Meetings

Plant Geographers

The 13th International Phytogeographic Excursion (IPE) was held in Finland and Norway from 13 July to 5 August 1961. These excursions have been held periodically since 1911, each time in a different country. They were originated by British and Swiss botanists interested especially in plant geography and phytosociology and have been operated by a permanent Swiss committee. Werner Lüdi, Geobotanisches Institut Rübel, Zürich, has been president since the death of E. Rübel, one of the founders.

The purpose of the IPE is to bring together, on an extended field trip, some of the leading field botanists of several countries for common study of local vegetation and for the close and continued contact that permits and encourages an exchange of information. The interest in floristic and in vegetational geography has always been mixed. In recent years there has been increasing attention to the interrelation of vegetation and land use, and more of the participants than formerly have been associated with their national nature conservancies.

The group forming an IPE party consists of about 25 foreign participants and the members of the local committee of the host country. In the case of the 13th Excursion, there were 25 foreign participants, and 14 countries were represented. In addition, there were 12 members of the Finnish committee and three members of the Norwegian committee. Aarno Kalela was chairman and Rauno Ruuhijarvi was secretary of the Finnish committee, and Rolf Nordhagen and Olav Gjaerevoll were chairman and secretary, respectively, of the Norwegian committee. Switzerland and Sweden had four participants each, the United States had three, Denmark, Great Britain, and West Germany had two each, and there was one each from Australia, Austria, Yugoslavia, Italy, Poland, Romania, East Germany, and the Netherlands.

All regular travel of the group was in a single modern bus; special side trips were made by air, steamer, and river boat. There was, of course, a good amount of tramping about to see forest, bog, swamp, beach, and alpine vegetation. The bus travel in Finland totaled about 3000 kilometers, and that in Norway, about 2000. The Finnish part of the excursion started at Helsinki and ended at Karajoki; the Norwegian part started at Karasjok and ended at Tromsø. The first part lasted 14 days; the second, 10 days. Most of the time was spent above the Polar Circle, and the highest latitude reached was at North Cape, at more than 71°N. Many participants returned by steamer along the fjord coast to Trondheim or Bergen.

One advantage, or perhaps difficulty, of visiting these lands in the summer is the possibility of putting in about 18 hours a day. The party was often still in the field at 8 or 9 o'clock in the evening, with dinner over as late as midnight, and an early start to be made the next day.

In Finland special attention was given to two features: the forest types, according to the Cajander system, and the moor or peatland types. Tree species are very few in Finland. *Pinus silvestris* is predominant over most of the country. Associated with the pine is white birch in varying amounts and some mountain ash, willow, and so on. Only in the extreme south of Finland, especially in Schärenfinnland, does one find forests richer in tree species, with spruce, basswood, and oak. North of the central pine forests only birch occurs, and finally it drops out and only tundra remains.

Despite the poverty of the forests in tree species, Finnish botanists (and Finnish foresters are all highly qualified botanists) recognize a rather extensive array of forest types, which are distinguished by the composition and structure of the field and ground layers. These forest types, insofar as the tree layer is concerned, are essentially forest *site* types. The botanists recognize in the shrubby and herbaceous layers of the forest the shifting composition and structure that are associated with ecological conditions and that consequently determine tree spacing, quality, rate of growth, and so on. In a country where all sites are marginal-to-submarginal, in comparison with more favorable conditions at lower latitudes, comparatively slight changes in microclimate and edaphic conditions result in changes in site quality and in the characteristics of vegetation. The ground vegetation, and hence the Finnish forest types, become indicators of site quality and consequently a guide to forest management and to agricultural and other land uses. Kalela led the party to stands of each of the forest types which occur in parallel series in the conifer forest zones of Pohjanmaa, Peräpohjola, and Lappland.

Since the climate of the country is cool-to-cold-moist and evergreen plants abound, much of Finland's surface accumulates raw humus. As a consequence, Finnish botanists and geomorphologists have paid close attention to moor types. Most moors, although related to general climate, are under strong edaphic influences which determine whether ground water or atmospheric water leads in controlling moor development.

In the United States we are familiar with the type of moor that develops a flat surface along sluggish streams and quiet edges of ponds and lakes, the moor surface being controlled by the ground-water level. However, under conditions of a cool oceanic climate, when shallow depressions get filled with peat, the development of the moor continues, under the influence of atmospheric moisture, to form a convex surface—the typical *Hochmoor*. Such moors vary with climate and reach different degrees of height, convexity, and complexity. Moor surfaces may be more or less irregular, with hummocks and linear, sometimes parallel or anastomosing, ridges (*Stränge*) with flat surfaces (*Rimpis*) between. The latter are usually controlled by ground water, and the elevations, by atmospheric water. The ombrogenous ridges are poor in mineral nutrients and are occupied by a vegetation that differs from that of the richer intervening flats. The larger hummocks and ridges in northern regions contain a core of permafrost, and the *Palsamoors* are a type that can develop to a height of as much as 4.5 meters above the general surface. They are an exaggeration of the more widespread

Stränge. The permafrost at midsummer may be as little as 0.5 meter below the surface of the peat.

Two other types of peatland are the peatland which develops on wooded slopes, usually in moist birch types at various altitudes, and the *Hangmoor*, which occurs on slopes of various gradient and is dependent on a continuous supply of up-slope ground water.

Except for some high, rough plateaus, Norway is a country of rugged relief, of fjords where the mountains and valleys reach the sea, of alpine tundra, snow fields, and glaciers—all in strong contrast to the prevailing low relief of Finland.

Although vegetation was dealt with to some extent by the IPE group, especially that of salt marshes and alpine tundra, in Norway particular attention was paid to the occurrence of rare species representing various floristic elements: the Circumboreal, the Siberian, the American, the Arctic, and the South and Central European. The interest was more in flora than in the structure of vegetation. Exceptions were the snow-bed communities in the alpine zone, which had been studied by Gjaerevoll, and the salt marshes and alpine fields, which Nordhagen had studied.

Considerable interest was aroused by the differences between the *Carex nardina-Kobresia myosurioides-sociation* in these regions and that familiar to phytosociologists who had worked in the European Alps. Interest centered also in the flora of dolomitic mountains such as Jøvaren, Børselv, and Duken, the latter at North Cape.

Both of the local committees had prepared printed guides, background papers, and reprints pertinent to the excursion, and all aspects of the travel, meals, and accommodations had been carefully worked out. The Finnish committee supplemented their guidebook with daily handouts of mimeographed plant lists and analyses of vegetation for each of the many botanizing stops. These excursions are occasions for research as well as botanical sight-seeing, and the Swiss Committee in recent years has published a series of contributions from the participants, sometimes running to several hundred pages. In addition, many of the participants publish general or scientific accounts of their experiences in their national periodicals.

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