichuan, Manchuria, Fujian, Guangdong); ZENG 1989:4 (Sichuan, Hubei, Fujian, Hunan, Yunnan, Guangxi, Guangdong, Hainan).

Laccophilus similis RÉGIMBART, 1889: GSCHWENDTNER 1933:160 (misident., Hubei, Fujian, Guangdong, Hainan).

The range of this species covers most of the Oriental Region. BRANCUCCI (1983a) recognized two subspecies, of which *L. parvulus obtusus* ranges from Sumatra and Thailand to N China.

***Laccophilus uniformis* MOTSCHULSKY**

Laccophilus uniformis MOTSCHULSKY, 1859:46 (orig. descr.); BRANCUCCI 1983a:366 (syn., Fujian).

Laccophilus rufulus RÉGIMBART, 1888:611 (orig. descr.); FENG 1932:20 (Hubei, Guangdong); WU 1937:201 (Hubei, Guangdong); Zhao 1981:111 (Fujian).

Laccophilus weyersi RÉGIMBART, 1900:147 (orig. descr.).

A widespread species known from India to Borneo and north to Hubei in China (BRANCUCCI 1983a).

***Laccophilus* sp.**

Laccophilus tibetanus ZENG, 1989:4 (nom. nud., Tibet).

Some of the specimens from Tibet studied by ZENG (1989) were assigned to an undescribed species.

Subfamily Dytiscinae

Genus *Eretes* CASTELNAU

A small genus with one species in Australia and one widespread species or species complex found in all other biogeographic regions.

Eretes sticticus (LINNAEUS)

Dytiscus sticticus LINNAEUS, 1767:666 (orig. descr.).

Eretes sticticus (LINNAEUS, 1767): SHARP 1882:699 (China); RÉGIMBART 1899:341 (China); ZIMMERMANN 1919a:77 (Taiwan); MIWA 1931a:18 (Taiwan); FENG 1932:30 (Sichuan, Beijing, Shandong, Shaanxi, Jiangsu, Shanghai, Hubei, Zhejiang, Fujian, Taiwan, Hainan); KAMIYA 1932a:16, 1934:7 (Taiwan), 1935:9 (Hebei), 1938a:47, 1938b:99 (China), 1940:126 (Liaoning); FALKENSTRÖM 1936c:235 (Sichuan); WU 1937:218 (Sichuan, Beijing, Shandong, Shaanxi, Jiangsu, Shanghai, Hubei, Zhejiang, Fujian, Taiwan, Hainan); BRINCK 1946:150 (Liaoning); BALFOUR-BROWNE 1946:452 (Heilongjiang, Liaoning); LEECH 1955:81 (Heilongjiang); ZHAO 1981:110 (Fujian); YANO & al. 1983:107 (Taiwan); ZENG 1989:4 (Sichuan, Hebei, Shanxi, Shaanxi, Jiangsu, Hubei, Zhejiang, Fujian); LI 1992:36 (NE China); PU & al. 1992:484 (Yunnan); MORI & KITAYAMA 1993:128 (China).

CWBS: Liaoning: loc. 99 (2 exs.)

This species is more or less cosmopolitan at lower latitudes. It is widespread in E China.

Genus *Hydaticus* LEACH

This large genus has an almost worldwide distribution, with most of the about 150 species inhabiting the Old World tropics. No recent revision is available that deals with all of the numerous Oriental species. So far, 13 species have been recorded from China. The revision of the *H. vittatus* and *H. fabricii* group published by WEWALKA (1975a, 1979) is very useful for identification.

Hydaticus aruspex CLARK

Hydaticus aruspex CLARK, 1864:212 (orig. descr., China); RÉGIMBART 1899:323 (China); FENG 1932:31 (China); WU 1937:219 (China); GSCHWENDTNER 1937:73 (China); BALFOUR-BROWNE 1946:451 (Heilongjiang); NILSSON 1981:104 (syn.).

Hydaticus laevipennis THOMSON, 1867:88 (orig. descr.).

Hydaticus laeviusculus POPPIUS, 1906:58 (orig. descr., Manchuria).

Hydaticus stagnalis (FABRICIUS, 1787): LI 1992:36 (misident., Liaoning).

Hydaticus transversalis var. *laeviusculus* POPPIUS, 1906: GSCHWENDTNER 1937:64 (misident., Manchuria).

CWBS: Jilin: loc. 77 (1 ex.), loc. 88 (1 ex.)

A Holarctic species. In Eurasia it is known from NW Europe to China and Japan. In China it is confined to the NE.

Hydaticus grammicus GERMAR

Hydaticus grammicus GERMAR, 1827: t. 1 (orig. descr.); CLARK 1864:217 (China); FENG 1932:32 (Liaoning, Beijing, Jiangsu, Hubei, Hainan); FALKENSTRÖM 1936c:236 (Sichuan); WU 1937:219 (Liaoning, Beijing, Jiangsu, Hubei, Hainan); KAMIYA 1938a:49 (China), 1940:128 (Manchuria); BRINCK 1946:150 (Heilongjiang, Jilin, Liaoning); BALFOUR-BROWNE 1946:452 (Heilongjiang, Liaoning); ZENG 1989:5 (Yunnan); LEE & al. 1992 (Liaoning, Beijing, Hebei, Jiangsu, Hubei, Hainan); PU & al. 1992:484 (Yunnan); LI 1992:36 (Liaoning); MORI & KITAYAMA 1993:135 (China).

Hydaticus nigrovittatus CLARK, 1864:222 (orig. descr.).

Hydaticus fabricii (MACLEAY, 1825): LAFER 1989:251 (misident., China).

A widespread South Palearctic species that occurs from South Europe to Japan.

Hydaticus fabricii (MACLEAY)

Colymbetes fabricii MACLEAY, 1825:134 (orig. descr.).

Hydaticus fabricii (MACLEAY, 1825): WEWALKA 1979:121 (syn.); ZENG 1989:5 (Yunnan).

This species belongs to a very difficult complex. The "true" *H. fabricii* is widespread in SE Asia from Burma to Indonesia.

***Hydaticus rhandoides* SHARP**

Hydaticus rhandoides SHARP, 1882:664 (orig. descr., China, Manchuria, Taiwan); YANO & al. 1983:108 (Taiwan); WEWALKA 1979:128 (syn., Sichuan, Heilongjiang, Shanghai, Hubei, Zhejiang, Jiangxi, Fujian, Guangdong, Taiwan, Hong Kong, Hainan); ZENG 1989:5 (NE China, Hubei, Zhejiang, Jiangxi, Fujian, Hunan, Guizhou, Yunnan, Guangxi, Guangdong, Taiwan, Hong Kong, Hainan); MORI & KITAYAMA 1993:136 (China).

Hydaticus fabricii (MACLEAY, 1825): SHARP 1882:663 (China); MIWA 1931a:18 (Taiwan); FENG 1932:31 (China); KAMIYA 1932a:16, 1934:7, 1938a:49, 1938b:103 (China); WU 1937:219 (S China); SATO 1965:126 (Taiwan).

? *Hydaticus fengi* FALKENSTRÖM, 1936c:236 (orig. descr., Sichuan).

? *Hydaticus leander* (ROSSI, 1792): FENG 1932:32 (misident., Sichuan, Jiangsu, Hubei, Zhejiang, Fujian); WU 1937:219 (misident., Sichuan, Jiangsu, Hubei, Zhejiang, Fujian); ZHAO 1981:110 (misident., Fujian).

This species was described from Japan and China. It occurs also in Vietnam.

***Hydaticus thermonectoides* SHARP**

Hydaticus thermonectoides SHARP, 1884:447 (orig. descr.); GSCHWENDTNER 1937:77 (Zhejiang); ZAITZEV 1953:312 (China); FRANCISCOLO 1968:48 (Zhejiang, Yunnan); ZENG 1989:5 (Jiangsu, Zhejiang, Yunnan).

This species is confined to Japan and China. In China it is confined to the south.

***Hydaticus incertus* RÉGIMBART**

Hydaticus incertus RÉGIMBART, 1888:617 (orig. descr.); WEWALKA 1979:130 (syn., Yunnan); ZENG 1989:5 (Yunnan); PU & al. 1992:484 (Yunnan).

Hydaticus martensi WEWALKA, 1972:115 (orig. descr.).

This species occurs in North Burma, India (Assam), Nepal, and China (WEWALKA 1979).

***Hydaticus agaboides* SHARP**

Hydaticus agaboides SHARP, 1882:663 (orig. descr.); WEWALKA 1979:134 (descr.); ZENG 1989:5 (Yunnan, Hainan).

This species was known only from Vietnam until ZENG's (1989) records from SE China.

***Hydaticus vittatus* FABRICIUS**

Dytiscus vittatus FABRICIUS, 1775:825 (orig. descr.).

Hydaticus vittatus (FABRICIUS, 1775): WEWALKA 1975a:87 (syn., Sichuan, Hubei, Jiangxi, Fujian, Taiwan, Hong Kong); ? SHARP 1882:671 (China, Manchuria, Taiwan); ? ZIMMERMANN 1919a:76 (Taiwan); ? KANO 1931:176 (Taiwan); ? MIWA 1931a:18 (Taiwan); ? MIWA & al. 1932:298 (Taiwan); ? FENG 1932:33 (Sichuan, Shandong, Jiangsu, Hubei, Zhejiang, Fujian); ? KAMIYA 1932a:17, 1934:7, 1938a:51, 1938b:108 (China); ? WU 1937:220 (Sichuan, Shandong, Jiangsu, Hubei, Zhejiang, Fujian); ? ZHAO 1981:110 (Fujian); ? ZENG 1989:5 (Sichuan, Shanxi, Jiangsu, Hubei, Zhejiang, Fujian, Guangdong, Taiwan, Hainan); MORI & KITAYAMA 1993:132 (China).

Hydaticus sesquivittatus FAIRMAIRE, 1880:164 (orig. descr., C China); FENG 1932:33 (China); WU 1937:220 (China).

Graphoderus lenzi SCHÖNFELDT, 1890:169 (orig. descr.).

Hydaticus lenzi conjungens RÉGIMBART, 1899:329 (orig. descr.); SATO 1961b:59 (Taiwan).

The geographical range of this species is as wide as that of *H. satoi*, with which earlier it was confused. The nominate subspecies is widespread and occurs also in China, whereas *H. v. angustulus* RÉGIMBART is confined to Sri Lanka and South India (WEWALKA 1975a). Provincial records provided by other than WEWALKA (1975a) are uncertain.

***Hydaticus satoi* WEWALKA**

Hydaticus vittatus (FABRICIUS, 1775): SATO 1961b:55 (Taiwan).

Hydaticus satoi WEWALKA, 1975a:91 (orig. descr., Sichuan, Hebei, Fujian); LI 1992:36 (Liaoning); MORI & KITAYAMA 1993:132 (China).

This species is widespread in the Oriental Region where it is known from India to Borneo and north to Taiwan and Japan (WEWALKA 1975a). It was previously mixed with *H. vittatus*.

***Hydaticus major* RÉGIMBART**

Hydaticus major RÉGIMBART, 1899:382 (orig. descr.); WEWALKA 1975a:92 (descr., Yunnan).

This species is confined to North Burma and Yunnan.

***Hydaticus bowringii* CLARK**

Hydaticus bowringii CLARK, 1864:214 (orig. descr., China); SHARP 1882:670 (Shandong); RÉGIMBART 1899:331 (E China); FENG 1932:31 (Sichuan, Beijing, Shandong, Anhui, Jiangsu, Hubei, Zhejiang); MIWA 1932:145 (Taiwan); FALKENSTRÖM 1936c:237 (Sichuan); WU 1937:219 (Sichuan, Beijing, Shandong, Anhui, Jiangsu, Hubei, Zhejiang); GSCHWENDTNER 1937:73 (China); KAMIYA 1938a:48, 1938b:102 (China), 1940:127 (Liaoning); BRINCK 1946:150 (Liaoning); BALFOUR-BROWNE 1946:452 (Liaoning); ZAITZEV 1953:310 (China); ZENG 1989:4 (Sichuan, Hebei, Shaanxi, Anhui, Jiangsu, Hubei, Zhejiang, Jiangxi, Yunnan); LEE & al. 1992:53 (Sichuan, Beijing, Hebei, Shandong, Anhui, Jiangsu, Zhejiang, Hubei); LI 1992:36 (Liaoning); MORI & KITAYAMA 1993:132 (China).

Some of the syntypes of this species are from China. It is widespread in Japan (MORI & KITAYAMA 1993) and in E China.

***Hydaticus pacificus* AUBÉ**

Dytiscus ruficollis FABRICIUS, 1787:189 (orig. descr.); preoccupied by DE GEER, 1774.

Hydaticus pacificus AUBÉ, 1838a:177 (orig. descr.); GSCHWENDTNER 1937:77 (Shandong); KAMIYA 1938c:64 (Taiwan); BALFOUR-BROWNE 1939:110 (syn.); ZENG 1989:5 (Yunnan); LEE & al. 1992:53 (Taiwan).

Hydaticus discindens WALKER, 1858:204 (orig. descr.).

Hydaticus pacificus conspersus RÉGIMBART, 1899:315 (orig. descr.); FENG 1932:33 (Shandong); WU 1937:220 (Shandong).

This species belongs to a difficult complex of geographical forms of unknown taxonomic status, that is widespread in SE Asia. RÉGIMBART (1899) described the var. *conspersus* from Japan, now treated as a valid species by Japanese authors (MORI & KITAYAMA 1993). NAKANE (1990b) described the subspecies *H. c. sakishimanus* from the Ryukyu Islands. In China the species is reported from Shandong, Yunnan and Taiwan.

***Hydaticus litigious* RÉGIMBART**

Hydaticus litigious RÉGIMBART, 1880:210 (orig. descr.); FENG 1932:32 (S China); GSCHWENDTNER 1937:79 (S China); ZENG 1989:5 (Hainan).

This species is known from the Sunda Islands, Burma and Hainan.

[*Hydaticus luczonicus* AUBÉ]

Hydaticus luczonicus AUBÉ, 1838a:179 (orig. descr.); KANO 1931:177 (Taiwan).

This species is widespread in the Oriental Region. It was first described from the Philippines, and KANO's (1931) record from Taiwan needs confirmation.

[*Hydaticus ponticus* SHARP]

Hydaticus ponticus SHARP, 1882:662 (orig. descr.); GSCHWENDTNER 1937:76 (Fujian); ZAITZEV 1953:312 (? China).

This species has been recorded from Iraq and N India. ZAITZEV (1953) suggested that it was identical with *H. leander* (ROSSI).

Genus *Dytiscus* LINNAEUS

The genus comprises 26 species, of which 11 are Nearctic, 13 Palearctic, and 2 Holarctic. The genus was recently revised by ROUGHLEY (1990). Eight species are known from China.

***Dytiscus sharpi* WEHNCKE**

Dytiscus sharpi WEHNCKE, 1875b:500 (orig. descr.); ROUGHLEY 1990:445 (descr., distr., syn.).

Dytiscus validus RÉGIMBART, 1899:311 (orig. descr.).

This species is confined to Japan and China.

***Dytiscus marginalis* LINNAEUS**

Dytiscus marginalis LINNAEUS, 1758:411 (orig. descr.); KAMIYA 1935:10, 1938a:56, 1940:129 (Hebei); BRINCK 1946:150 (Heilongjiang); BALFOUR-BROWNE 1946:453 (Heilongjiang); ZENG 1989:6 (NE China, Heilongjiang, Hebei).

Dytiscus semistriatus LINNAEUS, 1758:412 (orig. descr.).

Dytiscus totemarginalis DE GLER, 1774:391 (orig. descr.).

Dytiscus conformis KUNZE, 1818:58 (orig. descr.).

Dytiscus submarginalis STIFFHENS, 1828:90 (orig. descr.).

Dytiscus circumductus AUDINET-SERVILLE in AUDINET-SERVILLE & LEPELETIER, 1830:90 (orig. descr.).

Dytiscus czerskii ZAITZEV, 1953:328 (orig. descr.).

Dytiscus marginalis czerskii ZAITZEV, 1953; ROUGHLEY 1990:469 (descr., distr., syn., Henan).

ROUGHLEY (1990) assigned all populations from the Far East of Asia to the subspecies *D. m. czerskii*.

***Dytiscus delictus* (ZAITZEV)**

Macrodytes delictus ZAITZEV, 1906b:28 (orig. descr.).

Dytiscus delictus (ZAITZEV, 1906); ZENG 1989:6 (NE China, Heilongjiang); LI 1992:36 (Heilongjiang); ROUGHLEY 1990:471 (distr.).

This species was originally described from the Far East of Russia.

***Dytiscus dauricus* GEBLER**

Dytiscus dauricus GEBLER, 1832:39 (orig. descr.); GSCHWENDTNER 1938:55 (Manchuria); BALFOUR-BROWNE 1946:453 (Heilongjiang); ZAITZEV 1953:331 (Manchuria); LAFER 1989:253 (NE China); ROUGHLEY 1990:483 (syn., Xinjiang); LI 1992:36 (Heilongjiang).

Dytiscus confluentis SAY, 1834:440 (orig. descr.).

Dytiscus franklinii KIRBY, 1837:77 (orig. descr.).

Dytiscus ventralis MOTSCHULSKY, 1855b:79 (repl. name).

Dytiscus frontalis MOTSCHULSKY, 1860:101 (orig. descr.).

Dytiscus vexatus SHARP, 1882:643 (orig. descr.).

Dytiscus amurensis J.BALFOUR-BROWNE, 1944:356 (repl. name).

This Holarctic species is transcontinental in North America. In the Palearctic it is confined to Asia.

***Dytiscus latro* SHARP**

Dytiscus latro SHARP, 1882:644 (orig. descr., Manchuria); FENG 1933a:329 (Manchuria); WU 1937:222 (Manchuria); GSCHWENDTNER 1938:53 (Manchuria); BALFOUR-BROWNE 1946:453 (Heilongjiang); LAFER 1989:253 (NE China); ROUGHLEY 1990:494 (descr., distr.).

Dytiscus piceatus SHARP, 1882:644 (orig. descr.).

Dytiscus stadleri GSCHWENDTNER, 1922:93 (orig. descr.).

This East Palearctic species was described from Manchuria. The only detailed record I have seen from China is given by BALFOUR-BROWNE (1946) from Heilongjiang.

***Dytiscus sinensis* FENG**

Dytiscus sinensis FENG, 1935:182 (orig. descr., Sichuan), 1936:14 (Shaanxi, Heilongjiang); WU 1937:222 (Sichuan); GSCHWENDTNER 1939:49 (Sichuan); ROUGHLEY 1990:495 (descr., distr.).

CWBS: Jilin: loc. 93 (1 ex.)

This species is known only from China.

***Dytiscus distantus* FENG**

Dytiscus distantus FENG, 1936:14 (orig. descr., Manchuria); GSCHWENDTNER 1939:49 (Manchuria).

Dytiscus distans FENG, 1936; ZAITZEV 1953:330 (misspell.).

This species was described from Manchuria and recorded also from Mongolia ("T'ang Kia Yingze") by FENG (1936). ROUGHLEY (1990) did not examine the types and listed it as *incertae sedis*.

[*Dytiscus thianschanicus* GSCHWENDTNER]

Macrodytes thianschanicus GSCHWENDTNER, 1923:107 (orig. descr., Tian Shan); GSCHWENDTNER 1938:53.

Dytiscus thianschanicus (GSCHWENDTNER, 1923); ROUGHLEY 1990:493 (misspell., redescri.).

The type locality of this species was given as "Aksutal am Südafall des Thian-schan in der Provinz Kuliab" (GSCHWENDTNER 1923:108). Both ZAITZEV (1953) and ROUGHLEY (1990) placed this locality in Tadzhikistan ("Yakhsu Valley, Kulyab district", according to ZAITZEV 1953).

However, as GSCHWENDTNER (1923) refers to Aksu also in connection with the "Musartpass", situated in Xinjiang, the exact location of the type locality is somewhat ambiguous. Besides the types, ROUGHLEY (1990) examined material from Afghanistan, Kashmir and south Russia.

Genus *Rhantaticus* SHARP

A monobasic genus that is widespread in the Old World tropics.

Rhantaticus congestus (KLUG)

Hydaticus congestus KLUG, 1833:136 (orig. descr.).

Hydaticus signatipennis CASTELNAU, 1834:238 (orig. descr.).

Rhantaticus signatipennis (CASTELNAU, 1834): SHARP 1882:691 (China); RÉGIMBART 1899:340 (S China); FENG 1932:34 (S China).

Rhantaticus congestus (KLUG, 1833): MIWA 1931a:18 (Taiwan); FENG 1932:34 (Hubei); KAMIYA 1932a:17, 1934:8, 1938a:54, 1938b:112 (S China); WU 1937:221 (Hubei, Fujian, Taiwan); GSCHWENDTNER 1937:81 (S China, Taiwan); ZHAO 1981:111 (Fujian); ZENG 1989:5 (Hubei, Fujian, Yunnan, Guangxi, Guangdong, Taiwan, Hainan); MORI & KITAYAMA 1993:136 (China).

This species is distributed from Africa to Australia. Seemingly it is widespread in SE China.

Genus *Sandracottus* SHARP

A small Oriental genus with 12 species, one of which is confined to Australia. The two species known from China can be identified with VAZIRANI's (1969a) key to the Indian species.

Sandracottus mixtus (BLANCHARD)

Dytiscus fasciatus FABRICIUS, 1775:825 (orig. descr.), preoccupied by DE GEER 1774.

Acilius mixtus BLANCHARD, 1853:47 (orig. descr.).

Sandracottus mixtus (BLANCHARD, 1853): BALFOUR-BROWNE 1944:355 (syn.); VAZIRANI 1977 (China).

Hydaticus hunteri CROTCH, 1872:205 (repl. name).

Sandracottus hunteri CROTCH, 1872: SHARP 1882:685 (China).

Sandracottus fasciatus (FABRICIUS, 1775): ZHAO 1981:111 (Fujian).

Sandracottus fasciatus var. *hunteri* (CROTCH, 1872); RÉGIMBART 1899:333 (Jiangxi); FENG 1932:34 (Sichuan, Jiangsu, Shanghai, Hubei, Zhejiang, Fujian); FALKENSTRÖM 1933:20 (Sichuan); WU 1937:221 (Sichuan, Jiangsu, Shanghai, Hubei, Zhejiang, Fujian); GSCHWENDTNER 1937:82 (China).

This species is widespread in the Oriental Region, being known from India to Indonesia and north to China (VAZIRANI 1977).

Sandracottus festivus (ILLIGER)

Dytiscus festivus ILLIGER, 1802:166 (orig. descr.).

Sandracottus festivus (ILLIGER, 1802): SHARP 1882:686 (China); RÉGIMBART 1899:335 (?China); FENG 1932:34 (China); WU 1937:222 (China); GSCHWENDTNER 1937:82 (China); VAZIRANI 1977:84 (China); ZENG 1989:5 (Sichuan, Hunan, Yunnan, Guangxi, Guangdong, Hainan).

This species is known from India, Sri Lanka, Pakistan and S China.

Genus *Graphoderus* DEJEAN

A small genus with 6 Palearctic and 5 Nearctic species, none of which is common to both continents. Only two species so far have been found in China, although a third one is expected. All three species are included in ZAITZEV's (1953) key. The *Graphoderus* species are typically found in ponds or smaller lakes with rich marginal vegetation.

Graphoderus adamsii CLARK

Hydaticus adamsii CLARK, 1864:211 (orig. descr., China).

Graphoderus adamsii (CLARK, 1864): FENG 1932:33 (Liaoning, Beijing, Jiangsu, Hubei, Zhejiang); WU 1937:221 (Liaoning, Beijing, Jiangsu, Hubei, Zhejiang); GSCHWENDTNER 1937:84 (China); KAMIYA 1938a:52

(Manchuria, China); BRINCK 1946:150 (Jilin, Liaoning); BALFOUR-BROWNE 1946:452 (Heilongjiang); ZAITZEV 1953:315 (China); LAHER 1989:252 (NE and E China); ZENG 1989:5 (Heilongjiang, Liaoning, Hebei, Shanxi, Jiangsu, Hubei, Zhejiang); LEE & al. 1992:54 (Liaoning, Beijing, Hebei, Jiangsu, Hubei, Zhejiang); LI 1992:36 (Liaoning); MORI & KITAYAMA 1993:137 (China).

CWBS: Liaoning: loc. 99 (1 ex.)

This species was described first from China and is known also from Japan, Korea and Primorye. In China it is confined to the NE.

[*Graphoderus bieneri* ZIMMERMANN]

Graphoderus bieneri ZIMMERMANN, 1921:31 (orig. descr.); BRINCK 1946 (Manchuria).

This species was described from South Primorye. Most likely it occurs also in NE China.

***Graphoderus zonatus* (HOPPE)**

Dytiscus zonatus HOPPE, 1795:33 (orig. descr.).

Graphoderus zonatus (HOPPE, 1795): KAMIYA 1940:128 (Jilin); BALFOUR-BROWNE 1946:452 (Heilongjiang); ZENG 1989:5 (Heilongjiang).

CWBS: Jilin: loc. 82 (2 exs.)

A widespread Palearctic species.

Genus *Acilius* LEACH

A small Holarctic genus with six Palearctic and five Nearctic species, none of which occurs in both regions. The two Chinese species belong to the subgenus *Acilius* (s.str.), characterized by sulcate females and male protarsal adhesive discs of very unequal size. Both species are included in ZAITZEV's (1953) key. The species occur in a wide variety of stagnant waters.

***Acilius canaliculatus* (NICOLAI)**

Dytiscus canaliculatus NICOLAI, 1822:29 (orig. descr.).

Acilius canaliculatus (NICOLAI, 1822): BALFOUR-BROWNE 1946:452 (Heilongjiang).

A widespread Palearctic species.

***Acilius sinensis* PESCHET**

Acilius sinensis PESCHET, 1915:288 (orig. descr., Sichuan); GSCHWENDTNER 1937:92 (Sichuan, Yunnan); ZAITZEV 1953:319 (Sichuan, Yunnan).

Acilius guerryi OLSOUFIEFF, 1925:90 (orig. descr., Yunnan); FENG 1932:34 (S China); WU 1937:222 (S China).

This species was described from China where it is known from Sichuan and Yunnan.

Genus *Cybister* CURTIS

A large genus with about 100 species, chiefly confined to the Old World tropics. Only a few species occur in South and North America. So far, 16 species have been recorded from China. No key has been published that includes all these species. However, the majority of the species are included in either VAZIRANI's (1969a) or MORI's & KITAYAMA's (1993) keys.

***Cybister japonicus* SHARP**

Cybister japonicus SHARP, 1873:45 (orig. descr.); SHARP 1882:748 (Manchuria, Shandong, Taiwan); RÉGIMBART 1899:348 (China); MIWA 1931a:19 (Taiwan); FENG 1932:36 (Manchuria, Beijing, Shandong, Fujian, Guangdong, Taiwan, Hainan); (Kamiya 1932a:18, 1934:8, 1938a:59, 1938b:121 (China), 1940:129 (Liaoning); FALKENSTROM 1936c:244 (Sichuan); FENG 1936:13 (Liaoning, Shaanxi); WU 1937:223 (Manchuria, Beijing, Tianjin, Shandong, Fujian, Guangdong, Taiwan, Hainan); GSCHWENDTNER 1938:76 (China, Manchuria, Taiwan); BRINCK 1946:151 (Heilongjiang, Liaoning); BALFOUR-BROWNE 1946:453 (Heilongjiang, Liaoning); ZAITZEV 1953:336 (China); ZHAO 1981:110 (Fujian); LAHER 1989:253 (NE and E China); ZENG 1989:5 (Ningxia, NE China, Hebei, Shanxi, Fujian, Guangdong, Taiwan, Hainan); LI 1992:36 (Jilin, Liaoning); MORI & KITAYAMA 1993:145 (China).

CWBS: Liaoning: loc. 99 (1 ex.)

This species is distributed from Primorye to China and throughout Japan. It occurs throughout the eastern half of China.

***Cybister lateralimarginalis* (DE GEER)**

Dytiscus lateralimarginalis DE GEER, 1774:396 (orig. descr.).

Cybister chaudiarii HOCHHUTH, 1846:213 (orig. descr.).

Cybister lateralimarginalis chaudiarii HOCHHUTH, 1846: ZAITZEV 1953:336 (Xinjiang).

Cybister hedini ZAITZEV, 1908b:419 (orig. descr., Xinjiang); WU 1937:223 (Xinjiang, SW Mongolia).

A widespread Palearctic species.

***Cybister brevis* AUBÉ**

Cybister brevis AUBÉ, 1838a:98 (orig. descr.); KANO 1931:177 (Taiwan); FENG 1933a:329 (China); FALKENSTRÖM 1936c:238 (Sichuan); LI 1992:36 (Liaoning).

This species is widespread in Japan (MORI & KITAYAMA 1993) and China. KANO's (1931) record from Taiwan needs confirmation.

***Cybister ventralis* SHARP**

Cybister ventralis SHARP, 1882:742 (orig. descr.); KANO 1931:177 (Taiwan); FENG 1933a:329 (Sichuan, Shandong); WU 1937:224 (Sichuan, Shandong).

Cybister gracilis SHARP, 1882:742 (orig. descr.).

Cybister crassus SHARP, 1882:743 (orig. descr.).

? *Cybister chinensis* MOTSCHULSKY, 1854:44 (orig. descr., Beijing); SHARP 1882:743 (China); RÉGIMBART 1899:345 (syn.).

This species is widespread in the Oriental Region. The identity of *C. chinensis* is uncertain.

***Cybister sugillatus* ERICHSON**

Cybister sugillatus ERICHSON, 1834:227 (orig. descr.); SHARP 1882:717 (China); RÉGIMBART 1899:355 (China); Zimmermann 1919a:77 (Taiwan); KANO 1931:176 (Taiwan); MIWA 1931a:19 (Taiwan); MIWA & al. 1932:298 (Taiwan); FENG 1932:36 (Tibet, Sichuan, Beijing, Hubei, Zhejiang, Jiangxi, Fujian, Guangdong, Hainan); KAMIYA 1932a:18, 1934:9, 1938a:59, 1938b:124 (China); FALKENSTRÖM 1936c:238 (Sichuan); WU 1937:224 (Tibet, Sichuan, Beijing, Hubei, Zhejiang, Jiangxi, Fujian, Guangdong, Hainan); GSCHWENDTNER 1938:62 (China); ZAITZEV 1953:333 (China); ZHAO 1981:110 (Fujian); ZENG 1989:6 (Tibet, Sichuan, Hebei, Hubei, Zhejiang, Jiangxi, Fujian, Guangdong, Hainan); MORI & KITAYAMA 1993:142 (China).

Cybister bisignatus AUBÉ, 1838a:88 (orig. descr., China).

Cybister notasicus AUBÉ, 1838a:90 (orig. descr.).

Cybister olivaceus BOHEMAN, 1858:21 (orig. descr.).

This species is widespread in the Oriental Region, where it is known from Sri Lanka and India to Indonesia and north to the Ryukyu Islands (WEWALKA 1975b) and China.

***Cybister limbatus* (FABRICIUS)**

Dytiscus limbatus FABRICIUS, 1775:230 (orig. descr.).

Cybister limbatus (FABRICIUS, 1775): AUBÉ 1838a:55 (China); SHARP 1882:739 (Manchuria); RÉGIMBART 1899:342 (China); ZIMMERMANN 1919a:77 (Taiwan); KANO 1931:176 (Taiwan); MIWA 1931a:19 (Taiwan); MIWA & al. 1932:298 (Taiwan); FENG 1932:36 (China); KAMIYA 1932a:18, 1934:9, 1938a:59, 1938b:124 (China); WU 1937:224 (China); GSCHWENDTNER 1938:71 (China); ZAITZEV 1953:335 (China).

This species is known from India to Vietnam and north to the Ryukyu Islands (VAZIRANI 1977).

***Cybister guerini* AUBÉ**

Cybister guerini AUBÉ, 1838a:57 (orig. descr., China); SHARP 1882:741 (China, Manchuria); RÉGIMBART 1899:342 (Guangdong); FENG 1932:35 (Guangdong); WU 1937:223 (Guangdong); GSCHWENDTNER 1938:72 (China); ZENG 1989:5 (Guangdong).

Cybister javanus AUBÉ, 1838: AUBÉ 1838a:59 (China).

This species is widespread in the Oriental Region. Most likely AUBÉ's (1838a) record of *C. javanus* from China refers to *C. guerini*.

***Cybister rugosus* (MACLEAY)**

Dytiscus rugosus MACLEAY, 1825:136 (orig. descr.).

Cybister rugosus (MACLEAY, 1825): GSCHWENDTNER 1938:72 (China); NILSSON & al. 1995:371 (Taiwan).

Cybister indicus AUBÉ, 1838a:62 (orig. descr.).

Cybister bengalensis AUBÉ, 1838a:61 (orig. descr., in part).

This species occurs in Thailand, Indonesia, Cambodia and Vietnam (VAZIRANI 1977) and Taiwan.

***Cybister tripunctatus* (OLIVIER)**

Dytiscus tripunctatus OLIVIER, 1795:14 (orig. descr.).

Cybister tripunctatus (OLIVIER, 1795); SHARP 1882:727 (Manchuria); ZIMMERMANN 1919a:77 (Taiwan); MIWA 1931a:19 (Taiwan); FENG 1932:36 (Fujian); KAMIYA 1935:11 (Hebei); LAHER 1989:253 (China).

Cybister tripunctatus orientalis GSCHWENDTNER, 1931c:99 (orig. descr.); FENG 1932:37, 1933a:329 (Sichuan, Hubei, Fujian, Guangdong, Hainan); KAMIYA 1934:9, 1938a:60, 1938b:125 (China); WU 1937:224 (Sichuan, Hubei, Fujian, Guangdong, Hainan); SATO 1961a:10 (Taiwan); BRINCK 1946:151 (Heilongjiang); ZAITZEV 1953:334 (China); ZHAO 1981:110 (Fujian); YANO & al. 1983:107 (Taiwan); ZENG 1989:5 (Tibet, Sichuan, Jiangsu, Hubei, Zhejiang, Fujian, Hunan, Guangdong, Hainan); LI 1992:36 (NE China); PU & al. 1992:484 (Yunnan); MORI & KITAYAMA 1993:142 (China).

Cybister asiaticus SHARP, 1882:731 (orig. descr.).

Cybister tripunctatus var. *asiaticus* SHARP, 1882: GSCHWENDTNER 1923:108 (?Xinjiang).

Cybister tripunctatus asiaticus SHARP, 1882: BALFOUR-BROWNE 1945:122 (class.).

This widespread species ranges over the warmer parts of the Old World. Only selected synonyms are given here. According to BALFOUR-BROWNE (1945), this polymorphic species is represented in the Oriental Region by the subspecies *C. t. asiaticus*. It has been recorded from most parts of China.

***Cybister szechwanensis* FALKENSTRÖM**

Cybister szechwanensis FALKENSTRÖM, 1936c:238 (orig. descr., Sichuan).

This species was described from Sichuan. It belongs to the difficult *C. tripunctatus* complex, and its status needs further study.

***Cybister laevis* FALKENSTRÖM**

Cybister laevis FALKENSTRÖM, 1936c:243 (orig. descr., Sichuan).

This species was described from a single female from Sichuan. It may be identical with one of the other *Cybister* species known from China.

***Cybister bengalensis* AUBÉ**

Cybister bengalensis AUBÉ, 1838a:61 (orig. descr., China); SHARP 1882:741 (North China, Sichuan); RÉGIMBART 1899:346 (Sichuan, Jiangxi, Guangdong); FENG 1932:35 (Beijing, Fujian, Guangdong, Hainan); FALKENSTRÖM 1936c:244 (Sichuan); WU 1937:223 (Beijing, Zhejiang, Fujian, Guangdong, Hainan); ZHAO 1981:110 (Fujian); ZENG 1989:5 (Hebei, Zhejiang, Fujian, Yunnan, Guangdong, Hainan).

This species was described from China. AUBÉ's (1838a) record from India probably refers to another species (SHARP 1882).

***Cybister kansou* FENG**

Cybister kansou FENG, 1936:13 (orig. descr., Gansu); GSCHWENDTNER 1939:49 (Gansu).

This species was described from a male from Gansu. Its status needs evaluation.

***Cybister fumatus* SHARP**

Cybister fumatus SHARP, 1882:731 (orig. descr.); FENG 1936:13 (Shanghai).

This species is widespread in SE Asia. FENG's (1936) record from China needs confirmation.

***Cybister lewisianus* SHARP**

Cybister lewisianus SHARP, 1873:46 (orig. descr.), 1882:732 (Shanghai); RÉGIMBART 1899:350 (Shanghai, Jiangxi); FENG 1932:36 (Beijing, Anhui, Jiangsu, Hubei, Zhejiang); WU 1937:224 (Beijing, Anhui, Jiangsu, Hubei, Zhejiang); GSCHWENDTNER 1938:67 (China); KAMIYA 1938a:59 (Manchuria, China), 1940:130 (Manchuria); ZAITZEV 1953:335 (China); ZHAO 1981:110 (Fujian); ZENG 1989:6 (Hebei, Anhui, Jiangsu, Hubei, Zhejiang); LI 1992:36 (Liaoning).

This species was described from Japan. It is known also from China and Vietnam.

***Cybister convexus* SHARP**

Cybister convexus SHARP, 1882:718 (orig. descr.); RÉGIMBART 1899:353 (Yunnan); FENG 1932:35 (Yunnan); WU

1937:223 (W China, Yunnan); GSCHWENDTNER 1938:63 (W China); ZENG 1989:6 (Yunnan).

This species is known from India and Yunnan (VAZIRANI 1977).

[*Cybister confusus* SHARP]

Cybister confusus SHARP, 1882:739 (orig. descr., ? China); RÉGIMBART 1899:341 (?China); GSCHWENDTNER 1938:70 (?China).

This species occurs in India and Sri Lanka. SHARP's (1882) record from China is doubtful.

Discussion

244 species of Noteridae and Dytiscidae are reported here from China. This number certainly does not reflect the real faunal richness of the area. Most of this vast region is still poorly examined and the present knowledge of the fauna of the surrounding regions like Mongolia, Primorye, Japan, Vietnam and NE India suggests several forthcoming additions to the Chinese fauna.

About 50 of the species are not known from outside China. Regions with the highest numbers of potential endemics are Taiwan, Sichuan and Tibet (plus Qinghai). However, many of the species known only from China are poorly known and may provide still unrecognized synonyms of more widespread species. However, any faunistic analysis is hampered by the uneven knowledge of the species composition at the province level. The number of species recorded per province ranges from 1 to 67 (see Table). The highest species-richness occurs in Sichuan (68 spp.), Yunnan (62 spp.), Taiwan (56 spp.), and Fujian (52 spp.). Examples of very poorly documented provinces are: Ningxia, Nei Mongol, Tianjin, Henan and Anhui.

It is notable that big genera like *Hydrovatus* and *Laccophilus* which recently have been revised (BRANCUCCI 1983a, BISTRÖM 1995) lack Chinese endemics. Most of the Manchurian species occur also in Primorye, Korea and/or Japan, whereas most of the South Chinese fauna is shared with at least parts of India and/or SE Asia.

Identification of the Chinese species is still problematic in many genera. Modern revisions of the Asian species are needed very much especially in *Hygrotus*, all Bidessini, *Agabus*, and *Cybister*. Whenever possible, the revisionary work should try to check as many of the published species records as possible in order to provide a more reliable base for faunistics.

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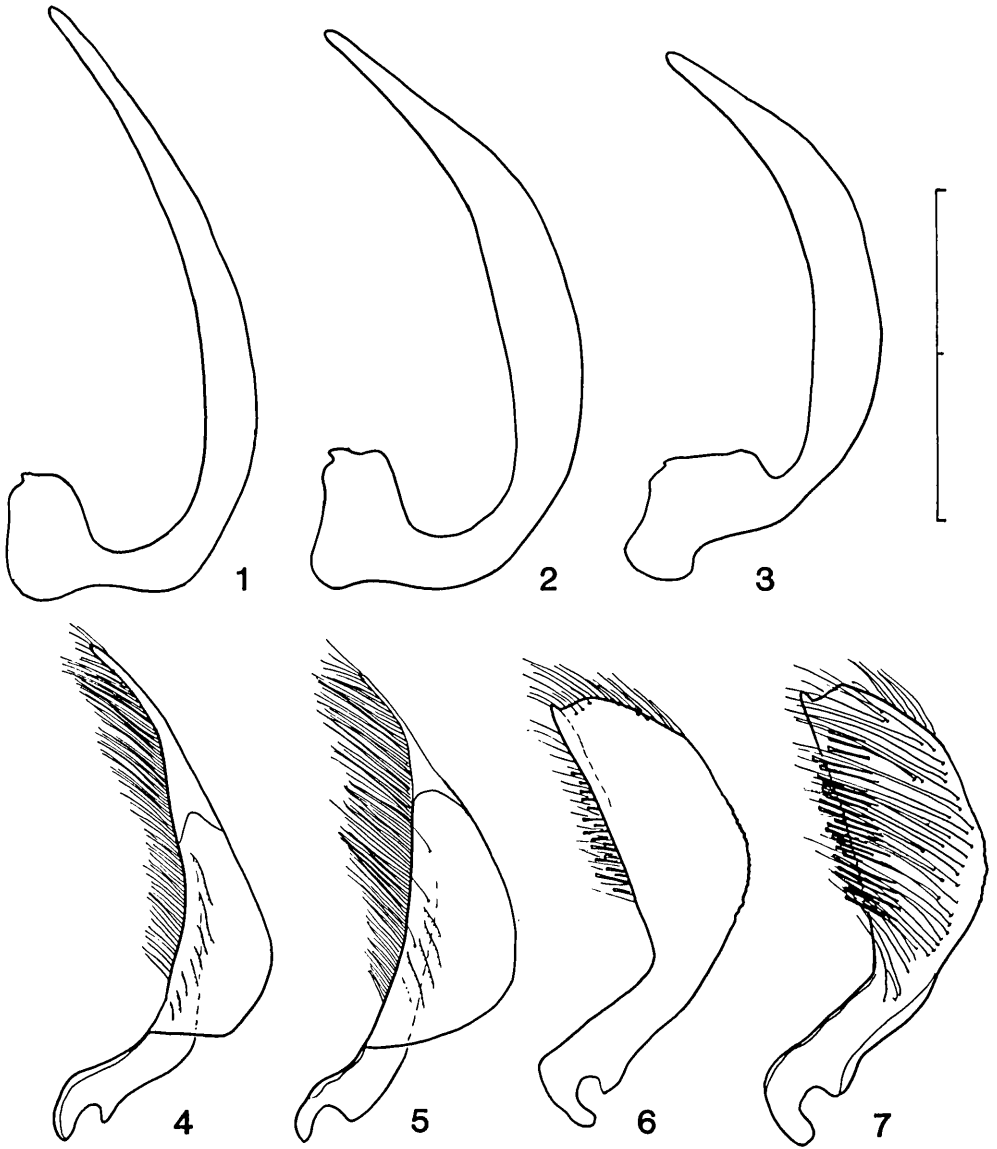
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Species	Province																																	
	XJ	GS	QH	TB	SC	NX	NM	HL	JL	LN	BJ	TJ	HEB	SX	SD	SN	HN	AH	JS	SH	HB	ZJ	JX	FJ	HN	GZ	YN	GX	GD	TW	HK	HA	Other	
<i>Laccophilus chinensis</i> Boheman																																		
<i>Laccophilus sharpi</i> Régimbart																																		
<i>Laccophilus parvulus</i> Aubé																																		
<i>Laccophilus uniformis</i> Motschulsky																																		
<i>Eretes sticticus</i> (Linnaeus)																																		
<i>Hydracanthus anuspex</i> Clark																																		
<i>Hydracanthus grammicus</i> Germar																																		
<i>Hydracanthus fabae</i> (MacLeay)																																		
<i>Hydracanthus rhanoboides</i> Sharp																																		
<i>Hydracanthus incertus</i> Régimbart																																		
<i>Hydracanthus agaboides</i> Sharp																																		
<i>Hydracanthus vittatus</i> Fabricius																																		
<i>Hydracanthus saboi</i> Wewalka																																		
<i>Hydracanthus major</i> Régimbart																																		
<i>Hydracanthus bowringii</i> Clark																																		
<i>Hydracanthus pacificus</i> Aubé																																		
<i>Hydracanthus ligulosus</i> Régimbart																																		
<i>Dytiscus sharpi</i> Wehncke																																		
<i>Dytiscus marginalis</i> Linnaeus																																		
<i>Dytiscus delictus</i> (Zaitzev)																																		
<i>Dytiscus dauricus</i> Gebler																																		
<i>Dytiscus latro</i> Sharp																																		
<i>Dytiscus sinensis</i> Feng																																		Manchuria
<i>Dytiscus distantus</i> Feng																																		
<i>Rhantacanthus congestus</i> (Klug)																																		
<i>Sandracottus mixtus</i> (Blanchard)																																		
<i>Sandracottus festvus</i> (Illiger)																																		
<i>Graphoderus adamsii</i> Clark																																		
<i>Graphoderus zonatus</i> (Hoppe)																																		
<i>Acilius canaliculatus</i> (Nicolai)																																		
<i>Acilius sinensis</i> Peschet																																		
<i>Cyrtister japonicus</i> Sharp																																		
<i>Cyrtister lateralimarginalis</i> (De Geer)																																		
<i>Cyrtister brevis</i> Aubé																																		
<i>Cyrtister ventralis</i> Sharp																																		
<i>Cyrtister sugillatus</i> Erichson																																		
<i>Cyrtister limbatus</i> (Fabricius)																																		
<i>Cyrtister guerini</i> Aubé																																		China
<i>Cyrtister rugosus</i> (MacLeay)																																		Manchuria
<i>Cyrtister tripunctatus</i> (Olivier)																																		
<i>Cyrtister szechuanensis</i> Falkenström																																		
<i>Cyrtister laevis</i> Falkenström																																		
<i>Cyrtister bangalensis</i> Aubé																																		
<i>Cyrtister kansou</i> Feng																																		
<i>Cyrtister fumatus</i> Sharp																																		
<i>Cyrtister lewisianus</i> Sharp																																		
<i>Cyrtister convexus</i> Sharp																																		
Number of records	31	17	12	16	68	1	6	45	36	34	31	6	38	11	21	24	2	5	30	16	42	28	34	52	18	21	62	25	33	56	14	32		



Figs 1 - 7: *Ilybius apicalis*-group, penis in lateral view (1 - 3), and paramere in external (4 - 6) and internal view (7). 1, 4. *I. apicalis*; 2, 5. *I. cinctus*; 3, 6, 7 *I. lateralis*. Scale = 1 mm.

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