

Concerning the material collected, *Aster sibiricus* is the only member of the genus represented; it is not confined to the arctic coast, however, and occurs also in Alaska with adjacent islands, besides in the Rocky mountains of Wyoming and Montana; it is not arctic in Siberia, but is reported by Ledebour from Altai, Baikal, and Davuria. *Aster alpinus* L. and *A. pygmaeus* Lindl. have both been collected in the arctic regions of this continent to which the latter is confined; the former occurs also in the Rocky mountains down to about Lat. 19° (Drummond) and is, furthermore, indigenous to Central Russia, Caucasus, Altai, Baikal, and Davuria. *Aster Tripolium* L. grows in Finmark, mostly represented by the variety *arcticus* Th. Fr.

In *Erigeron* we have the circumpolar *E. uniflorus*, also widely distributed in the south, frequently accompanied by *E. alpinus*, *E. grandiflorus*, and *E. compositus*, on the other hand, are better represented in the Rocky mountains where they evidently developed. As a matter of fact these mountains, rich as they are in species of the genus, constitute one of the most important centres; only seven species have been reported from Caucasus two of which are endemic, and the same figures may also be applied to Altai.

The circumpolar *Antennaria alpina* may well be considered as one of the parental types from which the North American element has developed. It is interesting to notice the abundance of species of the genus which are represented on this continent, even though much too many have been proposed, in comparison with the representation of the genus in the Old World: *A. alpina* (L.) R. Br., *A. carpathica* R. Br., *A. dioica* Gaertn., *A. rubicunda* Koch (Armenia), and *A. Stedtziana* Turcz. (Baikal, Davuria); however, the last of these is by Trautvetter (Incrum. p. 412) considered identical with *Leontopodium sibiricum*.

*Chrysanthemum integrifolium* and *C. arcticum* are the only species of the genus indigenous to North America; of these the former is confined to the arctic sea coast and "Terra Tschukchorum" while the latter extends from Hudson bay to arctic Alaska, Kamtchatka, eastern Siberia (Pilekaj Long. 173° 21' W.); it has also been found in Lapland.

While the genus *Pyrrhtrum*, a near ally of *Chrysanthemum*, on this continent is only represented by a single species, the arctic *bipinnatum* Willd., it is in Siberia and Russia exemplified by about 40 species, mostly natives of Altai and Caucasus.

About 120 species of *Artemisia* are recorded from Russia and Siberia by Ledebour and Trautvetter, and about 60 from this continent; most of these are lowland plants but some have also been recorded from the mountains, notably from Caucasus (about 20 species), Altai (about 40 species), and the Rocky mountains (about 15 species).

Some of the American element is best represented in the arctic regions, for instance; *A. Richardsoniana*, *A. senjavinensis* Bess., *A. glomerata* Ledeb., *A. globularia* Cham., and *A. borealis* Pall., where they evidently developed, and these regions may thus have constituted an important centre for several of the alpine species farther south; some other centres, and perhaps still more important to the development of species, may have been situated in Caucasus and Altai.

The large genus *Senecio* is also well represented in Eurasia and North America but very few occur in the arctic region; these are mainly the same species and they are almost circumpolar.

*Crepis nana* Richards. is by Ledebour referred to the genus *Youngia* and it is the only one known from this continent, being distributed from the arctic coast and islands south along the mountains to Colorado and California; in Asia the species has been reported from Altai, Baikal, and Davuria. Some other species of *Youngia* are described by Ledebour, one from Caucasus, and 3 from Altai, Baikal, and Davuria. It would thus appear as if this singular little genus