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Ring Counts in *Salix arctica* from Northern Ellesmere Island

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In 1962 I collected two large specimens of *Salix arctica* Pall., which had been eroded out of steep-sided postglacial benches roughly 100 m above the present level of Lake Hazen, Northwest Territories, at about 81°50'N, 71°15'W. They were to have been picked up by R. E. Beschel, but, when he failed to do so, they lay forgotten in a drawer for years.

I have now cut sections from the main stem and a major branch of each specimen. The sections were polished, cleared with lacquer, and ring counts were made under the dissecting microscope. The short cool growing season in the high Arctic makes some rings very narrow or incomplete; and some such rings may not be definitely distinguishable even under the microscope.

The larger plant (*Savile 4841A*) yielded counts of 84, 84, and 85 (at least partial) rings on a radius of about 36 mm from the markedly eccentric origin. These are minimum counts, because some of the early rings are thought to have included some with almost zero growth. The outermost rings are relatively wide, indicating vigorous growth in the final years of the life of the plant. A large branch yielded 36 rings without any wide outer ones. Possibly death of this branch diverted nutrients into the main stem. R. E. Beschel

and D. Webb (1964. Axel Heiberg Island Preliminary Report. *Edited by* F. Müller. McGill University, Montreal. pp. 189-198. Processed) indicate that *S. arctica* periodically loses branches.

The second specimen (*Savile 4841B*), with maximum wood radius of 28 mm, yielded a minimum of 43, 44, 44, and doubtfully 48 rings in separate sections, and again most of the last few rings were relatively wide. Sections from both specimens have been deposited in DAO.

I suspect that both plants were killed by erosion of the bench on which they grew, because vigorous growth in their last years does not suggest the senescence inferred by Warren Wilson (1964) for plants of this species at Resolute (74°41'N), where little or no growth seemed to occur after about 50 yr. Although the Hazen Camp specimens are from about 81°50'N, they are better grown than any at Resolute, largely because Hazen Valley, being ringed by mountains, is subject to dynamically warmed winds and has relatively high summer temperatures; but partly, perhaps, because sites such as the raised branches have good drainage and a deep active layer. The difference is reflected in the flora: about 115 species of vascular plants in Hazen Valley and 70 at

Resolute. For comparison of these and some other arctic sites see Savile (1972, p. 11). It should be noted that on some sites, notably depressions flooded by Lake Hazen in midsummer, *Salix arctica* makes very poor growth.

It seems probable that, barring soil movement or other accidents, plants on favorable sites in Hazen Valley have either an indefinite life or a much higher life limit than at Resolute. It is worth noting that, of the 12 plants counted from Axel Heiberg Island (all about 79°25' to 79°30'N) by Beschel and Webb, one showed 87 and all the others between 18 and 64 rings. My specimen, 4841A, is perhaps the oldest recorded north of 80°N. A few large and vigorous plants up to about 3-m spread were seen near Hazen Camp, but I did not feel justified in sacrificing any of them for the

sake of a ring count.

I am grateful to a reviewer of this manuscript for drawing my attention to the mention by Raup (1965) of specimens of *Salix arctica* at about 73°N in Northeast Greenland of up to 210 and 236 yr old.

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Giant Cow Parsnip (*Heracleum mantegazzianum*) on Vancouver Island, British Columbia

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The known distribution of the Giant Cow Parsnip (*Heracleum mantegazzianum*) on Vancouver Island, British Columbia is reported. A discussion of the time span the plant has taken to become established is included along with notes on the dispersal of the plant from one site of introduction.

Key Words: distribution, *Heracleum mantegazzianum*, Vancouver Island, weeds.

The distribution of the Giant Cow Parsnip (*Heracleum mantegazzianum*) in Canada was recently described by Morton (1978) as occurring primarily in southern Ontario. He also cites a record from Vancouver on the west coast (Kamermans 1977); however, there is no mention of the plant's occurrence on Vancouver Island. Taylor and MacBryde (1977) list but one species of *Heracleum* for British Columbia: *H. sphondylium* (= *H. lanatum*). This note documents the occurrence of *H. mantegazzianum* on Vancouver Island and will alert naturalists to the possible occurrence of the species in other areas of the province.

During summer field work of 1978 we discovered a large number of *H. mantegazzianum* plants growing along the banks of French Creek, near the creek

mouth, approximately 6 km NW of Parksville, British Columbia (49°21'N, 124°22'W). Subsequently two other groups of plants of that species were brought to our attention. Jennifer McGown (personal communication) told us of the first group. That group consisted of a small cluster of plants in a vacant Fifth Street lot at Nanaimo, British Columbia, approximately 35 km SE of the French Creek site. The cluster was growing alongside a dry ditch edge amongst a large patch of *Rubus discolor*. All the plants were taller than 3 m, and all had gone to seed. The second group was discovered near a vacant lot at Victoria, British Columbia in circumstances similar to those of the Nanaimo specimens (Harold Hosford, personal communication). Specimens from these sites were verified (T. C. Brayshaw, personal communication)



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