

## PREFACE

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In his monograph *Introduction to an Investigation of the Vegetation of Yakutia*, V. L. Komarov (1926) published material which became of fundamental importance for the study of the geobotanical zonation of the arctic area of the USSR from the Khatanga River to the Chaun Inlet. Of great importance is the map which he drew at a scale of 1:4 200 000 of the northern forest limit and which up to recently was the most sharply defined boundary between the tundras and the forested regions in this wide territory.

At the time when Komarov wrote his work on the vegetation of Yakutia, the division of the polar regions into geobotanical areas was just beginning. The first attempts, carried out during the nineteenth and at the beginning of the twentieth centuries, concerned the East European North of the USSR (Trautvetter, 1851; Schrenk, 1854; Pohle, 1910). At the beginning of the twentieth century, there also appeared outlines for a zonal geobotanical division of the West Siberian North (Zhitkov, 1913; Gorodkov, 1916) as well as the works by Passarge (1921), who, having observed the zonation of the landscapes in the polar lands of both the northern and the southern hemispheres, distinguished 'the cold steppes' (the tundras) and 'the cold deserts', the latter called 'polar deserts' by B. N. Gorodkov.

During the fifty years which have elapsed since the appearance of Komarov's book, the study of the vegetation cover in the Arctic and the Antarctic has made much progress. A very large amount of information was gathered during the thirties in the USSR, when investigations were carried out over a wide area of the tundra territories in connection with the needs of reindeer husbandry and the utilization of water, soil and wildlife resources. The accumulation of information has

continued through the end of the forties into recent times, when in the USSR and abroad everything has become more adapted to aviation and mechanical means of communication. During the last few years, photographs taken by the aid of satellites (Vinogradov, 1970; Anderson, 1975) have also been utilized. The development of theories on division into geobotanical areas has, during this time, met with great success (Shennikov, 1940; Lavrenko, 1947, 1968; Sochava, 1948a, 1952, 1966, 1967, 1972; Schmithüsen, 1968; Karamysheva & Rachkovskaya, 1973; Il'ina, 1974; Karamysheva *et al.*, 1975; Lavrenko & Isachenko, 1976; etc.). Outlines for a zonation of the Arctic have been drawn up within the USSR (Gorodkov, 1935b; Leskov, 1947; Sochava, 1948a; etc.), in the circumpolar area (Polunin, 1951; Yurtsev, 1966, 1974a; Aleksandrova, 1969b, 1971b), and for the high latitudes (Korotkevich, 1967, 1972) as well as for the Antarctic (Greene, 1964a; Holdgate, 1964; Korotkevich, 1966, 1972; Kats, 1971; etc.). Gribova (1975) has drawn a circumpolar map of the vegetation in the Arctic.

There is now an interest in using the accumulated material to formulate a division of the polar lands into geobotanical areas and in examining, from a uniform point of view, the vegetation cover of the circumpolar territories of the Arctic northward from the forest limit to the farthest points of the land and of the Antarctic southward from the line of the antarctic convergence.