NEW ENGLAND NOTE

TWO FERN SPECIES NEW TO NEW HAMPSHIRE, WITH COMMENTS ON THE GENERATION OF CALCAREOUS-LIKE HABITAT BY BASE-POOR ROCKS

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Incidental to other field investigations, I happened upon small populations of two fern species not previously reported from New Hampshire: Pellaea atropurpurea (L.) Link and Dryopteris filix-mas (L.) Schott. Both species are typically associated with calcareous habitats, although limestone and marble are nearly absent from New Hampshire bedrock. The presence of these ferns provides examples of how other types of bedrock may accommodate calciphilic taxa, thus increasing the biodiversity of the Granite State.

On September 22, 2003, I located four individuals of Pellaea atropurpurea growing in joints on a sparsely vegetated cliff at approximately 550 m elevation on Hart Ledge, Harts Location, Carroll County. The southwest-facing cliff is composed of hornblende syenite, consistent with previous bedrock mapping (Henderson et al. 1977). The cliff was partially shaded by Acer saccharum Marshall, Picea rubens Sarg., and Quercus rubra L. Other taxa observed on the cliff included Aquilegia canadensis L., Cystopteris fragilis (L.) Bernh., Poa compressa L., and Symphyotrichum cordifolium (L.) G.L. Nesom. A voucher (Bailey 03-001) consisting of a partial frond and a photograph is on deposit at the New England Botanical Club Herbarium (NEBC).

Pellaea atropurpurea is widespread in North America, typically growing on dry calcareous cliffs and rocky slopes, usually of limestone (Flora of North America Committee 1993+). It is considered uncommon (S3) in Vermont, where the known stations closest to Hart Ledge are at Westmore, Orleans County, 90 km to the northwest and Hartford, Windsor County, 100 km to the southwest. It has not been reported from Maine or from Canada.