Shorter Notes

A Western Range Extension for *Selaginella eclipes* Buck in North-central Iowa.—In the original description of *Selaginella eclipes* (Buck, Canad. J. Bot. 55:366–371, 1977), the range of this species was given as extreme northeastern Oklahoma and northern Arkansas through central Missouri and Illinois to the Upper Peninsula of Michigan and the St. Lawrence River Valley. Peck & Buck (Amer. Fern J. 68:29, 1978) and Peck (Contr. Milwaukee Pub. Mus. Geol. Biol. 53:1–143, 1982) noted that the northwestern range limit for this species actually occurred from Muscatine Co., IA to Waushara Co., WI. In the summer of 1990, a new population was discovered in Worth Co., IA (*Jeff & Fred Nekola, 8939; Jeff Nekola, 9043*, COE), some 350 km beyond the known northwestern limit of the species range.

This population was observed amongst low, sparse, vegetation in a wet, calcareous roadside ditch approximately 2.5 miles southeast of Kinsett, Iowa. The population was abundantly fertile, extended for over 100 meters, and was (in places) the dominant ground-cover. At this site, *S. eclipes* was observed growing with a number of other vascular plant species uncommon in Iowa, including *Eleocharis elliptica, Gentianopsis procera, Gerardia paupercula, Muhlenbergia glomerata,* and *Solidago riddellii*. Throughout eastern Iowa, these species are most characteristically encountered in fen habitats (Nekola, J. Iowa Acad. Sci., 95:55–73, 1990). Other associates, more common in Iowa, included *Aster ericoides, Bidens frondosa, Juncus dudleyi, Juncus nodosus, Lysimachia quadrifolia, Lythrum alatum,* and *Typha latifolia*.

While this *S. eclipes* population was found in a species assemblage typical of fen communities, the site does not represent a fen habitat. The ditch was dug into soils of the Tifler Series (Buckner & Highland, Soil Survey of Worth Co., Iowa, 1976), which is a calcareous clay-loam lying on top of shallow limestone bedrock. The shallowness of the underlying bedrock impedes water flow, causing the ditch to be moist. The resultant moist, calcareous habitat is not unlike the sites harboring *S. eclipes* in eastern Wisconsin (James Peck, pers. comm.).

As other areas of Tifler soils exist in Worth Co. and surrounding areas of Iowa and Minnesota, additional populations of *S. eclipes* may occur elsewhere in the region, particularly in areas where high light levels are maintained at the ground surface. This condition can be caused by saturated soil conditions (and consequent low soil oxygen levels), low site fertility (the Worth Co. site lies on very thin soil on top of limestone bedrock), or removal of taller species by grazing. This latter mechanism was apparently responsible for the existence of the Muscatine Co. site, as the *S. eclipes* population has disappeared since grazing was halted on the site. Although fen habitats often contain similar patches of low, sparse vegetation, *S. eclipes* has not been observed on any of the over 150 fen sites inventoried by the author in eastern Iowa since 1984.—JEFFREY C. NEKOLA, Curriculum in Ecology, 229 Wilson Hall, CB#3275, University of North California, Chapel Hill, NC 27599.