

## PALYNOTAXONOMY OF HIMALAYAN BLUE POPPY (*MECONOPSIS ACULEATA* ROYLE)

C.M. SHARMA and R.D. GAUR\*

Departments of Forestry and \*Botany, Garhwal University, Srinagar, Garhwal 246 174, India.

Two common wild poppies, *Meconopsis aculeata* Royle (Blue Poppy) and *Meconopsis robusta* Hook. (Yellow Poppy) are distributed from 3700 m to 4600 m in Western Alpine Himalaya, of which *M. aculeata* (Vern. Kalyari) is widely used by the tribes and natives for medicinal purposes. The plant paste is applied externally in rheumatic pains as anodyne by the inhabitants. Palynological features of the species are undescribed so far.

*Meconopsis aculeata* Royle, III, Bot. Himal. 67, t. 15, 1834. Flowering and fruiting from July-October. The specimens have been collected by the authors from Kwanri Pass, (altitude, 4000 m), an alpine zone of Garhwal Himalaya and deposited in the Garhwal University Herbarium (GUH 5021).

The pollen preparations have been done by the acetolysis method<sup>1</sup>. The pollen grains for electron microphotography were prepared at the Physical Research Laboratory, Ahmedabad.

The salient palynological features are as follows:—  
The pollen grains are 3-zonicolpate, spheroidal

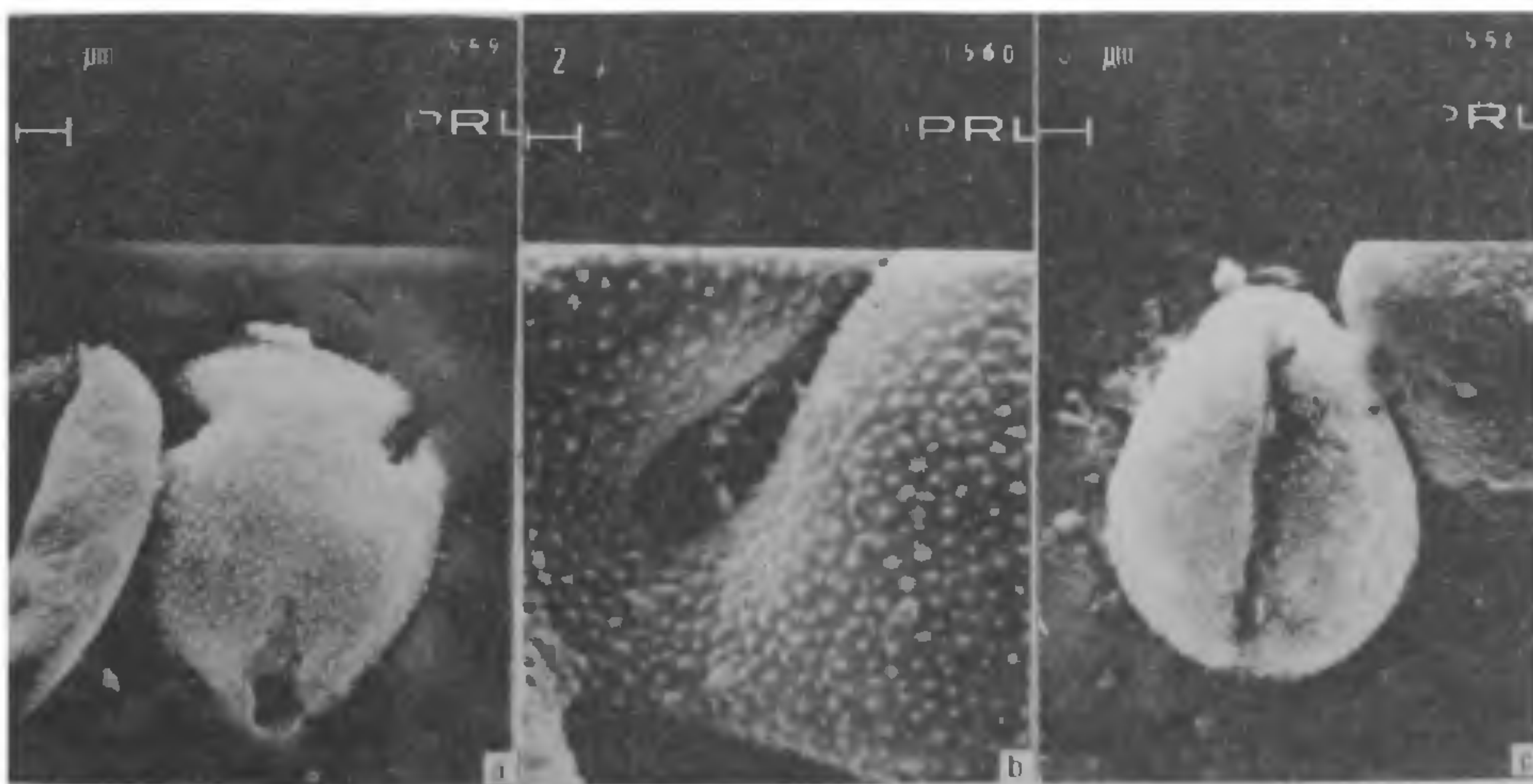
(average diameter, 30  $\mu\text{m}$ ), occasionally subprolate (35.5  $\times$  30  $\mu\text{m}$ ). Exine 1.5–2  $\mu\text{m}$  thick, apertural membrane undulating, sexine thicker than nexine, slightly echinate with faint reticulations, tegillate. Small spinuloid excrescences with bulbous base, echinate and faintly reticulate type of exine ornamentation are the demarkating features of the species, (figures a–c).

Occasionally parasyncolpate condition has also been observed, which indicates affinity with *Corydalis* of the Fumariaceae<sup>2</sup>.

The authors are thankful to Prof. D. P. Agrawal, Chairman, Archaeology and Hydrology Group, Physical Research Laboratory, Navarangpura, Ahmedabad for the scanning electron microscopy of the pollen grains.

31 October 1986; Revised 29 January 1987

1. Erdtman, G., *Pollen morphology and plant taxonomy/angiosperms*, Almqvist and Wiksell, Stockholm, 1952, p. 539.
2. Nair, P. K. K., *Pollen grains of western Himalayan plants*, Asia Publishing House, Lucknow, 1965, p. 101.



Figures a–c. a. Polar view, showing 3-zonicolpate condition; b. An enlarged colpus and exine ornamentation; c. Parasyncolpate condition with ornamentation.