

DEREPHYSIA FOLIACEA (FALLÉN), A TINGIDAE NEW TO NORTH AMERICA (HEMIPTERA: HETEROPTERA)

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Abstract. — *Derephysia foliacea* (Fallén) (Hemiptera: Heteroptera: Tingidae) is recorded from North America for the first time, based upon specimens collected in western Oregon, chiefly on or near Mary's Peak, Benton County, Polk County, and the H. J. Andrews Experimental Forest, eastern Lane County on the west slope of the Cascade Mountains. Several other Holarctic genera and species of Hemiptera: Heteroptera occur with *D. foliacea*, suggesting a true Holarctic distribution rather than an introduction. In the Palaearctic Region, the tingid is known from Western Europe, North Africa and eastward to Siberia, Mongolia and Japan.

Our knowledge of the Tingidae of North America is quite good at the generic level. Many genera remain to be monographed and much remains to be discovered about the biology of many species, particularly in western North America. A small collection of Heteroptera collected by my colleague Paul Oman from nearby Mary's Peak in 1968 proved to be of particular interest when two females of an unknown lacebug were included. Ultimately, an identification was made (and confirmed by Richard C. Froeschner of the Smithsonian Institution), that of *Derephysia foliacea* (Fallén), known previously only from the Old World. Considerable effort has been made to collect additional specimens but with only limited success. While some adults have been collected, the immature stages still elude us as they do our European colleagues.

Available evidence suggests that *Derephysia foliacea* is native to the Pacific Northwest rather than being an introduction and thus it joins a rather distinct group of palaearctic extensions into the Pacific Northwest at both the generic and specific level. Examples among the Miridae include *Allorhinocoris* (Bliven, 1960) and *Anapus* and *Myrmecophyes* (Schuh and Lattin, 1980); the Rhopalidae includes *Chorosoma* (unpubl.), and the Tingidae included *Acalypta cooleyi*; Drake (Froeschner, 1976) although this last example may represent an extension into the eastern Palaearctic Region.

Derephysia foliacea was described from Sweden by Fallén in 1807 (as *Tingis*). Drake and Ruhoff (1965) record it from Europe, North Africa and eastward to Siberia. Lindberg (1927) reported it from Nikolajewsk in the Amur Region of far eastern U.S.S.R., although Josifov and Kerzhner (1972) did not record it from Korea. Pericart (1978) revised the genus for the western Palaearctic Region and later, in his marvelous treatise on the Euromediterranean Tingidae (1983), provided a thorough review of the genus *Derephysia*, including *foliacea*. Butler (1923) described the egg and Stusak (1957) and Puchkov (1970, 1974) described and illustrated the larva. Illustrations of the adult are found in Scholte (1935), Southwood and Leston (1959), Kerzhner and Jaczewski (1967), Puchkov (1974) and Pericart (1978, 1983), among others. A number of host plants are listed by Drake and Ruhoff (1965) but specific host in-

formation is very limited. Southwood and Leston (1959) refer to the species as the "ivy bug." Stusak mentions that nymphs were taken in the moss *Climacium dendroides* W. and M. in a meadow in August. Puchkov (1974) provided additional host information. Pericart (1983) summarizes the available host information and mentions the possible association of this species with ants citing Reuter (1880) and Singer (1952).

The first specimens collected from North America were the two females collected on August 7, 1968 by Paul Oman in the summit meadow on Mary's Peak, Benton County, Oregon. Mary's Peak is 14 miles west of Corvallis and is the highest point (1,249 meters) in the Coast Ranges of Oregon. While most of the mountain is covered with a typical Douglas fir (*Pseudotsuga menziesii* (Mirb.) Franco) and western hemlock (*Tsuga heterophylla* (Raf.) Sarg. forest, there is a natural grass bald at the summit that is surrounded by noble fir (*Abies procera* (Rehd), together with scattered Douglas fir and western hemlock (Franklin and Dyrness, 1973). Merkle (1951) states that the meadow is composed chiefly of Idaho fescue (*Festuca idahoensis* Elm.), bent grass (*Agrostis diegoensis* Vas.) and California sedge (*Carex californica* L. H. Bailey). According to Kenton Chambers (pers. comm.), the correct identity of the fescue is *Festuca rubra* L.

The following specimens have been examined (all specimens in Systematic Entomology Laboratory, Oregon State University, except as noted): Oregon: Benton County: Mary's Peak, 7 August 1968 (P. W. Oman); 29 August 1968 (R. W. Westcott, Oreg. St. Dept. Agr.); 18 August 1970, 3,800 ft, (Oman, Brandenburg and Rowers); 8 September 1971, summit meadow at campground 3,600 ft, (J. D. Lattin) (also specimens in U.S. National Museum); October 1976 (J. D. Lattin); Grass Mountain, summit prairie, sweeping, 14 August 1980 (J. D. Lattin); Corvallis, 28 July 1973 (J. Lattin); Lobster Valley, 15 mi SW Alsea, 25 July 1971 (J. D. Lattin) and 14 July 1973 (J. D. Lattin); Lane County: Blue River, H. J. Andrews Exp. For., Old age Doug. Fir stand, I. B. P. Biome Survey, Rotary net, 1–3:30 PM, 3 August 1972; Lane/Linn Co., H. J. Andrews Exp. For., access road #1553, nr. Mack Creek, 2.5 mi W Jct 1502–1553, ex sweeping, 2 August 1977 (Eulensen and Searles); Lane Co., Andrews Exp. For. T15S R5E Sec 31, 6 August 1980 (Oman); Lane/Linn Co., H. J. Andrews Exp. For. meadow, ½ mi N Frissel Pt. T15S R6E Sec 29 SW¼, 4,850 ft, 2 September 1981 (J. D. Lattin). Marion County: Croisan Gulch, S. Salem, 28 July 1976 (R. L. Westcott, Oreg. St. Dept. Agr.); Polk County: Independence, July 1975 (L. Russell).

The known distribution of *D. foliacea* in North America is limited to several locations in the Coast Ranges of western Oregon, west of Corvallis, a few scattered localities directly east of the localities and one location on the west slope of the Cascade Mountains east of Eugene (H. J. Andrews Experimental Forest, a National Science Foundation, Long Term Ecological Research Site). Only three collection sites have produced more than a single specimen (Mary's Peak, Grass Mountain [Coast Range] and the meadow north of Frissel Point on the H. J. Andrews Forest (Cascade Mountains). These sites are all natural meadows occurring at some elevation (1,200–1,500 m) in an undisturbed forest habitat. The single specimens from scattered, low elevation localities, mostly males, suggests that there may be a dispersal flight in mid- to late summer that may result in specimens being carried away from these

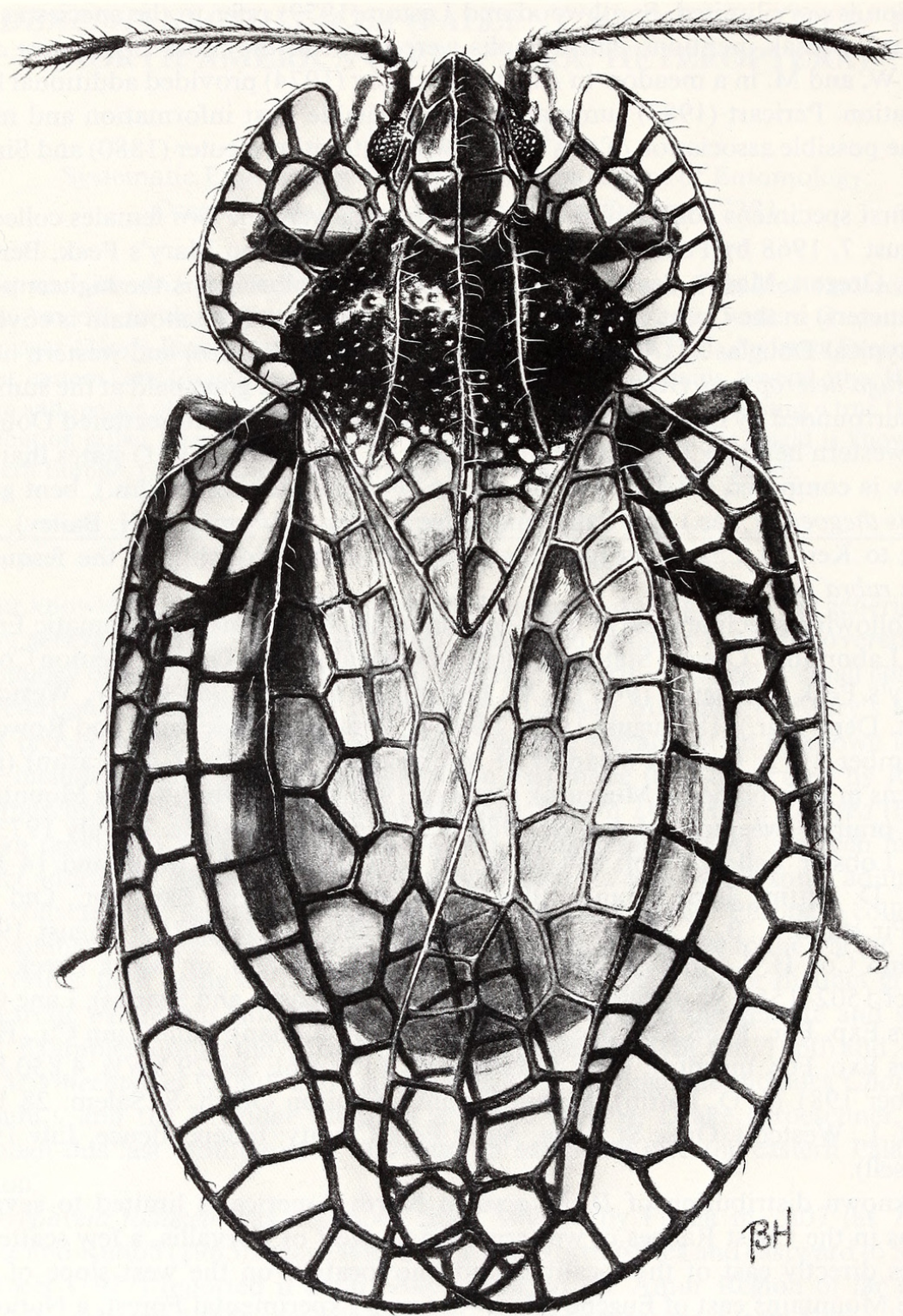


Fig. 1. *Derephysia foliacea* (Fallén).

montane meadows. Southwood and Leston (1959) report on the flight of this species in England and one specimen was collected from a rotary trap in early August at lower elevations on the H. J. Andrews Forest.

The Tingidae fauna of Oregon is reasonably well known although a number of genera and species are represented by very few specimens. The following genera and number of species are presently known from Oregon: *Acalypta* (3 spp.), *Corythucha* (8–10 spp.), *Derephysia* (1 sp.), *Dictyonota* (1 sp.), *Gargaphia* (2 spp.), *Hesperotingis* (1 sp.), *Melanorhopala* (1 sp.), *Monanthia* (1 sp.), *Physatocheila* (1 sp.), *Stephanitis* (1 sp.), *Teleonemia* (2 spp.). There is a possibility that *Leptoypha minor* McAtee will be found in southwestern Oregon since the known host plants are found there and it occurs in nearby California. Two of the species included above, *Dictyonota fuliginosa* Costa and *Stephanitis rhododendroni* Horváth, are considered to be introductions, the first from Europe on Broom (*Sarothamnus scoparius*) and the second from eastern United States on cultivated rhododendrons (note: it has not been collected on the native Oregon species of rhododendron to date). The discovery of *Derephysia foliacea* in Oregon represents an interesting addition to our fauna.

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Note: It is a pleasure to contribute this paper in honor of my long time friend and colleague, Richard C. Froeschner. Our association dates back to my undergraduate days at Iowa State University. Dick Froeschner freely shared his considerable knowledge of insects, including the Heteroptera, with me then and over the years of our friendship since that time.

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