

(*Ligusticum scoticum*), sea-milkwort (*Glauz maritima*), sea-lavender (*Limonium nashii*), a gerardia (*Gerardia maritima*), seaside-goldenrod (*Solidago sempervirens*) and asters (*Aster brachyactis*, *A. laurentianus*, *A. subulatus*). A peculiar member of the Parsley Family, *Lilaeopsis chinensis*, with leaves replaced by hollow jointed petioles, occurs in the salt-marshes of Nova Scotia. Ditch-grass (*Ruppia maritima*) is common in pools in the salt-marshes. Other halophytic plants confined chiefly to the coastal sands include a meadow-grass (*Poa eminens*), sea Lyme-grass (*Elymus mollis*), beachgrass (*Ammophila breviligulata*), a knotweed (*Polygonum fowleri*), saltwort (*Salsola kali*), sea-rocket (*Cakile edentula*), beach-pea (*Lathyrus japonicus*), seaside-spurge (*Euphorbia polygonifolia*), beach-heath (*Hudsonia tomentosa*), sea-lungwort (*Mertensia maritima*) and a large-flowered ragwort (*Senecio pseudo-arnica*). Species found more commonly on rocky sea ledges include pearlwrts (*Sagina*), an angelica (*Coelopleurum*), thrift (*Armeria labradorica*) and seaside-plantains (*Plantago juncoides* and *P. oliganthos*).

Undrained areas of acidic heath bog with a characteristic ericaceous flora are scattered throughout the wetter parts of this as well as the Great Lakes-St. Lawrence Forest Region. Their remarkably uniform flora typically includes such members of the Heath Family (*Ericaceae*) as leather-leaf (*Chamaedaphne*), Labrador-tea (*Ledum groenlandicum*), bog-laurel (*Kalmia polifolia*), bog-rosemary (*Andromeda glaucophylla*), small cranberry (*Oxycoccus quadripetalus*), velvet-leaf-blueberry (*Vaccinium myrtilloides*) and low sweet blueberry (*V. pensylvanicum*). Another member of the family, rhodora (*Rhododendron canadense*), occurs in heath bogs from Quebec to Nova Scotia and Newfoundland. Other characteristic heath bog species are a cotton-grass (*Eriophorum angustifolium*), baked-appleberry (*Rubus chamaemorus*), and two insectivorous plants—pitcher-plant (*Sarracenia purpurea*) and sundew (*Drosera rotundifolia*). Three-way sedge (*Dulichium arundinaceum*), marsh-five-finger (*Potentilla palustris*) and buckbean (*Menyanthes trifoliata*) are common associates along the borders of ponds and in drainage ditches.

An interesting facet of botanical work is the investigation of the changes that take place in the composition of plant communities as they follow climatic trends toward the establishment of what is termed the 'climax' association for a particular climatic region. These successional changes sometimes take place rapidly enough for direct observation. For example, white spruce (*Picea glauca*), the dominant member of upland areas throughout the transcontinental coniferous forest, is commonly quickly replaced by aspen (*Populus tremuloides*) or jack-pine (*Pinus banksiana*) following forest fires, the burnt areas also being taken over by dense stands of fireweed (*Epilobium angustifolium*). It may be decades before the original white spruce forest is re-established. Other changes take place more slowly but, by studying an association in various stages of its development, one may usually form a reliable opinion as to the various stages in the succession toward the climax association. Heath bogs illustrate this very well.

As noted above, the characteristic flora of a heath bog consists largely of ericaceous species, these growing on the drier upland sites of the bog. A pond in the bog, however, may contain such floating aquatics as pondweeds (*Potamogeton*), yellow pond-lilies (*Nuphar*) and water-lilies (*Nymphaea*), while its shores may be lined with cat-tails (*Typha*), reed-grass (*Phragmites communis*), marsh-five-finger (*Potentilla palustris*), water-parsnip (*Sium suave*), water-hemlocks (*Cicuta*) and buckbean (*Menyanthes trifoliata*). As the shore plants multiply, they gradually encroach upon the open water of the pond, building a floating carpet upon which it is sometimes possible to walk. The pond is finally completely filled by these plants, whose continued growth raises the level still more and accumulates soil upon which the ericaceous community can develop. Such acid-loving trees as black spruce (*Picea mariana*) and tamarack (*Larix laricina*) may also invade the area. Under present climatic conditions, the heath bog appears to be a rather stable climax association, but if drainage ditches are dug (as in many of the commercial peat areas) the acids of the soil will be gradually leached away by rain-water, opening the way to invasion by aspen and other pioneering species, and finally to the forest characteristic of the region.