Floristics of Umnak Island, Aleutian Islands, Alaska

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UMNAK ISLAND is one of the larger islands of the Aleutian Island chain. It is approximately 121 kilometers long and has a maximum width of 17 kilometers. Geographically Umnak Island is situated at latitude 53°, longitude 169°. The area studied occupies an area of approximately 250 square kilometers south of the dormant volcanos Vsevidof (2,109 meters) and Recheshnoi (1,984 meters) and extends to the southwestern extremity of the island.

As is typical in the Aleutians, volcanic eruptions have played an important role in soil formation on Umnak. The recent lack of volcanic activity has allowed a deep humus layer to form over the lowland areas. Wave cutting and possibly slight coastal uplifting have created high bluffs along much of the shoreline. Droppings of birds have modified the soil and plant species of this formation. Glacial gouging during the Pleistocene may have been the principal cause of the numerous shallow pond basins of the area. Sand dune formations occasionally occupy areas not protected from the winds by bluffs. Stream valleys are typically V-shaped in the upper drainages, but the streams develop a meandering pattern in downstream regions.

Ecologic and floristic studies of Aleutian vegetation are presently few. A preliminary ecological classification (Kindschy, 1957) of Umnak vegetation was read at the Ninth Pacific Science Congress. Bank (1952) reported on the more general plant habitats of the Aleutians as a whole; M. Tatewaki and Y. Kobayashi (1934) presented a listing of plants collected during a three-month study. By far the most comprehensive treatment of Aleutian flora, which dealt primarily with species distribution, was that of Eric Hulten (1937).

The purpose of this paper is to report the plants collected in the study area during June, July, and August, 1957. Each species is listed from the general area in which it was collected; this does not mean to imply, however, that the species are or are not restricted in their distribution. The specimens cited have been deposited in the Herbarium of the University of Idaho.

Sea Bluffs

Specimens collected were: *Aconitum maximum, Potentilla villosa, Saxifraga caespitosa,* and *Saxifraga punctata* var. *insularis.*

Sand Dunes

Specimens collected were: *Achillea borealis, Arenaria arctica, Barbarea orthoceras, Calamagrostis purpurascens, Elymus arenarius* subsp. *mollis, Epilobium latifolium, Equisetum arvense, Geum macrophyllum, Lathyrus martimus, Mertensia maritima, Potentilla anserina* and *Synthyris borealis.*

Interior Flats and Low Hills

Specimens collected were: *Angelica lucida, Anemone narcissiflora* var. *villosissima, Arnica unalaschcensis, Artemisia tilesii, Calamagrostis* sp., *Campanula lasiocarpa, Cardamine bellidifolia, Cardamine pratensis* L., *Castilleja pallida* var. *unalaschcensis, Conioselinum gmelinii, Deschampsia beringensis, Epilobium angustifolium, Epilobium glandulosum, Fritillaria camschatcensis, Geranium erianthum, Geum rossii, Hierochloe odorata, Lupinus nootkatensis, Luzula* sp., *Lycopodium alpinum, Lycopodium annotinum, Orchis aristata, Parnassia kotzebuei, Pedicularis chamissonis, Phleum alpinum, Poa arctica, Poa bulbosa, Rhinanthus crista-galli, Rubus chamaemonus, Rumex acetosella, Saxifraga* sp., *Sphagnum* sp., *Taraxacum* sp., *Trientalis europea* var. *arctica, Trifolium repens, Trisetum spicatum, Veronica* sp., and *Viola langsdorfii.*

Wet Meadows; Bottoms of V-shaped Valleys; Hill-side Seepage Areas

Specimens collected were: *Aster peregrinus, Athyrium filix-femina, Caltha palustris,* var. *asarifolia, Carex macrochaeta, Carex mertensii, Carex* sp., *Claytonia siberica, Cypripedium guttatum* var. *yatabeanum, Eriophorum angustifolium Eriophorum* sp., *Juncus* spp., *Luzula parviflora, Luzula* sp., *Mimulus guttatus, Plantago macrocarpa, Plantanthera hyperborea, Polemonium acutiflorum, Pyrola minor, Ranunculus occidentalis* var. *insularis, Sanguisorba sitchensis,* and *Streptopus amplexifolius.*

Shallow Pond Basins (wet)

Specimens collected were: *Hippuris vulgaris* and *Potamogeton* sp.

Shallow Pond Basins (dry)

Specimens collected were: *Chrysosplenium alternifolium* and *Ranunculus flammula* var. *filiformis.*

Hills and Ridge Tops

Specimens collected were: *Antennaria monocephala, Arnica unalaschcensis, Cladonia coccifera, Cladonia* sp., *Cornus suecia, Empetrum nigrum, Geum*

calthifolium, Listera cordata, Loiseleuria procumbens, Luzula sp., *Pedicularis capitata, Petasites frigidus, Rhododendron camtschaticum, Rubus stellatus, Salix reticulata, Salix* spp., and *Tofieldia coccinea.*

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