

## NOTEWORTHY COLLECTION

## MICHIGAN

*Asplenium rhizophyllum* L. Walking Fern.

*Previous Knowledge.* *Asplenium rhizophyllum* L. (synonym: *Camptosorus rhizophyllum* L.) is currently listed as a threatened species in Michigan (Penskar & Higman 1997) and has a global ranking of G5 S2/S3 indicating it is secure through most of its range but in some regions it is considered critically imperiled (Natureserve 2011). Limited habitat may account for its rarity in Michigan. *Asplenium rhizophyllum* is generally found on mossy boulders or outcrops composed of calcareous rocks, particularly limestone and dolomite, or rarely, on sandstone (Cobb, 2005). It is most abundant in the eastern Upper Peninsula on the dolomite and limestone outcrops of the Niagara Escarpment (Penskar & Higman, 1997). Seven Michigan counties have collection records: Alpena, Berrien, Chippewa, Delta, Dickinson, Mackinac and Leelanau (on Manitou Islands only, where it is found on mossy cedar logs in wooded dunes), (Michigan Flora Online 2011) but it has also been observed in Houghton Co. (Penskar & Higman, 1997). It is also found in the border county of Florence, Wisconsin, where it is given no special status (USDA 2011).

*Significance of the Report.* The colony was first observed in 2006, although no collection was made. This is the first collection for Alger County and the only collection from the Early Ordovician Au Train Formation, a light brown to white dolomitic sandstone (National Park Service, 2012). Though our meander survey of the area detected only two isolated colonies (Fig 1), more potential habitat exists. The localized occurrence of this species in Michigan creates unique challenges to the conservation of these vulnerable populations. It is important to document these occurrences in order to understand the full extent of the species range in Michigan as well as its ecological requirements.

*Diagnostic Characters.* *Asplenium rhizophyllum* roots from the tips of its arching fronds, hence its common name “walking fern” (Fig. 2). Another rare *Asplenium* in Michigan is *A.scolopendrium*, which is only known from Chippewa and Mackinac Counties. Both species occur in similar habitats and have entire fronds. Several distinctions can be made between these species. The most obvious field distinction is the tip rooting that occurs in *A.rhizophyllum*, but not *A.scolopendrium*. Also, in *A.rhizophyllum* the frond apex tapers into a gradual point whereas in *A. scolopendrium* the frond apex tapers abruptly to a point, or is more or less rounded (Michigan Flora, 2012).

*Specimen citation.* Alger Co. Michigan; Hiawatha National Forest. Two populations of no more than one square meter in size were growing on sandstone boulders approximately four meters apart. The specimen was collected in a hardwood forest. Also growing on the boulders hosting *A.rhizophyllum* were *Dicentra americana* and *Sambucus racemosa*. Associated species in the immediate area included *Acer saccharum*, *Abies balsamea*, *Picea glauca*, *Tilia americana*,



FIGURE 1. Collection area and habitat of *A. rhizophyllum*. Photo taken by Lauren Tarr, 2012.



FIGURE 2. *Asplenium rhizophyllum*. Illustrated by Susan Fawcett.

*Ostrya virginiana*, *Sambucus racemosa*, *Carex communis*, *Carex leptonevia*, *Oryzopsis aspirifolia*, *Allium tricoccum*, *Claytonia caroliniana*, *Dicentra* sp., *Erythronium americanum*, *Galium* sp., *Hepatica americana*, *Maianthemum canadense*, *Osmorhiza* sp., *Taraxacum officinale*, *Trillium grandiflorum*, *Viola* sp., *Cystopteris fragilis*, *Dryopteris carthusiana*, *Polystichum lonchitis* and *Polypodium virginianum*. Specimens were collected by Susan Fawcett and Michael Rotter on April 12<sup>th</sup> 2012 and deposited at NM (Rotter 528). Duplicates were deposited at UM, and the Hiawatha National Forest. The collection was made under a Forest Products Free Use Permit from the US Department of Agriculture-Forest Service.

#### ACKNOWLEDGMENTS

We would like to thank Steve Caird and Lauren Tarr for field support. Thanks to Deb Le Blanc and Dr. Tony Reznicek for collection and permitting advice and Dr. John Anderton for information on the geology of the area.

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