

praemorsa). On Vancouver Island and adjacent islands are the only stations in Canada for four salt-marsh and seashore halophytes, three of them members of the Composite Family (*Baeria maritima*, *Cotula australis*, and *Jaumea carnosa*) and one a member of the Parsley Family (*Glehnia littoralis* var. *leiocarpa*). Other halophytic coastal species include arrow-grass (*Triglochin maritima*), a very large-headed sedge (*Carex macrocephala* var. *anthericoides*), salt-rush (*Juncus lescurei*), western sea-samphire (*Salicornia ambigua*), sand-spurreys (*Spergularia canadensis* var. *occidentalis* and *S. macrotheca*), Chinook licorice (*Lupinus littoralis*), beach-pea (*Lathyrus japonicus*), a member of the Parsley Family with leaves reduced to hollow, jointed petioles (*Lilaeopsis occidentalis*; a similar species, *L. chinensis*, occurs on the coast of Nova Scotia), red goosefoot (*Convolvulus soldanella*), a franseria (*Franseria chamissonis*; with the habit of ragweed, *Ambrosia artemisiifolia*) and a large-flowered ragwort (*Senecio pseudo-arnica*; this, the arrow-grass and the beach-pea also occur along the Atlantic Coast).

Subalpine Forest Region.—As previously noted, this Region comprises the higher levels of the forests of British Columbia and southwestern Alberta, with a transition at lower levels to the forests characteristic of the other climatic belts and in the north with the transcontinental boreal forest. Essentially confined to it are amabilis fir (*Abies amabilis*), whitebark pine (*Pinus albicaulis*), limber pine (*P. flexilis*), mountain hemlock (*Tsuga mertensiana*), and alpine larch (*Larix lyallii*), although the dominant species are Engelmann spruce (*Picea engelmannii*) and alpine fir (*Abies lasiocarpa*). Extensive stands of lodgepole pine (*Pinus contorta* var. *latifolia*) clothe areas after burning, and there is some Douglas fir (*Pseudotsuga mucronata*) in the extreme southwestern Alberta section. On the east side of the Coast Range are some western hemlock (*Tsuga heterophylla*), western red cedar (*Thuja plicata*), and western white birch (*Betula papyrifera* var. *commutata*), and in the northern part is an admixture of boreal forest species such as white and black spruce (*Picea glauca* and *mariana*), aspen (*Populus tremuloides*) and balsam-poplar (*Populus balsamifera*). The herbaceous ground-cover vegetation is transitional between that of the treeless summits and slopes and the lower-lying forest regions (see p. 44).

Montane Forest Region.—"The Montane Forest has developed in response to the prevailing dry climate of the central plateau land of British Columbia and of the southern mountain valleys adjacent to the Alberta boundary" (Rowe, 1959). Douglas fir (*Pseudotsuga mucronata*) is the primary dominant as far north as the northern boundary of the Fraser Plateau at about the latitude of Quesnel, although it is replaced over considerable areas by lodgepole pine (*Pinus contorta* var. *latifolia*) after fire. Engelmann spruce (*Picea engelmannii*) and alpine fir (*Abies lasiocarpa*) from the upper subalpine forests mix with these on cool north-facing slopes throughout the Region, and south of about latitude 51° N in the arid grassland region characteristic of the Dry Belt between Kamloops and Penticton and around Kootenay Lake, ponderosa pine (*Pinus ponderosa*) "... extends into the grassland on rocky or sandy soils and into the Douglas fir zone on warm sunny slopes The pine forms a relatively permanent type over large areas because of the frequency of fires" (Rowe, 1959). Black cotton (*Populus trichocarpa*) is conspicuous on alluvial flats of the lowlands. Western larch (*Larix occidentalis*) occurs on drier sites in the southern part and white spruce (*Picea glauca*), aspen (*Populus tremuloides*) and paper birch (*Betula papyrifera*) mark the transition in the north to the transcontinental coniferous boreal forest.

Shrubs confined to the above-mentioned Dry Belt (with an annual rainfall rarely exceeding seven inches) include antelope-brush (*Purshia tridentata*) and a sagebrush (*Artemisia tridentata*). Other characteristic shrubs include twin-fruited ninebark (*Physocarpus malvaceus*) and rabbit-brush (*Chrysothamnus nauseosus*). Characteristic xerophytic herbs of the Dry Belt include a bunchgrass (*Agropyron spicatum*), several species of umbrella-plant (*Eriogonum*), rock pink (*Talinum spinescens*), bitter-root (*Lewisia rediviva*), a bladder-pod (*Lesquerella douglasii*), a buttercup (*Ranunculus glaberrimus*), four species of stick-leaf (*Mentzelia*), several lupines (*Lupinus*), several milk-vetches (*Astragalus*), a scorion-weed (*Phacelia linearis*), perennial gilia (*Gilia aggregata*), a balsamroot (*Balsamorhiza*