

also occur, but chiefly in areas transitional to the Boreal Forest Region. However, the eastern hemlock (*Tsuga canadensis*) and eastern white cedar (*Thuja occidentalis*) have their main distribution in Canada in this Region.

The following shrubs or small trees occur more or less throughout the Region: Canada yew (*Taxus canadensis*), sweet gale (*Myrica gale*), beaked hazel (*Corylus cornuta*), swamp-birch (*Betula pumila*), speckled alder (*Alnus rugosa*), green alder (*A. crispa*), currants and gooseberries (*Ribes*), witch-hazel (*Hammamelis virginiana*), spiraeas (*Spiraea*), junberries (*Amelanchier*), hawthorns (*Crataegus*), raspberries and blackberries (*Rubus*), wild plum (*Prunus americana*), Canada plum (*P. nigra*), pin-cherry (*P. pensylvanica*), choke-cherry (*P. virginiana*), black cherry (*P. serotina*), prickly-ash (*Xanthoxylum mucronatum*), stag-horn-sumac (*Rhus typhina*), mountain-holly (*Nemopanthus mucronata*), climbing bitter-sweet (*Celastrus scandens*), bladdernut (*Staphylea trifolia*), buckthorn (*Rhamnus alnifolia*), New Jersey tea (*Ceanothus americanus* and *C. ovatus*), leatherwood (*Dirca palustris*), buffalo-berry (*Shepherdia canadensis*), sanicle (*Sanicula marilandica*), sweet cicelys (*Osmorhiza*), John's-cabbage (*Hydrophyllum virginianum*), bush-honeysuckle (*Diervilla lonicera*), honeysuckles (*Lonicera*), snowberry (*Symphoricarpos albus*), and various viburnums (*Viburnum*).

Consisting chiefly of broad-leaved trees, this Region (as also the Acadian) provides too much shade during the summer months for a dense ground cover of smaller plants. However, before the leaves of the trees have expanded in the spring, a remarkably colourful and interesting flora springs up composed of plants able to complete their life cycle in the relatively short period of available sunlight between the end of March and the beginning of June and to store up reserves, chiefly in underground organs such as bulbs, tubers or root-stocks, for an early start on the next season's growth. Such 'spring' flowers include Jack-in-the-pulpit (*Arisaema atrorubens*), wild ginger (*Asarum canadense*), spring-beauty (*Claytonia caroliniana*), hepaticas (*Hepatica americana* and *acutiloba*), blue cohosh (*Caulophyllum thalictroides*), may-apple (*Podophyllum peltatum*), bloodroot (*Sanguinaria canadensis*), Dutchman's-breeches (*Dicentra cucullaria*), squirrel-corn (*D. canadensis*), false miterwort (*Tiarella cordifolia*), coolwort (*Mitella diphylla*), barren strawberry (*Waldsteinia fragarioides*), dwarf ginseng (*Panax trifolius*), and several members of the Lily Family such as bellworts (*Uvularia*), dog's-tooth-violet (*Erythronium americanum*), Solomon's-seal (*Polygonatum*), false Solomon's-seal (*Smilacina racemosa*), Indian cucumber-root (*Medeola virginiana*) and trilliums (*Trillium*). To people living in the Region, the annual thrill of the first foray into the awakening woods helps to compensate for the bleak winter months.

Another attraction of the Region is the blaze of colour before leaf-fall in the autumn that transforms the landscape into one of the most breath-taking spectacles of the world. Mixed with the green of the conifers are the yellows, reds and scarlets of the maples and the browns of the oaks and beeches, a favourite subject of the artist. Upon the approach of cold weather, a corky *abscission layer* gradually develops at the junction of the leaf-petiole with the stem, blocking off the escape of soluble sugars from the leaf and favouring the development of red, blue and purple pigments known as *anthocyanins*. These anthocyanins, whose production, unlike that of the green *chlorophylls*, is favoured by cold weather, gradually mask the chlorophylls, the various degrees of masking producing the range of tints from yellow to scarlet.

Deciduous (Carolinian) Forest Floral Region

This very small Region lies on the Palaeozoic limestones and dolomites of the Niagara Peninsula bordering the north shore of Lake Erie, south of a line joining Grand Bend, near the southeast end of Lake Huron, to Toronto, on the northwest end of Lake Ontario. A narrow strip extending northeastward along the north shore of Lake Ontario to about the vicinity of Belleville, east of which contact is made with the Precambrian granites and gneisses of the Laurentian Shield, is also probably admissible to this floristic Region. Its most striking feature is the presence of a number of plants at their northern limits and found nowhere else in Canada. The Canadian distributions of most of these have been plotted on maps by Fox and Soper (1952; 1953; 1954), Soper (1956; 1962), and Soper and Heimburger (1961).