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**Title:** *Aeropalynology in relation to present vegetation from Ny-Alesund, Svalbard, Norway*

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Svalbard, Norway is characterized by around 164 species of vascular plants (grasses, herbs and few dwarf shrubs) along with algae, mosses and lichens, having growth period of 6 to 10 weeks during snow free summer months (Gjaerevoll and Ronning, 1999). Within Svalbard archipelago, the north-east coastal part of Brogger Peninsula is surveyed recently for the modern vegetation, and aeropalynology was carried out to understand the wind dispersal of spores and pollen in the area. The data can be used as modern analogue of present day pollen-vegetation relationship of this region.

Around Ny-Alesund in Brogger peninsula, the vegetation is mainly confined on the ground moraines and morainic mounds with soil cover, along the ice free coastline. The dense cover of ground vegetation is at places with more nitrogen input in the soil due to recent human activities near Ny-Alesund. Around 30 species of herbaceous taxa from 13 families are identified growing along the NW coastal part of the peninsula, of which Saxifragaceae is more diversified with 7 species followed by the species of Brassicaceae, Caryophyllaceae, Polygonaceae, Ranunculaceae, Poaceae etc. *Dryas octopetala* (Rosaceae) is found abundant and shows good ground distribution along the area traversed. Poacea and Cyperaceae elements are distributed along the marshy grounds on older morainic deposits with soil cover and along small periglacial lakes. *Salix polaris* (smallest willow species of the world) also called as Svalbard tree, grows on the moist soil cover with other scattered moist elements of Polygonaceae. *Cassiope tetragona* (Ericaceae) is a dwarf woody shrub found growing commonly in the area on heaths and near boulders.

Aeropalynology was carried out for some days of June, July and August months, by exposing the glycerine jelly smeared slides in the air and using burkard air sampler near Indian station (Himadri) at Ny-Alesund. The scanning of the slides show a good representation of pollen and fungal spores during the month of August as compared to June and July, which can be explained as growth and flowering time after the winter snow-melt during May to June. Amongst the trapped local pollen grains, the pollen of *Dryas octopetala* is more in number that generally copes with its local growth distribution. This is followed by Polygonaceae (mainly *Oxyria* sp), and Poaceae pollen, which are less scattered. Pollen of Saxifragaceae, are reported in low numbers despite their good distribution in the area. The pollen of some herbaceous taxa viz. Asteraceae and Chenop/Ams, are also present in fair number,



though the duo are not reported growing in the area traversed. Few pollen of *Pinus* sp. have been reported, which is obviously the extra-local arboreal element and it's pollen show long distance transport through wind from the pine forests presently growing in the mainland at lower latitudes. However, the dispersal of pollen grain depends on their productivity and simultaneous sorting by wind speed.