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## REMARKS ON THE SPIDER GENUS *CLUBIONA* LATREILLE, 1804 (ARANEI: CLUBIONIDAE) OF MONGOLIA

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### ABSTRACT

A brief review of the spider genus *Clubiona* from Mongolia is provided. *C. yurii* sp.n. (female) is described as new to science. *C. falcata* Tang, Song et Zhu, 2005 (male) is redescribed.

**Key words:** Aranei, Clubionidae, taxonomy, description, new species, Mongolia

## ЗАМЕТКИ О ПАУКАХ РОДА *CLUBIONA* LATREILLE, 1804 (ARANEI: CLUBIONIDAE) ИЗ МОНГОЛИИ

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### РЕЗЮМЕ

Дан краткий обзор пауков рода *Clubiona* Монголии. *C. yurii* sp.n. (самка) описан как новый для науки. Дано переописание *C. falcata* Tang, Song et Zhu, 2005 (самец).

**Ключевые слова:** Aranei, Clubionidae, таксономия, описание, новый вид, Монголия

## INTRODUCTION

To date, the spider fauna of the genus *Clubiona* of Mongolia comprises 12 species, as listed below. Comprehensive spider collections were made by my colleague and friend, Dr. Yuri M. Marusik (Magadan, Russia), in Central Mongolia during a joint American-Mongolian-Russian Expedition in 1997. On the basis of these materials, two more *Clubiona* species have been found, both from the *obesa*-group (sensu Mikhailov 1995), with one of them being new to science. (Re)descriptions of these species are given herein, together with an annotated list and remarks on other Mongolian *Clubiona* records.

## MATERIAL AND METHODS

A new system of clubionids proposed by Wunderlich (2011) is neglected here and will be discussed in detail in a separate paper. In this paper, species groups are listed after Mikhailov (1995).

The holotype of new species is kept in the Zoological Museum of the Moscow State University, Russia (ZMMU). The format of descriptions follows Mikhailov (1990). The following abbreviations are accepted: Cb – cymbium, d – dorsally, F – femur, lat – laterally, Mt – metatarsus, Pt – patella, rlat – retrolaterally, T – tarsus, Ti – tibia, v – ventrally. All measurements are in mm.

## SYSTEMATICS

### Family Clubionidae Wagner, 1887

### Genus *Clubiona* Latreille, 1804

### *Clubiona* (*Clubiona*) *yurii* Mikhailov sp. nov. (Figs 1, 2, 5B)

*Clubiona* sp., Marusik and Logunov 1999: 236.

**Material.** Holotype female (ZMMU Ta-7534), **MONGOLIA:** Bayankhongor Aimak, Gurvanbulag Somon, Khokh-Nuur Lake, 47°32'N, 98°32'E (Fig. 5B), 2600 m, 7–10 June 1997, coll. Y. Marusik.

**Diagnosis.** The *obesa*-group (sensu Mikhailov 1990, 1995). By the structure of the epigyne, the new species is most close to *C. kurilensis* Bösenberg et Strand, 1906 (see Figs 5–7 in Hayashi and Chikuni 1984) differing in the following characters: the rounded atrium situated closer to the epigastric furrow, tubular secondary parts of the spermathecae extending the level of copulatory openings.

**Description.** Female. Body length 4.50. Carapace 1.80 long, 1.33 wide, ratio 1.36. Carapace and legs straw-coloured. Chelicerae brown, 0.63 long. Leg measurements: F I 1.05, II 1.00, III 0.80, IV 1.28, Pt I 0.63, II 0.60, III 0.53, IV 0.65, Ti I 0.73, II 0.75, III 0.58, IV 0.90, Mt I 0.55, II 0.55, III 0.63, IV 1.13, T I 0.45, II 0.48, III 0.35, IV 0.40.

Leg armature: F I–II d1.1.2, III–IV d1.1.3, Pt III–IV rlat1, Ti I–II v2.2, III d2.2, v1.1.1, IV d.2.2,

v1.1.0, Mt I–II v2, III d2.1.2, lat1.2 (0.2), v2.2, IV d2.1.2, lat2.2, v2.1.2.

Abdomen 2.60 long, 1.55 wide, ratio 1.68. Epigyne as in Figs 1, 2. Cavity-like copulatory openings situated closer to the posterior angles of the epigynal plate, and copulatory tubes unparallel, like in *obesa*-group.

Male unknown.

**Etymology.** The species is dedicated to my colleague and friend, the well-known Russian arachnologist, Dr. Yuri Marusik (Magadan, Russia).

**Remark.** By the structure of female copulatory organs, *C. yurii* sp.n. does not belong to the *sapporensis*-subgroup of *obesa*-group and therefore it is not conspecific with *C. falcata*. In the *sapporensis*-subgroup, copulatory tubes are almost parallel, and small, almost bipartite spermathecae are positioned between large atria.

### *Clubiona* (*Clubiona*) *falcata* Tang, Song et Zhu, 2005 (Figs 3, 4, 5I)

*C. cf. phragmitis*, Marusik and Logunov 1999: 236.

**Material.** Male (ZMMU), **MONGOLIA:** Tov (=Central) Aimak, Baga-Mukhar, 48°27'N, 106°18'E (Fig. 5I), 1100 m, 18–23 June 1997, coll. Y. Marusik.

**Diagnosis.** The *obesa*-group, *sapporensis*-subgroup (sensu Mikhailov 1990, 1995) (cf. Figs 38–41, 45–47 in: Mikhailov 1990). By the conformation of tegular apophysis, embolic part structure and the loops of seminal duct, it is closer to *C. charitonovi* (op. cit., Figs 45–47), differing with the thicker embolus being more similar to *C. sapporensis* (op. cit., Figs 38–41).

**Description.** Male. Body length 5.85. Carapace 2.83 long, 2.00 wide, ratio 1.41. Carapace and legs reddishstraw-coloured. Chelicerae dark brown (chestnut-coloured), 1.25 long.

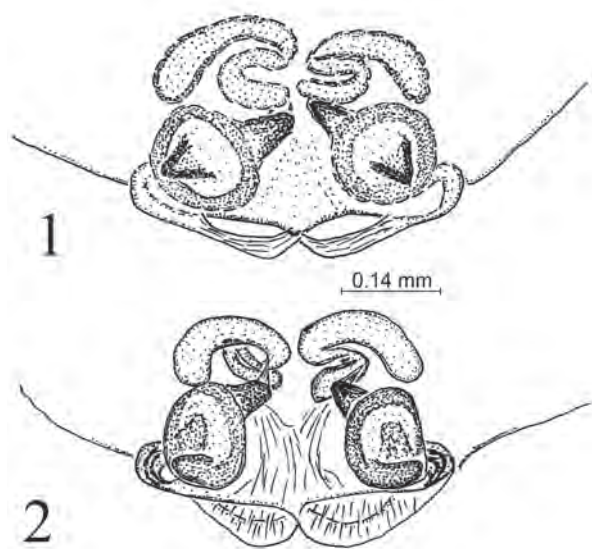
Palp as in Figs 3, 4, lengths of F, Pt, Ti, and Cb are 0.88, 0.38, 0.38, and 1.03, respectively.

Leg measurements: F I 2.18, II 2.18, III 1.83, IV 2.40, Pt I 1.05, II 1.03, III 0.83, IV 1.03, Ti I 2.03, II 2.05, III 1.28, IV 2.00, Mt I 1.45, II 1.48, III 1.58, IV 2.58, T I 0.88, II 0.88, III 0.60, IV 0.75.

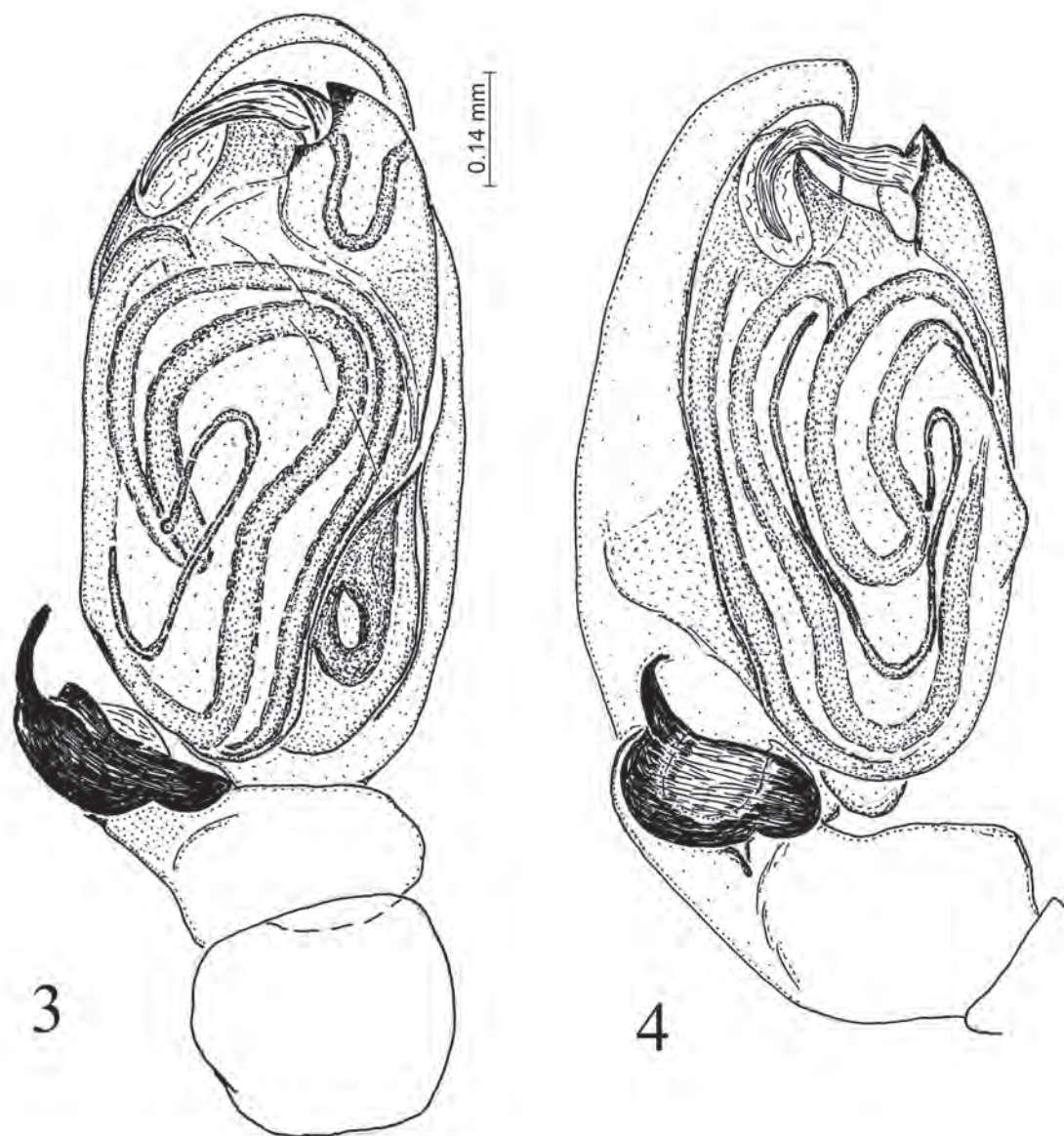
Leg armature: F I–II d1.1.2, III–IV d1.1.3, Pt III–IV rlat1, Ti I–II v2.2, III d2.2, v1.1.1.1, IV d.2.2, v1.1.1, Mt I–II v2, III d2.1.2, lat1.2, v2.2, IV d2.1.2, lat2.2, v2.1.2.

Abdomen brown, 3.33 long, 1.58 wide, ratio 2.11.

Female unknown.



Figs 1, 2. *Clubiona yurii* sp.nov., epigyne (1) and vulva (2).



Figs 3, 4. *Clubiona falcata*, right male palp ventrally (3) and ventro-retrolaterally (4).

**Remarks.** This species was described from Inner Mongolia, China. The original figures (Tang et al. 2005: fig. 1b, c) are too small and at least the tegular apophysis of the male palp is figured insufficiently. Therefore, our male has been described and illustrated in more detail.

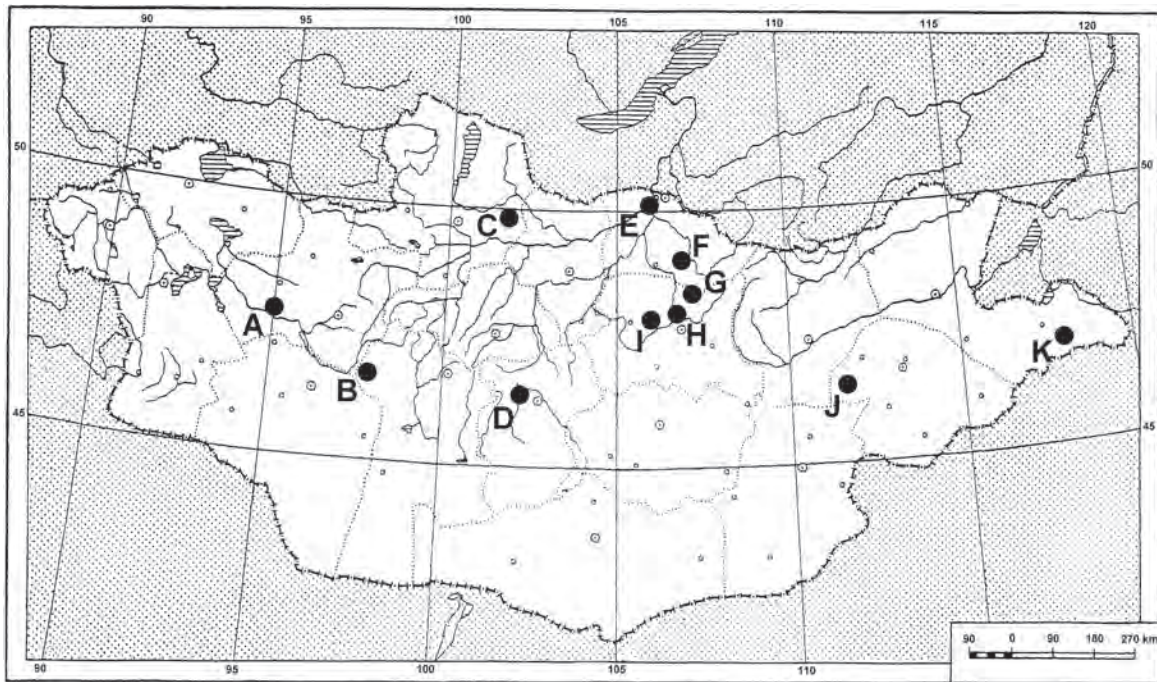
Another species, *C. haupti* Tang, Song et Zhu, 2005, from the *sapporensis*-subgroup was described from Inner Mongolia after females, but it is very likely to be a junior synonym of *C. falcata*.

#### LIST OF *CLUBIONA* SPECIES KNOWN FROM MONGOLIA

##### *TRIVIALIS*-group

*Clubiona diversa* O. Pickard-Cambridge, 1862 (Fig. 5K)

Mongolia: Dornod (Eastern) Aimak: Sumber somon: Bulin River, 10 km E of Kharkhont Frontier Post (Fig. 5K) (Mikhailov 1992).



**Fig. 5.** Localities of *Clubiona* in Mongolia: A – Bajan-Nuur Lake, B – Khokh-Nuur Lake, C – Namnanuul Mts., D – Zamtyn Davaa, E – Shamaar Somon, F – 126 km N of Ulan-Bator, G – Terelj, H – Ulan-Bator, I – Baga-Mukhar, J – Tumentsogt, K – Kharkhont Frontier Post.

Distribution. Transpalearctic range, including S-Korea and Japan.

***Clubiona subtilis* L. Koch, 1866**

(Fig. 5E)

Mongolia: Selenga Aimak: Shaamar somon (Fig. 5E) (Mikhailov 1992).

Distribution. Transpalearctic range.

***Clubiona basarukini* Michailov, 1990**

(Fig. 5E)

Mongolia: Selenga Aimak: Shaamar somon, pine forest (Fig. 5E) (Mikhailov 1992).

Distribution. Russia: Transbaikalia; Mongolia.

**COMTA-group**

***Clubiona wunderlichi* Michailov, 1992**

(Fig. 5J)

Mongolia: Sukhe-Bator Aimak: Tumentsogt somon (Fig. 5J) (Mikhailov 1992). Known by single female only.

Distribution. Mongolia: type locality only.

**LUTESCENS-group**

***Clubiona riparia* L. Koch, 1866**

(Fig. 5G)

Mongolia: S-Khentei Mts.: 80 km NE of Ulan-Bator, “Tereldsch Kisher” (Terelj) (Fig. 5G) (Mikhailov 1992).

Distribution. Russia: all Siberia; Mongolia; North America: USA (with Alaska), Canada.

**SIMILIS-group**

***Clubiona ? similis* L. Koch, 1866**

(Fig. 5F)

Mongolia: 1 female, Central Aimak, 126 km N of Ulan-Bator (Fig. 5F) (Loksa 1965). Doubtful record; it can be also attributed to *C. frisia* Wunderlich et Schuett, 1995.

Distribution. Euro-Siberian range.

***Clubiona neglecta* O. Pickard-Cambridge, 1862**

(Fig. 5A, I)

Mongolia: 5 males, 5 females (Natural History Museum, Budapest), Bulgan Aimak, 11 km W v. Somon

Bajan-nuur, am Südrand des Sees Bajan-nuur (Fig. 5A), 1000 m, *Caragana*-Sandsteppe, Bodenfallen, 14 June–24 August 1968, Z. Kaszab. Tov Aimak: Baga-Mukhar (Fig. 5I) (Marusik and Logunov 1999).

Distribution. Transpalearctic range to China and South Korea.

#### OBESA-group

***Clubiona subborealis* Michailov, 1992**  
(Fig. 5G)

Mongolia: S-Khangai Mts.: 80 km NE of Ulan-Bator, “Tereldsch Kisher” (Terelj) (Fig. 5G) (Mikhailov 1992).

Distribution. Russia: mountains of South Siberia from Transbaikalia to Priamurie; Mongolia.

***Clubiona yurii* sp.nov.**  
(Fig. 5B)

Mongolia: type locality (Fig. 5B); see above.  
Distribution. Type locality only.

***Clubiona falcata* Tang et al., 2005**  
(Fig. 5J)

Mongolia: Tov (=Central) Aimak, Baga-Mukhar, 48°27'N, 106°18'E (Fig. 5J); see above.

Distribution. Mongolia, China: Inner Mongolia.

#### PALLIDULA-group

***Clubiona pallidula* (Clerck, 1758)**  
(Fig. 5I)

Mongolia: Tov Aimak: Baga-Mukhar (Fig. 5I) (Marusik and Logunov 1999).

Distribution. Holarctic range.

#### RECLUSA-group

***Clubiona interjecta* L. Koch, 1879**  
(Fig. 5C, H)

Mongolia: Ulan-Bator (Fig. 5H) (Mikhailov 1992); Bulgan Aimak: Namnan uul Mts., 23 km from Somon Chutag (Fig. 5C) (Marusik and Logunov 2006).

Distribution. Russia: Siberia, Far East; Mongolia; China: northern part, Sichuan (?).

***Clubiona kulczynskii* Lessert, 1905**  
(Fig. 5D)

Mongolia: Tov Aimak: env. of Ulan-Bator (Fig. 5, 8); Ovurkhangai Aimak: Zamtyin Davaa (Fig. 5D) (Marusik and Logunov 1999).

Distribution. Holarctic range, boreomontane species.

***Clubiona subsultans* Thorell, 1875**  
(Fig. 5H)

Mongolia: Tov Aimak: env. of Ulan-Bator (Fig. 5H) (Marusik and Logunov 1999).

Distribution. Euro-Siberian range.

## DISCUSSION

Totally, 14 *Clubiona* species have been recorded from Mongolia, covering 1,564,116 km<sup>2</sup> and encompassing (mountain) forests, forest-steppes, steppes and deserts. Mongolia borders mainly Inner Mongolia, China, and Transbaikalia, Russia.

1. Inner Mongolia, China (the same physiographical area as that of Mongolia, 1,183,000 km<sup>2</sup>). Of the fourteen *Clubiona* species known from Inner Mongolia (Tang et al. 2005), four also occur in Mongolia: *C. falcata*, *C. interjecta*, *C. neglecta*, *C. riparia*.

2. Transbaikalia, Russia (Buryat Republic, Chita Area, 783,200 km<sup>2</sup>; including taiga forests, forest-steppes and steppes): 20 *Clubiona* species including 1 doubtful record (Danilov 2008). Eleven species also occur in Mongolia: *C. basarukini*, *C. diversa*, *C. interjecta*, *C. kulczynskii*, *C. neglecta*, *C. pallidula*, *C. riparia*, *C. ? similis*, *C. subborealis*, *C. subsultans*, *C. subtilis*.

Most species of *Clubiona* prefer mesophyte biotopes, both in temperate and (sub)tropical climates. Overall, a species diversity of *Clubiona* decreases from the temperate forest zone via steppes to the desert zone. The *Clubiona* diversity in forested Transbaikalia is higher than that in desertlike Mongolia (20 vs. 14 species) despite the difference in their respective squares (twice as large in Mongolia).

Of 14 Mongolian *Clubiona*, 2 are of Holarctic range (*C. kulczynskii*, *C. pallidula*), 5 – Transpalearctic/Euro-Siberian (*C. diversa*, *C. neglecta*, *C. ? similis*, *C. subsultans*, *C. subtilis*), 1 – Siberio-American (*C. riparia*), 1 – Siberian (*C. interjecta*), 1 – S-Siberian

(*C. subborealis*), 1 – Transbaikalian (*C. basarukini*). Three endemical *Clubiona* species are hitherto known: 1 – N-Chinese-Mongolian (*C. falcata*), and 2 – Mongolian (*C. wunderlichii*, *C. yurii*).

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