

FIRST REPORT OF THE SNOW CRANE FLY *CHIONEA SCITA* WALKER, 1848 (DIPTERA: TIPULOIDEA: LIMONIIDAE) FROM INDIANA

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ABSTRACT. The snow crane fly *Chionea scita* Walker, 1848 (Diptera: Tipuloidea: Limoniidae) is reported from Indiana for the first time based on one male adult from New Bellsville, Brown County. This represents a slight westward expansion of the geographic range of this species, with the nearest records being from southeastern Michigan and east-central Kentucky. This is the first report of the species from inside a human structure. Only one other *Chionea* species has been reported from Indiana.

Keywords: Midwest, distribution, record data, *Chionea stoneana*

Crane flies (Diptera: Tipuloidea) are typically slender-bodied flies with fragile, long and slender legs and elongate, narrow wings as adults. They are among the most abundant and familiar true flies, commonly found in the suburban landscape and often mistakenly identified by non-entomologists as oversized mosquitoes; however, even those tipuloid flies with elongate mouthparts cannot bite. This is the largest single grouping of true flies, with over 15,000 species worldwide. As might be expected from such a large group, an amazing variety of forms and habits are found within its ranks (Alexander & Byers 1981; Borror et al. 1989; Oosterbroek 2014; Pers. Observ.).

The genus *Chionea* Dalman, 1816 (Limoniidae) is a peculiar group of crane flies known as the snow crane flies. *Chionea* adults are wingless and are usually encountered walking on snow (Byers 1983; Schrock 1992). They are small, brown, hairy insects, with a distinctly spiderlike appearance (Alexander & Byers 1981). Without need for bulky wing muscles, female adults may carry many eggs. Very little is known, however, about exact oviposition sites for most species. Larvae are known to occur in the spring and summer, but they are seldom collected; some species have been found associated with rodent burrows or nests, perhaps feeding on the feces found therein. As with many other coprophages, snow crane flies

may serve as intermediate hosts for tapeworms. Snow crane flies pupate through the late summer and autumn, with adults usually emerging in winter. Adults may be long-lived, surviving for several months before reaching the end of their life cycle. In some cases, adults are known to carry ring-like capsules of immature nematodes between their head and thorax, serving as a means of dispersal for the roundworms. These and additional aspects of *Chionea* biology and ecology in North America are detailed, discussed and illustrated by Byers (1983, 1995) and Schrock (1992).

Fifty-six *Chionea* species are known globally, and eighteen are known from North America (Byers 1995; Oosterbroek 2014). Previously, only one species has been reported from Indiana: *C. stoneana* Alexander, 1940. The specimens on which this historical report is based were collected 23–26 December 1974 from Posey Township, Clay County, in southwestern Indiana (Byers 1983).

The single male adult I collected on 23 December 2013 from New Bellsville, Brown County (39°08'16"N, 86°07'03"W), represents the first record of *C. scita* Walker, 1848 from Indiana and a slight western extension to the species' range of geographic distribution. This also represents only the second report of the genus *Chionea* from Indiana, the previous one being based on specimens collected about 40 years ago (see above).

Chionea scita has been reported from Vermont westward to Michigan and southward to northern Georgia and South Carolina, but it

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was thought to occur only in the Appalachian Mountains south of Pennsylvania (Byers 1983, 1995; Petersen et al. 2005). The closest records to Indiana are from southeastern Michigan (Highland Recreation Area, Oakland Co., 8–12 November 1952) and east-central Kentucky (Wind Cave, Pulaski Co., 24 October 1970); these comprise the previously westernmost records of the species (Byers 1983, 1995).

The specimen newly reported herein was collected during mid-afternoon (around 3:30 pm EST) on a cold (-2°C) and cloudy day, from the recently opened doorway of an outbuilding with a concrete floor. The individual had been active inside the rather dark building, which has only a few small windows. At the time of collection, there was no snow cover, but there had been snow three days prior until it was melted by nearly two days of steady rain.

Remarkably, *C. scita* is perhaps the only North American *Chionea* species collected primarily from surfaces other than snow (Byers 1983). Notable numbers of specimens have been collected from caves in West Virginia and Kentucky and from cavities in soil along the shore of a marsh in Michigan. The possibility that the microhabitat of this species is associated with rodents has not been ruled out (Byers 1983). This new report is the first documented occurrence inside a human structure, although a previous report from Pennsylvania was based on a specimen collected from a window screen near lights at night (Byers 1983).

The Indiana specimen was identified using Byers (1983, 1995), and it is deposited in the Purdue University Entomological Research Collection, West Lafayette, Indiana, USA. I note here that the dististyles of this specimen are slightly more evenly attenuate than those figured by Byers (1983: Figs. 98 & 99) for *C. scita*.

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