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SALIX VESTITA PURSH AND *SAXIFRAGA OPPOSITIFOLIA* L.: ARCTIC-ALPINE SPECIES NEW TO NOVA SCOTIA

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During the course of bryological field work carried on for the Canadian Parks Service (Cape Breton Highlands National Park), we noted rare vascular plants but made no comprehensive collections. On the cliffs above Corney Brook, however, we discovered two arctic-alpine species not reported previously for the flora of Nova Scotia. *Salix vestita* Pursh and *Saxifraga oppositifolia* L. are here reported as new to the flora of the province:

Inverness County, Cape Breton Highlands National Park, Corney Brook gorge, 46°43′N, 59°53′W, 6 July, 1991. Elevation ca. 280 m.

Both species were extremely rare, each represented by a single plant. The single *Salix vestita* (*Belland, Schofield & Moniz de Sá 16587,* CAN) grew in a large, sheltered, deep crevice as a shrub ca. .75 m tall. The specimen was pistillate and appeared to be healthy; inflorescences were immature.

The single *Saxifraga oppositifolia* was present in an intermittent seep on a partly shaded rock face. The plant was small, lacked flowers or fruit, and appeared somewhat etiolated. Because of the scarcity of *S. oppositifolia* at the site, no vouchers were taken of this species. A clear photograph (CAN) was made and careful observations confirmed its identify. The distinctive "four-ranked opposite bristle-ciliate dorsally keeled . . . leaves" (Fernald, 1950) readily identify this species even when etiolated. We are convinced that other populations exist in the Cape Breton Highlands National Park, which await discovery through careful exploration of cliffs in upper reaches of watercourses.

The Corney Brook site is rich in arctic-alpine and boreal disjunct plants. On the same cliff we found *Achillea borealis* Bong., *Carex atratiformis* Britt., *C. capillaris* L. var. *major* Blytt., *C. scirpoidea* Michx., *Cystopteris fragilis* (L.) Bernh., *Draba arabisans* Michx., *Erigeron hyssopifolius* Michx., *Galium kamtschaticum* Steller, *Lycopodium selago* L., *Pinguicula vulgaris* L., *Primula mistassinica* Michx., *Saxifraga aizoides* L., *S. aizoon* Jarg.

var. *neogaea* Butters, *Scirpus caespitosus* L. var. *delicatulus* Fern., *Sedum rosea* (L.) Scop., *Senecio pauperculus* Michx., *Solidago multiradiata* Ait. and *Polystichum lonchitis* (L.) Roth. Among the bryophytes are *Cyrtomnium hymenophylloides* (Hueb.) Nyh. *ex.* Kop., *Entodon concinnus, Orthothecium strictum* Lor., *Plagiobryum zierii* (Hedw.) Lindb. and *Pohlia filiformis* (Dicks.) Andr.

These rare plants occurred on humid, north-facing cliffs. The site possesses many of the characteristics described by Hounsell and Smith (1968) for habitats in which arctic and boreal disjunct plants occur in Nova Scotia. The cliffs are sheltered in many places by tall trees. This effect, combined with the aspect, would create a cool microclimate throughout the growing season and one which would experience considerable snow accumulation during the winter.

Although many of the plants at the Corney Brook site are calcicoles, there is no evidence of calcareous rock (e.g., limestone, dolomite, basalt) at the site. In fact, many of the bryophyte species present grow only on noncalcareous rock (e.g., *Andreaea rupestris* Hedw., *Dicranodontium denudatum* (Brid.) Britt. *ex* Williams, *Diplophyllum taxifolium* (Wahlenb.) Dum., *Paraleucobryum longifolium* (Hedw.) Loeske).

The population of *Salix vestita* in Cape Breton represents its southernmost locality in eastern North America. The species is best represented in the Rocky Mountains, and occurs disjunct in the Hudson Bay area and in the Gulf of St. Lawrence region (Meusel et al., 1965) where it extends northward along the Labrador coast as far as 59°N (Nachvak). The Canadian Rocky Mountain distribution has been mapped recently by Brayshaw (1976) and Moss and Packer (1983). The world distribution is mapped by Meusel et al. (1965).

The station for *Saxifraga oppositifolia* also marks an unusual record; it is widely distributed elsewhere at calcareous sites in the Gulf of St. Lawrence region, occurring along the entire west coast of Newfoundland, and along the North Shore of Québec as far west as the Mingan Archipelago. The southernmost populations in eastern North America are in New England, on Mt. Mansfield, and the Willoughby Cliffs and Job Pond Cliffs, Vermont (Crow, 1982; Seymour, 1982) where it is local on the cliffs.

These two taxa, each represented by a single individual, represent very rare native species in the province; their protection by virtue of their location in the National Park is assured.

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