

HYDROPHILIDAE:
Faunistic notes on *Hydrocassis* DEYROLLE & FAIRMAIRE and
***Ametor* SEMENOV, with descriptions of new species**
(Coleoptera)

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Abstract

Four new species of *Hydrocassis* DEYROLLE & FAIRMAIRE and one new species of *Ametor* SEMENOV (Coleoptera: Hydrophilidae) are described: *H. anhuiensis* [Anhui, Jianxi], *H. pseudoscapha* [Anhui], *H. sichuana* [Sichuan], *H. uncinata* [Laos, Yunnan], and *A. elongatus* [Sichuan]. Faunistic notes on *Hydrocassis lacustris* (SHARP), *H. imperialis* (KNISCH), *H. scapha* d'ORCHYMONT, *H. scapulata* DEYROLLE & FAIRMAIRE, *H. taiwana* SATÔ, *Ametor rudesculptus* SEMENOV and *A. rugosus* (KNISCH) are given. *Hydrocassis imperialis* is recorded from Anhui for the first time, *H. scapha* from Anhui, Fujian, Guizhou, Jiangxi and Sichuan, *H. scapulata* from Gansu and *Ametor rudesculptus* from Himachal Pradesh (India). The first record of the genus *Hydrocassis* for Nei Mongol is presented.

Key words: Coleoptera, Hydrophilidae, *Hydrocassis*, *Ametor*, new species, taxonomy, faunistics.

Introduction

Since the revision of *Hydrocassis* DEYROLLE & FAIRMAIRE and *Ametor* SEMENOV was published (see SCHÖDL & JI 1995), four new species of the first and one of the latter genus were discovered in China and Laos. These species are described herein and new faunistic data of the two genera are presented.

Material and Methods

Specimens were examined with Wild M5 and Wild M10 stereoscopic microscopes. Aedeagi were examined with an Olympus BH-2 transmitted light microscope. For more detailed information see SCHÖDL & JI (1995).

The material used for the presented study is based mainly on specimens collected by the CWBS (deposited in CASS and NMW), and a few additional specimens deposited in BRCO, CASS, CSN, CPE, MHNP, MNS and NMW.

The ratio of elytral length/elytral width (EI) can be used as auxiliary means for separating the species.

Acronyms & CWBS localities:

BRCO Biosystematics Research Centre, Ottawa (A. Smetana)
CASS Chinese Academy of Sciences, Institute of Applied Ecology, Shenyang
CWBS China Water Beetle Survey
CPE Coll. A. Pütz, Eisenhüttenstadt
CSN Coll. M. Satô, Nagoya

EI Elytral index: ratio of elytral length/elytral width

MHNP Muséum national d'Histoire naturelle, Paris (Y. Cambefort)

MNS Staatliches Museum für Naturkunde, Stuttgart (W. Schawaller)

NMW Naturhistorisches Museum, Wien (H. Schönmann, M.A. Jäch)

- CWBS loc. 60: **Yunnan Province**; Lijiang Autonomous Prefecture; Lijiang County; 15 km N Lijiang City; small valley near the abandoned airport; small stream, 0.5 - 1.0 m wide, limestone, 2800 m a.s.l.; 6.VII.1994; leg. Schillhammer & Ji.
- CWBS loc. 223: **Sichuan Province**; Yaan City Region; ca. 18 km N Yaan City and 3 km N of monastery (Baima Qian [= White Horse Spring]); small stream, ca. 2 - 3 m wide, clean and very cold, stones in the stream with moss, unshaded, ca. 900 m a.s.l.; 9.VI.1996; leg. Ji & Wang.
- CWBS loc. 225: **Sichuan Province**; Yaan City Region; ca. 16 km N Yaan City and ca. 3 km N Shangli Town; small stream, ca. 0.5 m wide, tributary to CWBS loc. 223, ca. 950 m a.s.l.; 9.VI.1996; leg. Ji & Wang.
- CWBS loc. 233: **Sichuan Province**; Yaan City Region; Tianquan County; ca. 57 km W Yaan City, 4 km W Xingou Village; at foot of Erlang Shan; small stream, ca. 1 - 2 m wide, cold and fast flowing through secondary forest, large stones, leave packs, unpolluted, ca. 1600 m a.s.l.; 13.VI.1996; leg. Ji & Wang.
- CWBS loc. 249: **Fujian Province**; Jiayuan Prefecture; Chong'an City Region; 2 km W Da'an Town, ca. 20 km NW Chong'an City; small stream, < 0.5 m wide, flowing through small forest and rice fields, coarse crystalline gravel, shaded, water very cold, 450 m a.s.l.; 19.I.1997; leg. Schönmann, Ji & Wang.
- CWBS loc. 251: **Fujian Province**; Jiayuan Prefecture; Chong'an City Region; ca. 20 km NW Chong'an City, 5 km S Da'an, 2 km NE Lian Dun Village; small river, 0.5 - 1.0 m wide, in steep, densely forested valley (broadleaf trees and bamboo), rock pools and waterfalls, sections with fine and coarse crystalline gravel, densely shaded, water very cold, 500 m a.s.l.; 20.I.1997; leg. Schönmann, Ji & Wang (see JACH & Ji 1998: Fig. 15).
- CWBS loc. 256: **Fujian Province**; Jiayuan Prefecture; Yong'an City Region; ca. 20 km SE Yong'an City, 5 km SW Xiyang Village; small stream descending from Ziyungdong Shan (1629 m), fast flowing, < 0.5 m wide, steep slopes with bushes, big granitic rocks, 550 m a.s.l.; 25.I.1997; leg. Schönmann, Ji & Wang.
- CWBS loc. 262: **Fujian Province**; Longyan City Region; ca. 30 km W Longyan City, 2 km S Dachi Village; stream, ca. 1 - 2 m wide, descending from Ceyan Shan (ca. 1500 m), rocky steps with waterfalls, pools with crystalline sand, coarse granitic gravel, in the upper section surrounded by broadleaf forest, in the lower section by rice fields, 750 m a.s.l.; 29.I.1997; leg. Schönmann, Ji & Wang.
- CWBS loc. 263: **Fujian Province**; Longyan City Region; 2 km N Xiaochi Village, ca. 20 km W Longyan City; mountain stream, 3 - 5 m wide, flowing through densely forested (broadleaf trees) steep valley descending from Meihua Shan, small waterfalls, big pools, crystalline sand and gravel, shaded, pools with decaying organic matter, 650 m a.s.l.; 30.I.1997; leg. Schönmann, Ji & Wang (see JACH & Ji 1998: Figs. 14, 16).
- CWBS loc. 264: **Fujian Province**; Longyan City Region; 2 km E Shizhong Town, ca. 40 km S Longyan City; small stream, < 0.5 m wide, descending from Shangfang Shan (ca. 1400 m, partly forested), only little water running in deep gorge, waterfalls and small pools, surrounded by rice fields and *Cunninghamia* forest, 850 m a.s.l.; 31.I.1997; leg. Schönmann, Ji & Wang.
- CWBS loc. 273: **Guizhou Province**; Bijie Prefecture; Bijie County; close to CWBS loc. 272; small stream, ca. 0.5 m wide, unpolluted, partly shaded, surrounded by secondary forest, ca. 1200 m a.s.l.; 28.VII.1997; leg. Wang.
- CWBS loc. 291: **Anhui Province**; Weizhou Prefecture; Huang Shan NP; 30 km NW Huang Shan City [= Tunxi], 3 km W Nantang; stream, ca. 0.5 - 1.0 m wide, waterfalls and pools, rocky and gravelly sections, partly shaded by bushes and bamboo, surrounded by vegetable gardens, 350 - 550 m a.s.l.; 30.X.1997; leg. Schönmann & Wang.
- CWBS loc. 292: **Anhui Province**; Weizhou Prefecture; Huang Shan NP; 60 km NNW Huang Shan City [= Tunxi]; stream (beneath cable car), ca. 3 - 5 m wide, almost completely dried out, surrounded by primary forest, very big granitic rocks and sand, short sections with running water (20 - 30 cm wide), small residual pools with decaying leaves, 900 - 1000 m a.s.l.; 31.X.1997; leg. Schönmann & Wang (see JACH & Ji 1998: Figs. 17, 20).

- CWBS loc. 295: **Anhui Province**; Anqing Prefecture; Yuexi County; Dabie Shan; ca. 40 km N Yuexi City, near Gui Xing Di Village; stream, ca. 1 - 2 m wide, running over granitic rock, small waterfalls and sandy pools with decaying leaves, short sections with gravel and sand, surrounded by bushes and *Cunninghamia* and *Pinus* forest, 800 m a.s.l.; 5.XI.1997; leg. Schönmann & Wang.
- CWBS loc. 297: **Anhui Province**; Anqing Prefecture; Yuexi County; Dabie Shan; near Shi Guan, ca. 20 km N Yuexi City; stream, ca. 0.5 - 1.0 m wide, surrounded by dense bushes and *Cunninghamia* forest, completely shaded, small waterfalls, sections with gravel, decaying leaves, 950 - 1000 m a.s.l.; 6.XI.1997; leg. Schönmann & Wang.
- CWBS loc. 298: **Anhui Province**; Anqing Prefecture; Yuexi County; Dabie Shan; Huang Liyan Village, near Baojia Village, ca. 50 km NW Yuexi City; stream, ca. 1 - 3 m wide, fast flowing, big granitic rocks, small waterfalls, branches with sand, gravel and decaying leaves, shaded by bushes and broadleaf trees, 1050 m a.s.l.; 7.XI.1997; leg. Schönmann & Wang (see JACH & Ji 1998: Fig. 19).
- CWBS loc. 299: **Anhui Province**; Anqing Prefecture; Yuexi County; Dabie Shan; ca. 50 km NW Yuexi City, Huang Liyan Village, near Baojia Village; two streams (tributaries of CWBS loc. 298), ca. 0.5 - 1.0 m wide, in steep and narrow forested valleys, mainly running over rock, small sandy pools with decaying leaves, densely shaded, 1000 - 1050 m a.s.l.; 8.XI.1997; leg. Schönmann & Wang.
- CWBS loc. 300: **Anhui Province**; Anqing Prefecture; Yuexi County; Dabie Shan; ca. 25 km N Yuexi City, near Shi Guan Village; stream, ca. 20 - 30 cm wide, running over steep crystalline rock, with few small pools with sand, gravel and decaying leaves, surrounded by dense forest, 1100 m a.s.l.; 9.XI.1997; leg. Schönmann & Wang.
- CWBS loc. 301: **Anhui Province**; Anqing Prefecture; Yuexi County; Dabie Shan; ca. 25 km N Yuexi City, near Shi Guan Village; stream, ca. 1 - 2 m wide, slowly flowing, big rounded granitic boulders, sand, gravel and decaying leaves, densely shaded, 1100 m a.s.l.; 9.XI.1997; leg. Schönmann & Wang.
- CWBS loc. 302: **Jiangxi Province**; Yicun Prefecture; Jiuling Shan; Fengxin County; 18 km NW Shangfu City, near Jiu Xian Village, on Wumei Shan (1740 m); streams, 0.5 - 1.0 m wide, deep ditches, crystalline sand, little gravel, shaded by bushes and surrounded by rice fields, 700 - 800 m a.s.l.; 12.XI.1997; leg. Schönmann & Wang.
- CWBS loc. 303: **Jiangxi Province**; Yicun Prefecture; Jiuling Shan; Fengxin County; 18 km NW Shangfu City, near Jiu Xian Village, on Wumei Shan (1740 m); stream, 3 - 5 m wide, fast flowing, crystalline boulders and coarse gravel, unshaded, surrounded by rice fields, artificial dams made of gravel and rice roots divert water for mills, 650 m a.s.l.; 12.XI.1997; leg. Schönmann & Wang.
- CWBS loc. 304: **Jiangxi Province**; Yicun Prefecture; Jiuling Shan; Fengxin County; 8 km NW Shangfu City, near Shang Bao Village; stream, ca. 1 - 2 m wide, in a dense bamboo forest, big granitic rocks and sand, man-made canals, 700 m a.s.l.; 13.XI.1997; leg. Schönmann & Wang.
- CWBS loc. 305: **Jiangxi Province**; Yicun Prefecture; Jiuling Shan; Fengxin County; 35 km W Shangfu City, near Dong Xi Ling Village; stream, ca. 0.5 - 1.0 m wide, in a deep ravine between rice fields, 800 m a.s.l.; 14.XI.1997; leg. Schönmann & Wang.
- CWBS loc. 306: **Jiangxi Province**; Yicun Prefecture; Jiuling Shan; Fengxin County; 18 km NW Shangfu City, near Jiu Xian Village, on slope of Wumei Shan (1740 m); two very steep mountain streams (sources of CWBS loc. 303), 2 - 3 m wide, surrounded by dense forest (bamboo, *Cunninghamia* and various broadleaf trees), high waterfalls, deep and sandy pools, granitic boulders, 800 m a.s.l.; 15.XI.1997; leg. Schönmann & Wang (see JACH & Ji 1998: Fig. 21).
- CWBS loc. 308: **Shaanxi Province**; Baoji Prefecture; Zhouzhi County; 2 km W Houzhenzi Nature Reserve; small stream (An Gou), ca. 1 m wide, fast flowing, cold, with boulders, sand and gravel, unpolluted, ca. 1200 m a.s.l.; 2.VI.1998; leg. Wang.
- CWBS loc. 309: **Shaanxi Province**; Baoji Prefecture; Zhouzhi County; 2 km E Houzhenzi Nature Reserve; river (Hou Gou), ca. 10 m wide, fast flowing, very cold, with big rocks, sand, and gravel, surrounded by dense forest, partly shaded, unpolluted, ca. 1300 m a.s.l.; 3.VI.1998; leg. Wang.
- CWBS loc. 310: **Shaanxi Province**; Baoji Prefecture; Zhouzhi County; 2 km E Houzhenzi Nature Reserve, near CWBS loc. 309; small stream, ca. 0.5 m wide, slowly flowing, cold, partly shaded, unpolluted, ca. 1300 m a.s.l.; 3.VI.1998; leg. Wang.

- CWBS loc. 313: **Shaanxi Province**; Ankang Prefecture; Ningshan County; 5 km NW Huoditang Town; stream (Huodi Gou), ca. 2 m wide, fast flowing, very cold, with boulders, sand and gravel, surrounded by dense forest, unpolluted, ca. 1900 m a.s.l.; 5.VI.1998; leg. Wang.
- CWBS loc. 314: **Shaanxi Province**; Ankang Prefecture; Ningshan County; 7 km NW Huoditang Village; stream (Banqiao Gou), ca. 2 m wide, fast flowing, very cold, with boulders, sand and gravel, surrounded by dense forest, partly shaded, slightly polluted, ca. 1650 m a.s.l.; 5.VI.1998; leg. Wang.
- CWBS loc. 315: **Shaanxi Province**; Ankang Prefecture; Ningshan County; 10 km NE Xunyangba Town; stream (Xiangtan Gou), ca. 6 m wide, fast flowing, very cold, with big rocks, sand and gravel, surrounded by *Larix* and *Picea* and broadleaf forest, unpolluted, ca. 1500 m a.s.l.; 6.VI.1998; leg. Wang.
- CWBS loc. 319: **Shaanxi Province**; Baoji Prefecture; Feng County; 7 km NE Qinling Train Station, Tiantai Shan Forest Park, 4 km E CWBS loc. 318; stream, ca. 2 m wide, flowing through narrow valley, with forested slopes, with boulders, sand and gravel, cold, unpolluted, ca. 2000 m a.s.l.; 9.VI.1998; leg. Wang.
- CWBS loc. 321: **Shaanxi Province**; Baoji Prefecture; Feng County; 7 km NE Qinling Train Station, Tiantai Shan Forest Park; stream, ca. 10 m wide, with boulders, sand and gravel, shaded, cold, unpolluted, flowing through flat valley with forested slopes, ca. 1800 - 1900 m a.s.l.; 10.VI.1998; leg. Wang.
- CWBS loc. 322: **Gansu Province**; Wudu Prefecture; Wen County; 4 km N Shangdan Village; stream, ca. 3 m wide, fast flowing, warm, slightly polluted, ca. 1100 m a.s.l.; 13.VI.1998; leg. Wang.
- CWBS loc. 330: **Nei Mongol Autonomous Region**; Ganjig Ka County; ca. 20 km SW Ganjig Ka, Daqing Shan National Park; river (tributary of Liu He), 2 - 5 m wide, sand, submerged trees and organic litter along the shores, densely shaded, slowly flowing through a ca. 50 m deep valley, forested with various broadleaf trees, ca. 180 m a.s.l.; 24.VII.1998; leg. Ji, Schönmann, Schönmann & Wang (see JÄCH & Ji 1998: Fig. 24).
- CWBS loc. 335: **Sichuan Province**; Mao County; Jiuding Shan; ca. 7 km NE Mao Xian [= Fengyizhen], surrounding of Research Station of Chengdu Institute of Biology; small stream, running along a narrow road, < 0.5 m wide, sandy, slabs of slate, partly shaded by bushes, ca. 1850 m a.s.l.; 29.VII.1998; leg. Ji, Schönmann, Schönmann & Wang.
- CWBS loc. 337: **Sichuan Province**; Mao County; Jiuding Shan; ca. 20 km NE Mao Xian [= Fengyizhen], surrounding of Research Station of Chengdu Institute of Biology; stream, 2 - 3 m wide, cold, crystalline gravel and sand, fast flowing, partly shaded by bushes, slightly polluted (surrounded by cabbage fields), ca. 1650 m a.s.l.; 30.VII.1998; leg. Ji, Schönmann, Schönmann & Wang.

Updated check list of *Hydrocassis* and *Ametor* species

Hydrocylus formosus KNISCH (1921) which, following the original description is to be placed in *Hydrocassis*, is not included here (see also SCHÖDL & Ji 1995).

Hydrocassis DEYROLLE & FAIRMAIRE

1. *H. anhuiensis* sp.n.

Distribution: China (Anhui, Jiangxi)

2. *H. baoshanensis* SCHÖDL & Ji

Distribution: China (Yunnan)

3. *H. imperialis* (KNISCH)

Distribution: China (Anhui, Fujian, Hunan, Jiangxi)

4. *H. lacustris* (SHARP)

Distribution: Japan (Honshu, Kyushu)

5. *H. metasternalis* SCHÖDL & JI

Distribution: China (Yünnan)

6. *H. pseudoscapha* sp.n.

Distribution: China (Anhui)

7. *H. scapha* d'ORCHYMONT

= *H. vietnamica* SATÔ

Distribution: China (Anhui, Fujian, Guangxi, Guizhou, Hunan, Jiangxi, Sichuan, Zhejiang), Vietnam

8. *H. scaphoides* d'ORCHYMONT

Distribution: China (Yünnan), Burma

9. *H. scapulata* DEYROLLE & FAIRMAIRE

Distribution: China (Gansu, Shaanxi, Sichuan)

10. *H. schillhammeri* SCHÖDL & JI

Distribution: China (Yünnan)

11. *H. sichuana* sp.n.

Distribution: China (Sichuan)

12. *H. taiwana* SATÔ

Distribution: China (Taiwan)

13. *H. uncinata* sp.n.

Distribution: China (Yünnan), Laos

[*Hydrocassis* sp. cf. *sichuana* SCHÖDL & JI

Distribution: China (Nei Mongol)]

***Ametor* SEMENOV**

1. *A. elongatus* sp.n.

Distribution: China (Sichuan)

2. *A. latus* (HORN)

Distribution: Canada, USA

3. *A. rudesculptus* SEMENOV

= *A. oberthuri* (d'ORCHYMONT)

= *A. wittmeri* (SATÔ)

Distribution: China (Sichuan, Tibet, Yünnan), Bhutan, India (Himachal Pradesh, Sikkim), Nepal, Tajikistan

4. *A. rugosus* (KNISCH)

= *A. rufrenus* (d'ORCHYMONT)

Distribution: China (Yünnan, Sichuan, Tibet), Nepal, Bhutan, India (Himachal Pradesh, Sikkim, Uttar Pradesh, West Bengal)

5. *A. scabrosus* (HORN)

= *A. lucifer* (SHATROVSKIY)

Distribution: China (Jilin), Russian Far East, Canada, USA

Taxonomy

Hydrocassis anhuiensis sp.n.

TYPE LOCALITY: Huang Shan, 60 km NNW Tunxi City, Anhui Province, China (see CWBS loc. 292).

TYPE MATERIAL: **Holotype** ♂ (CASS): "CHINA: Anhui, Huang Shan 60km NNW Tunxi, 31.10.1997 nr. Tang Kou, 900 - 1000m leg. M Wang (CWBS 292)". **Paratypes:** 13 exs., labelled as holotype (NMW, CASS); 7 exs., same locality data, leg. Schönmann (NMW, CASS); 2 exs., "CHINA: Jiangxi, Jiuling Shan 18km NW Shangfu, 12.11.1997 env. Jiu Xian, 650m leg. M. Wang (CWBS 303)" (CASS, NMW); 2 exs., "CHINA: Jiangxi, Jiuling Shan 18km NW Shangfu, 15.11.1997 env. Jiu Xian, 800 m leg. M. Wang (CWBS 306)" (CASS, NMW).

DIAGNOSIS: Largest species in the genus, 8.5 - 10.0 mm. Dark brown to black, body outline subcircular, strongly convex.

Head and pronotal disc black, smooth and shining; elytra dark brown to black, with irregularly distributed yellowish to reddish patches medially on base of elytra. Head with punctation denser and coarser on lateral sides and in posterior half. Pronotum densely and irregularly covered with coarse punctures; sides of pronotum yellowish, lateral margins slightly serrate anteriorly; pronotum margined throughout. Elytral interstices moderately convex and slightly rugulose punctate in posterior half, particularly in male specimens punctation slightly umbilicate; lateral margins of elytra distinctly serrate; alternate interstices with distinct coarser punctures (EI 1.12 - 1.15).

Ventral surface piceous black, covered with fine hydrofuge pubescence. Prosternum with a sharp tooth-like projection antero-medially, followed by a distinct median carina. Mesosternum with a high, blunt, transverse protuberance postero-medially. Metasternum strongly and highly raised antero-medially between mesocoxae.

Aedeagus (Fig. 1): Very similar to that of *Hydrocassis taiwana* SATÔ (compare SCHÖDL & Ji 1995, Fig. 8), but even more robust; median lobe distinctly narrowed apically; parameres longer than median lobe, apical third distinctly arcuate, bent towards middle (only gradually so in *Hydrocassis taiwana*).

DIFFERENTIAL DIAGNOSIS: The new species is placed in the *Hydrocassis scapulata* species group (as defined by SCHÖDL & Ji 1995) due to its aedeagal features. It is the largest species known in the genus and it is separable from *H. taiwana*, its closest relative by the more subcircular body outline (EI 1.12 - 1.15 in *H. anhuiensis*, EI 1.19 in *H. taiwana*), by the distinctly deeper impressed elytral striae, and by the aedeagus.

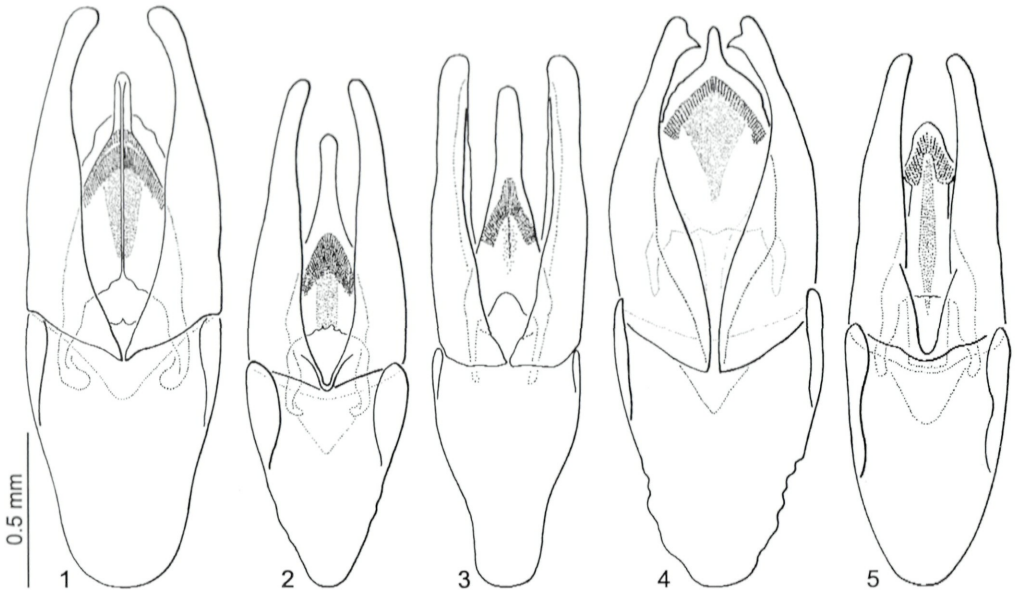
DISTRIBUTION (Fig. 6): China (Anhui, Jiangxi).

ETYMOLOGY: Named for the Chinese province of Anhui.

Hydrocassis pseudoscapha sp.n.

TYPE LOCALITY: Dabie Shan, 20 km N Yuexi, Anhui Province, China (see CWBS loc. 297).

TYPE MATERIAL: **Holotype** ♂: "CHINA: Anhui, Dabie Shan 20km N Yuexi, 6.11.1997 env. Shi Guan, 950-1000m leg. Schönmann (CWBS 297)" (NMW). **Paratypes:** 32 exs., same locality data as holotype, leg. Schönmann, leg. Wang (NMW, CASS); 27 exs., "CHINA: Anhui, Dabie Shan 40km N Yuexi, 5.11.1997 env. Gui Xing Di, 800m leg. Wang [leg. Schönmann] (CWBS 295)" (NMW, CASS); 40 exs., "CHINA: Anhui, Dabie Shan 50km NW Yuexi, 8.11.1997 Huang Liyan/Baojia, 1050m, leg. Wang [leg. Schönmann] (CWBS 298)" (NMW, CASS); 37 exs., "CHINA: Anhui, Dabie Shan 50km NW Yuexi, 8.11.1997 Huang Liyan/Baojia, 1050m, leg. Wang [leg. Schönmann] (CWBS 299)" (NMW, CASS); 14 exs., "CHINA: Anhui, Dabie Shan 25km N Yuexi, 9.11.1997 env. Shi Guan, 1100m leg. M. Wang [leg. Schönmann] (CWBS 300)" (NMW, CASS); 9 exs., "CHINA: Anhui, Dabie Shan 25km N Yuexi, 9.11.1997 env. Shi Guan, 1100m leg. M. Wang [leg. Schönmann] (CWBS 301)" (NMW, CASS).



Figs. 1 - 5: Aedeagus of 1) *Hydrocassis anhuiensis* sp.n.; 2) *H. sichuana* sp.n.; 3) *H. pseudoscapha* sp.n.; 4) *H. uncinata* sp.n.; 5) *Ametor elongatus* sp.n.

DIAGNOSIS: 6.7 - 8.5 mm. Dark brown to black, body outline oval, strongly convex.

Head and pronotal disc black, smooth and shining. Head densely covered with coarse punctation; lateral sides somewhat rugulose punctate; anterior sides of head reddish. Pronotum densely and irregularly covered with coarse punctures; sides of pronotum yellowish to reddish, lateral margins very inconspicuously serrate; pronotum margined throughout, very indistinctly so at base. Elytra dark brown to black, shining; interstices moderately convex, densely covered with fine primary punctation; in male specimens punctation slightly umbilicate, particularly so in posterior half; lateral margins of elytra distinctly serrate; alternate interstices with coarser punctures distinctly impressed (EI 1.12 - 1.16).

Ventral surface piceous black, covered with fine yellowish hydrofuge pubescence, very similar to that of *H. scapha*. Prosternum with a sharp tooth-like projection antero-medially, followed by a distinct median carina. Mesosternum with a high, somewhat conical, slightly transverse protuberance postero-medially. Metasternum highly raised antero-medially between mesocoxae.

Aedeagus (Fig. 3): Robust; parameres thick, only slightly sinuate, not flattened and not distinctly narrowed apically. Median lobe stout, in apical third distinctly narrowed, almost parallel-sided towards apex.

DIFFERENTIAL DIAGNOSIS: *Hydrocassis pseudoscapha* is a member of the *H. scapha* group (as defined by SCHÖDL & JI 1995). Externally it is very similar to *H. scapha* and difficult to separate from that species. The aedeagus is very distinct though, much more robust than in *H. scapha*, where the median lobe is evenly and gradually narrowed from base to apex, the parameres are slightly twisted and distinctly narrowed and flattened in apical third (compare SCHÖDL & JI 1995, Figs. 2, 3). Elytra more elongate (EI in *H. scapha* 1.03), mesosternal projection less transverse, more conical.

DISTRIBUTION (Fig. 6): Only known from Dabie Shan, Anhui Province, China.

ETYMOLOGY: The species had been overlooked during an earlier revision.

***Hydrocassis sichuana* sp.n.**

TYPE LOCALITY: Baima Qüan, 18 km N Ya'an City, Sichuan Province, China (see CWBS loc. 223).

TYPE MATERIAL: **Holotype** ♂ (CASS): "CHINA: Sichuan, 9.6.1996 ca. 18 km N Ya'an City 3 km N Baima Quan, 900m, leg. Ji & Wang (CWBS 223)". **Paratypes**: 2 exs., labelled as holotype (NMW); 3 exs., "CHINA: Sichuan, 9.6.1996 ca. 16 km N Ya'an City 3 km N Shangli, 950 m leg. Ji & Wang (CWBS 225)" (NMW, CASS).

DIAGNOSIS: 7.8 - 8.2 mm. Body outline subcircular, strongly convex, dorsal surface smooth and shining between punctures.

Head and pronotal disc dark brown; elytra yellowish brown to dark brown, with irregularly distributed darker discal patches. Head with coarser punctures on lateral sides of clypeus and on frons; lateral sides of clypeus paler than remainder of head. Pronotum with coarse punctures sparsely and irregularly distributed, more densely so near sides; pronotal sides broadly yellowish to reddish brown, lateral margins inconspicuously serrate in anterior half, pronotum finely margined throughout. Elytral interstices flat, coarser punctures on alternate intervals only feebly impressed, lateral margins of elytra conspicuously serrate, particularly so in posterior half (El 1.08 - 1.12).

Ventral surface piceous, covered with fine hydrofuge pubescence. Mentum brownish, rugulose punctate. Prosternum with a sharp tooth-like projection antero-medially. Mesosternum with a distinct, blunt, A-shaped protuberance postero-medially followed by a short carina. Metasternum highly raised anteriorly.

Aedeagus (Fig. 2): Similar to that of *Hydrocassis imperialis* (compare SCHÖDL & Ji 1995, Fig. 4). Median lobe gradually widened towards base, strongly narrowed in apical third, apex rounded, somewhat digitate and slightly compressed laterally. Parameres conspicuously longer than median lobe, narrowed and slightly sinuate in apical half, gradually widened towards base; parameres about 1.5 times as long as phallobasis.

DIFFERENTIAL DIAGNOSIS: *Hydrocassis sichuana* is here tentatively assigned to the *Hydrocassis scapha* group (as defined by SCHÖDL & Ji 1995). It differs from both *H. scapha* and *H. imperialis* in the spotted elytra and in the aedeagus. The median lobe is only gradually and evenly narrowed towards the apex and never digitate in *H. imperialis*. The parameres are about 1.1 - 1.2 times as long as phallobasis in *H. imperialis*, 1.3 times as long as in *H. scapha* (see above; compare SCHÖDL & Ji 1995, Figs. 2, 3, 4).

DISTRIBUTION (Fig. 6): China (Sichuan).

ETYMOLOGY: Named for the Chinese province of Sichuan.

***Hydrocassis uncinata* sp.n.**

TYPE LOCALITY: 20 km SE Muang Sing, Luang Nam Tha Province, N-Laos; Upper course of Huay Giulom river, ca. 1 m wide, cool and mainly shaded, with mossy rocks in the river bed, and surrounded by primary vegetation; 950 m a.s.l.

TYPE MATERIAL: **Holotype** ♂ (NMW): "N-LAOS: Prov. Lg. Nam Tha ca. 20km SE Muang Sing 12./13.6.1996, 950 m leg. Schillhammer (25)". **Paratypes**: 1 ex., "N-LAOS: Prov. Lg. Nam Tha ca. 30 km NW Lg. Nam Tha 16./18.6.1996, 800m leg. Schillhammer (28, 30)" (NMW); 1 ex., "Yunnan" (MHNP).

DIAGNOSIS: 7.8 - 8.2 mm. Body outline subcircular. Dark brown to black, sides of pronotum distinctly paler.

Head smooth and shining with coarse punctures in posterior half and lateral area. Pronotum smooth and shining, covered with minute punctation; with sparsely and irregularly distributed coarse punctures; coarse punctures more densely arranged near sides and base; lateral margins not serrate; basal corners of pronotum angulate; sides yellowish to reddish. Elytra short (EI 1.11 - 1.14), covered with similar minute punctation as pronotum; elytra dark brown to black, base medially with a band of confluent irregularly distributed yellowish to reddish patches; elytral striae well impressed, intervals smooth and shining between punctures; coarse punctures on alternate interstices only feebly impressed; lateral margins of elytra finely serrate, apices slightly diverging at suture.

Ventral surface black. Mentum and submentum rugosely punctate. Prosternum strongly convex medially, slightly keeled longitudinally; with a strong antero-median, tooth-like projection. Mesosternum with a high, somewhat blunt transverse protuberance posteriorly. Metasternum with a glabrous, longitudinal protuberance pointing anteromedially between mesocoxae, followed by a shallow upside down U-shaped concavity.

Aedeagus (Fig. 4): Similar to that of *H. scaphoides* (see SCHÖDL & JI 1995, Fig. 10) but stouter and wider, parameres and median lobe in lateral view distinctly arcuate dorsad.

DIFFERENTIAL DIAGNOSIS: The new species is assigned to the *Hydrocassis scaphoides* species group (as defined by SCHÖDL & JI 1995). It is separable from *H. scaphoides* only (but distinctly) by the aedeagus, which in lateral view is more straight in *H. scaphoides*. The tooth-like projections on the inner face of the parameres are situated much closer to the apex, the apical area of parameres thus being shorter than in *H. scaphoides*. Median lobe apically acutely pointed, as long as parameres (shorter than parameres in *H. scaphoides*), the apical acute tip shorter than in *H. scaphoides*. *Hydrocassis baoshanensis* and *H. schillhammeri*, the two remaining congeners of this species group have a more elongate body outline and the projections on the inner face of the parameres are situated distinctly more basally (compare SCHÖDL & JI 1995, Figs. 10 - 13). Furthermore the punctation of the dorsal surface of *H. schillhammeri* is conspicuously coarser.

DISCUSSION: The single specimen from Yunnan (MHNP) was erroneously taken for a general specimen of *H. scaphoides* (SCHÖDL & JI 1995: 234; Fig. 11), due to the crushed aedeagus.

DISTRIBUTION (Fig. 6): China (Yunnan), N-Laos (Luang Nam Tha).

ETYMOLOGY: uncus (Latin, hook) referring to the hook-like projection on the apical inner face of the parameres.

Hydrocassis sp.n. cf. *sichuana* SCHÖDL & JI

Recently, *Hydrocassis* was detected in Nei Mongol for the first time. The single male specimen hitherto examined is close to *H. sichuana* (described above), but differs in the shape of the aedeagus and in the microreticulate dorsal surface. More material needs to be studied to allow detailed description.

MATERIAL EXAMINED:

C H I N A: NEI MONGOL: CWBS loc. 330.

Ametor elongatus sp.n.

TYPE LOCALITY: Xingou, 60 km W Ya'an City, Sichuan Province, China (see CWBS loc. 233).

TYPE MATERIAL: **Holotype** ♂ (CASS): "CHINA: Sichuan, 13.6.1996 ca. 60 km W Ya'an, 1600m 4 km W Xingou Village leg. Ji & Wang (CWBS 233)". **Paratypes**: 4 exs., labelled as holotype (NMW, CASS).

DIAGNOSIS: 6.9 - 8.1 mm. Black, with greenish metallic sheen on both head and pronotum; lateral sides of pronotum and appendages except for antennal club reddish to brown; body outline elongately oval, slightly interrupted between pronotum and elytra.

Head densely covered with coarse punctures, lateral sides rugose; maxillary palpi reddish brown. Pronotum evenly and densely covered with fine punctation and coarser irregularly dispersed punctures; lateral margins of pronotum slightly serrate, narrowly so in anterior half, broadly in posterior half; pronotum finely margined throughout, pronotal base very indistinctly so; hind angles rounded. Head and pronotum smooth and with metallic sheen. Elytra elongate, convex, smooth between punctures, alternate interstices with coarser punctures; gradually and slightly rugose towards apex; lateral margins distinctly serrate.

Ventral surface black. Mesosternum postero-medially with a low, angulate transverse protuberance, followed by a robust prominent longitudinal keel. Metasternum with a shallow, A-shaped cavity antero-medially.

Aedeagus (Fig. 5): Median lobe apically rounded, corona situated on apex of median lobe. Parameres slightly curved distally, evenly narrowed, their apex rounded, conspicuously surpassing median lobe (parameres only little longer than median lobe in *A. rugosus* KNISCH (compare SCHÖDL & Ji 1995, Figs. 16, 17)).

DIFFERENTIAL DIAGNOSIS: *Ametor elongatus* is closely related to the externally similar *A. rugosus*. It is separable by the less distinct and more scattered, coarser punctures on pronotum, and by the metallic sheen on head and pronotum, which is lacking in *A. rugosus*; the coarser punctures on the alternate interstices are more shallowly impressed than in *A. rugosus*. Although the aedeagus resembles that of *A. rudesculptus* SEMENOV (compare SCHÖDL & Ji 1995, Figs. 19, 20), external morphology allows clear separation of the two taxa. The dorsal surface in *A. rudesculptus* is coarsely rugulose and the body outline is distinctly interrupted between pronotum and elytra (compare SCHÖDL & Ji 1995, Fig. 14). From *A. scabrosus* (HORN) (3.8 - 6.5 mm) the new species is readily separated by the conspicuously larger size.

DISTRIBUTION (Fig. 6): So far known only from the type locality.

ETYMOLOGY: *elongatus* (Latin), referring to the elongate aedeagal parameres.

Faunistic records

Hydrocassis taiwana SATÔ

CHINA: TAIWAN: Taichung Hsien, Xiaoshüeshan, 15.VI.1989, leg. Satô (NMW, CSN).

Hydrocassis imperialis (KNISCH)

CHINA: ANHUI: CWBS loc. 292 (first record for Anhui). FUJIAN: CWBS loc. 249, 251, 262, 263. JIANGXI: CWBS loc. 304.

Hydrocassis scapha d'ORCHYMONT

CHINA: SICHUAN: Qingcheng Shan, 65 km NW Chengdu, 8 km W Taiping, 800 - 1000 m a.s.l., 103°33'E 30°53'N, 18.V/3.-4.VI.1997, leg. Pütz (NMW); CWBS loc. 225 (first record for Sichuan). GUIZHOU: CWBS loc. 273 (first record for Guizhou). ANHUI: CWBS loc. 291 (first record for Anhui). FUJIAN: CWBS loc. 256, 264 (first record for Fujian). JIANGXI: CWBS loc. 302, 303, 305, 306 (first record for Jiangxi).

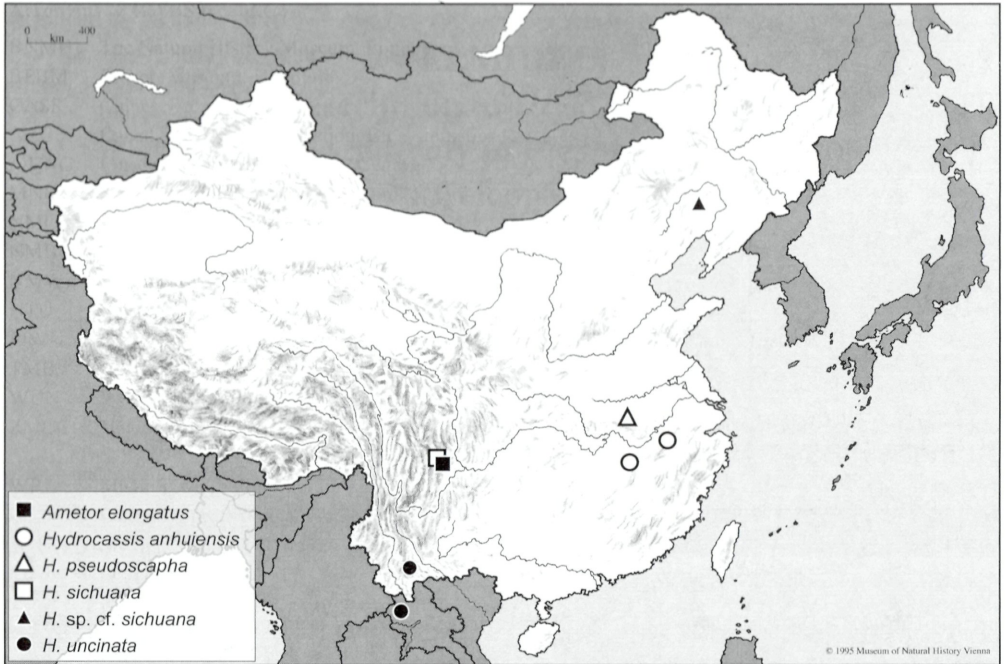


Fig. 6: Geographical distribution of *Ametor elongatus*, *Hydrocassis anhuiensis*, *H. pseudoscapha*, *H. sichuana*, *H. uncinata*, *H. sp. cf. sichuana*.

Hydrocassis lacustris SHARP

JAPAN: HONSHU: Gifu Pref., Akigami, 4.VIII.1966, leg. Satô (NMW, CSN); Miyagi Pref., Ohtaki-gawa, 5.VI.1978, leg. Satô (NMW, CSN).

Hydrocassis scapulata DEYROLLE & FAIRMAIRE

CHINA: SHAANXI: S-Shaanxi, Qinling Mts., N-slope, 800 - 1200 m a.s.l., 14.-16.VI.1995, leg. Businsky (NMW); CWBS loc. 308 - 310, 313 - 315, 319, 321. GANSU: CWBS loc. 322 (first record for Gansu). SICHUAN: CWBS loc. 335, 337.

Ametor rudesculptus SEMENOV

NEPAL: Dolakha Distr., SW Kalinchok Mt., 3100 m a.s.l., 19.-23.V.1995, leg. Martens & Schawaller (NMW, MNS); Taplejung Distr., Omje Kharka NW Yamputhin, mature mixed broad-leaved forest, 2300 - 2500 m a.s.l., 1.-6.V.1988, leg. Martens & Schawaller (MNS).

INDIA: HIMACHAL PRADESH: Kullu Valley, 2000 m a.s.l., 16.VI.1995, leg. Stauder (NMW) (first record for Himachal Pradesh).

CHINA: SICHUAN: Ganzi Pref., Daxue Shan, 5 km E Kangding, river valley, 102°00'E 30°30'N, 3000 m a.s.l., 20./23.V.1997, leg. Pütz (NMW, CPE).

***Ametor rugosus* KNISCH**

N E P A L: Ilam Distr., Gitang Khola Valley, *Alnus* forest along river, 1750 m a.s.l., 11.-13.IV.1988, leg. Martens & Schawaller (MNS, NMW); Panchthar Distr., Paniporua, 2300 m a.s.l., mixed broadleaved forest, 16.-20.IV.1988, leg. Martens & Schawaller (MNS); Shivpuri watershed, Budhanilkant, Mahadev, 25.I.1996, leg. Pradhan (NMW); Khandbari Distr., forest NE Kuwapani 2500 m a.s.l., 11.IV.1982, leg. Smetana & Smetana (BRCO, NMW); Khandbari Distr., Induwa Khola Valley, 2000 m a.s.l., 17.IV.1984, leg. Smetana & Löbl (BRCO); Mustang Distr., Tukuhe - Ghasa, 2.IV.1996, leg. Graf & al. (NMW); Mustang Distr., Ghasa Khola, 2.IV.1996, leg. Graf & al. (NMW); Mustang Distr., left tributary to Kaligandaki, below Ghasa, 3.IV.1996, leg. Graf & al. (NMW).

I N D I A: HIMACHAL PRADESH: Kullu Valley, ca. 20 km N Kullu, Khaknal stream, 2000 m a.s.l., 8.IV.1996, leg. Stauder (NMW).

C H I N A: YÜNNAN: CWBS loc. 60.

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