



## ***Chionea* Dalman newly recorded from China with descriptions of two new species (Diptera, Limoniidae)**

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### **Abstract**

The genus *Chionea* Dalman, 1816 is recorded from China for the first time with the following four species belonging to the subgenus *Chionea* s. str.: *Chionea (Chionea) crassipes gracilistyla* Alexander, 1936, *C. (C.) pusilla* Savchenko, 1983, *C. (C.) sphaerae* **sp. nov.** and *C. (C.) tianhuashana* **sp. nov.**. A key to the known species of *Chionea* from Eastern Palaearctic is presented.

**Key words:** Diptera, Limoniidae, *Chionea*, new species, China

### **Introduction**

“Members of the genus *Chionea* Dalman are small-sized, spider-like, nematocerous Diptera with the wings so extremely short that they are frequently referred to as being wingless. The body colour ranges from yellowish to very dark brown, this variation being found even within one species” (Oosterbroek and Reusch 2008). They are most often found walking awkwardly over the snow (Figs. 2–3) in late autumn, in early spring or during warm days in winter. A few instances, however, have been recorded when specimens were found with the temperature below freezing (Hagvar 1976; Alexander 1919). At other times of the year they may be found among fallen leaves, under moss and stones, in the nests of small mammals (Schmitz 1914), or in deserted subterranean nests of wasps (Schmitz 1916).

The genus *Chionea* was erected by Dalman in 1816 for the type species *araneoides*. It is characterized by the following features: body length commonly less than 5 mm, but sometimes larger; head without tubercle on frons, and without a nasus; terminal palpal segment short; antenna with 4–11 segments; eye without hairs; legs without tibial spurs; wing present only as a microscopic vestige in both sexes (Dalman 1816; Alexander & Byers 1981). The genus is divided into the following two subgenera: *Chionea* s. str. and *Sphaeconophilus* Becker, 1912. The former differs from the latter in the following features: antenna with 4–11 segments; sclerotized lobe present at base of gonostylus (Figs. 8–10, 16–18, 27–29, 35–37); aedeagus short; paramere short, triangular (Figs. 7, 11, 15, 19, 26, 30, 34, 38); cercus broadly rounded at apex (Figs. 22, 41). In the subgenus *Sphaeconophilus*, the antenna has 4–7 segments, no lobe is present at base of gonostylus, the aedeagus is long, thin and looping, the paramere is long, not triangular, and the cercus has a more acute apex (Becker 1912; Oosterbroek and Reusch 2008).

*Chionea* is a small genus in the family Limoniidae with 35 known species, of which 17 species are from the Palaearctic Region and 18 species are from the Nearctic Region (Oosterbroek 2012).

In the present paper, the genus *Chionea* is recorded from China for the first time with four species belonging to the subgenus *Chionea*. Two species, *Chionea (Chionea) sphaerae* **sp. nov.** and *C. (C.) tianhuashana* **sp. nov.**, are described as new to science. A key to the known species of *Chionea* from Eastern Palaearctic is presented. The four species are all distributed in Northeast China, which mainly consists of Liaoning, Jilin and Heilongjiang provinces and borders with Russia and North Korea. As Northeast China is mainly temperate monsoon climate, winter lasts for more than half a year and rainfall is concentrated in summer. Northeast China has large areas of coniferous forest, broad-leaved forest and coniferous and broad-leaved mixed forest and most of the mountains and hills are densely covered with forest (Fig. 1).