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# Synanthropic spiders Araneae of the Twin Cities area

BRUCE CUTLER\*

**ABSTRACT** – A review of those spiders which are most likely to enter manmade structures or which occur on highly disturbed ground is presented. The nine species which are dependent on man's activities are discussed in more detail. Along with the species names there is a reference to illustrations in two available field guides to aid in identification.

This paper was prompted by the need of extension personnel and teachers for a guide to the commoner spiders found in Minnesota, with special emphasis on those associated with man. Synanthropic species are those restricted to man's domiciles or areas heavily disturbed by man. Many synanthropic species are known to occur widely in natural habitats in one geographical area, but are strictly synanthropic elsewhere, i. e. *Dysdera crocata* is native to western Europe, elsewhere it occurs only associated with disturbed areas (Cooke, 1967). In other cases synanthropic species are found only in association with man or are so widespread that no one area can be pinpointed as the center of origin, i. e. *Oecobius annulipes* (Shear, 1970).

Because of its central location in the continent, Minnesota has been slower in receiving species that are slow to establish but have been introduced to eastern or western areas. However, many synanthropic species are not dependent on normal biological dispersal and easily establish small, isolated colonies from introduction of only a few individuals from cargo carried by any means of transport.

Those species which can live outdoors at some time during the warmer months become generally established; those which are restricted to specific indoor environments may exist for many years in that environment without becoming generally established.

This paper is restricted, with one exception, to the Minneapolis – St. Paul area because it is the only part of the state where arachnologists have resided for any length of time. Collecting trips outside the Twin Cities are invariably to less disturbed environments. As a suggestion, Duluth should be particularly interesting for investigation because of its port status.

There are two excellent illustrated guides to spiders Kaston (1972), and Levi and Levi (1968). In this paper, after each species mentioned, there will be a reference to K (Kaston) or L (Levi) or both, followed by a number. The number refers to the page in the guide where the genus, or in most cases, the species is illustrated. In this way it is hoped that 90 – 95 percent of the spiders brought in may be identified correctly. Confirmative identification, except for the most familiar species, depends on having mature male or female spiders and having the work done by a specialist.

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There are many spiders which are introduced, but never become established, these are from regions with a more moderate climate. The chance introductions known from the Twin Cities are:

- Ctenidae – *Ctenus* sp. K 235; *Cupiennius salei* (Keyserling) L 91 – fruit warehouse.
- Salticidae – *Metaphidippus* (southern sp.) K 274, L 101 – university building; *Phidippus* (southern sp.) K 267, L 102 – tropical fish warehouse.
- Sparassidae – *Heteropoda venatoria* (Linn.) K 235, L 92 – fruit warehouses, tropical fish warehouse (a large pan-tropical spider, mistakenly called a tarantula).
- Theraphosidae – indeterminate genera K 62, L 21 – fruit warehouses (the tarantulas of the New World).
- Theridiidae – *Latrodectus hesperus* Chamberlin and Ivie K 102; *L. mactans* (Fab.) K 101, L 42 – from campers and trailers arriving for Colorado, California and south-central and southeastern states (black widows, poisonous).

In addition to the purely synanthropic species, there are those native species which commonly enter houses and out-buildings, or are found on outdoor furniture and garden structures. These include:

- Agelenidae – *Agelenopsis pennsylvanica* (C. L. Koch) and *A. utahana* (Chamberlin and Ivie) K 177, L 73.
- Araneidae – several species of *Araneus* K 163, L 56; *Argiope aurantia* Lucas, and *A. trifasciata* Forskal K 144, L 68; *Neoscona arabesca* (Walck.) K 156, L 59.
- Gnaphosidae – *Heryillus ecclesiasticus* Hentz K 212, L 87.
- Pisauridae – *Dolomedes tenebrosus* Hentz K 188, L 81.
- Salticidae – *Metaphidippus protervus* (Walck.) K 274, L 101; *Phidippus audax* (Hentz) K 267, L 102.
- Theridiidae – *Steatoda borealis* (Hentz) K 117, L 41.
- Thomisidae – several species of *Philodromus* K 246, L 97.

An annotated list of the successfully established, purely synanthropic species of spiders follows.

## AGELENIDAE

*Tegenaria domestica* (Clerck) K 182, L 74

There are many records from all parts of the Twin Cities of this "house spider" of Europe. Abundant in cellars, it also may be found in neglected corners on more elevated parts of houses. It spins a funnel web about a fifth of a meter square. Along the *Achearanaea*, it is responsible for most of the "cob-webs" in houses. In unheated outbuildings in the summer its place appears to be taken by the two native species of *Agelenopsis*, and it does not seem to be able to compete with these species out of doors. Roth (1968) gives further details.

## DYSDERIDAE

*Dysdera crocata* C. L. Koch K 92, L 27.

A most interesting addition to our fauna, our only haplogyne spider. Haplogynes retain many primitive spider characters, particularly simple genitalia. Despite this, many possess specialized adaptations as well. *Dysdera* is adapted to feeding on terrestrial isopods (sowbugs), although it will eat any small arthropods it is able to catch. They build a tightly woven retreat under rocks or boards in disturbed areas, and do not use a web for snaring prey. Only recorded since 1970 in both Minneapolis and Lauderdale (a suburb of St. Paul). Cooke (1965, 1967) gives biological details of the species in Europe.

## OECOBIIDAE

*Oecobius annulipes* Lucas K 74, L 115.

This tiny spider has been taken from greenhouses on the St. Paul campus of the University of Minnesota since 1964. Since 1972 it has been noticed in a few new buildings close to greenhouses, and it may be slowly expanding its range. A small flat web about a centimeter square on irregular walls or shelves is its hallmark. It runs rapidly over the web, and is very easily disturbed. Shear (1970) covers biological and distributional details.

## PHOLCIDAE

*Pholcus phalangiodes* (Fuesslin) K 95, L 33.

The well named cellar spider has only been taken in Rochester, Minnesota, in the late 1960's but seems to be common there. No Twin Cities records are known. The species probably requires a high humidity, and would not survive in centrally heated rooms (Bristowe, 1958). It builds a tangled flimsy web from which it hangs. The legs are extremely long and reminiscent of a daddy-long-legs (phalangids). The weak-appearing eggsac, through which the eggs are clearly visible, is carried in the chelicerae of the female.

## SALTICIDAE

Both species are diurnal hunters and do not build snares. Tightly woven retreats resembling little white purses serve as molting chambers and hibernacula. Both species are found on manmade structures away from buildings, such as garden walls.

*Salticus scenicus* (Clerck) K 257, L 99.

The small zebra spider is strikingly marked in white and black chevrons. It may be easily distinguished from *Sitticus fasciger*, the other synanthropic salticid, which is mottled tan and gray. *S. scenicus* is most likely of European origin, as it has never been taken away from man's environs, even though it has certainly been in this country well over a century. Woodring (1957) gives the distribution in Minnesota. It is one of the two synanthropic spiders recorded before the 1960's.

*Sitticus fasciger* (Simon) K 256, L 99.

This species is a recent introduction to the United States fauna, having been taken in Minnesota only since 1964. A thesis by Woodring (1957) failed to mention it, despite the fact that the species is abundant and conspicuous now in the building in which Woodring did his research. Cutler (1965) gives some biological data under the name *Sitticus barnesi*.

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Proszynski (1968) discusses the peculiar distribution, and checkered taxonomic history of the species. The indications are that the species was introduced to this country no earlier than the middle 1950's. It is now one of the most abundant and characteristic synanthropic spiders of this state.

## THERIDIIDAE

All three species build a similar snare, a tangled web, usually in a corner or window frame. The eggsacs are ovoid or spherical and suspended in the web. Levi (1967) gives distributional data.

*Achearanea tepidariorum* (C. L. Koch) K 108, L 40.

This "house spider" of North America is worldwide in distribution. In Minnesota it is common in cellars, and in the summer may be found outside of buildings. The color is exceptionally variable, but is usually a mottled tan, gray or dirty white. The prosoma of males is commonly red-orange. It is one of only two synanthropic species for which there are records before the 1960's in Minnesota.

*Coleosoma floridanum* Banks L 39.

Has only been taken in greenhouses on the St. Paul campus of the University of Minnesota. The preferred habitat seems to be beneath stored or unused flowerpots (Cutler, 1972). Although small, the white patches on the opisthosoma stand out in its dull environment.

*Steatoda triangulosa* (Walck.) K 118, L 41.

This species was found in 1972 in a cellar in southeast Minneapolis. It is a widespread species occurring in every major metropolitan area in the United States and extreme southern Canada. The opisthosomal pattern is distinctive.

During the summer of 1973 the following two species were found. Sparassidae — *Olios* sp. K 236 — bananas from Honduras, bought in supermarket. Agelenidae — *Agelenopsis emertoni* Chamberlin and Ivie — native species, found in house.

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