



**Figure 3.** *Pedicularis bicornuta* Klotzsch ex Klotzsch & Garcke. Spikes with ball-like flowers.

ure 2). Variations in these basic, morphological characters are of taxonomic significance and hence beyond the scope of our present analysis.

The culminating point of these modifications is encountered in the flowers of *Pedicularis bicornuta* Klotzsch ex Klotzsch & Garcke, inhabiting the Losar area of Spiti Valley in the cold deserts of the Himalaya. The floral appendages in this species exhibit rolling up of the corolla, to the extent that the flowers become ball-like in appearance (Figure 3), an adaptation most suited to minimize mechanical damage by the pressure of high-velocity winds. Such a phenomenon was earlier observed in tree-leaves<sup>7</sup> and in free-flowing bodies<sup>8</sup> but not in flowers.

The land surface of regions where *Pedicularis* occurs is covered with snow

for most part (October–May) of the year. This leaves no chance for survival of annuals, especially those with a prolonged growth and reproductive period. *Pedicularis* adapts and sustains itself by having a short life cycle and a rhizomatous root which remains dormant under snow and sprouts up at the advent of autumn when the snow melts. Within a short growth phase of about 15 days buds appear and blooming commences soon after, attracting pollinators, primarily bumble bees<sup>9</sup>. The spikes continue to bloom for about 40–45 days. The entire lifecycle is completed in a short span of two to two and a half months after which the *Pedicularis* vanishes under a thick blanket of snow, giving an impression that the region is devoid of vegetation. When in full blossom, *Pedicularis*, in all its glory, projects

the region as a beautiful haven of flowers, often read in fairy tales.

1. Garg, A. and Husain, T., *Curr. Sci.*, 2002, **83**, 10–11.
2. Husain, T. and Garg, A., *Taiwania*, 2003, **48**, 46–52.
3. Husain, T. and Garg, A., *J. Jpn. Bot.*, 2003, **78**, 162–166.
4. Husain, T. and Garg, A., *Syst. Biodivers.*, 2003, **1**, 1–3 (in press).
5. Husain, T. and Garg, A., *Curr. Sci.*, 2002, **83**, 929–930.
6. Steinberg, V., *Nature*, 2002, **420**, 473.
7. Vogel, V., *J. Exp. Bot.*, 1989, **40**, 941–948.
8. Alben, S., Shelley, M. and Zhang, J., *Nature*, 2002, **420**, 479–481.
9. Macior, L. W., *Am. J. Bot.*, 1968, **55**, 1031–1035.

**ACKNOWLEDGEMENTS.** We are grateful to the Department of Science and Technology, New Delhi for financial assistance received under SERC scheme. Our thanks are also due to Dr P. Pushpangadan, Director, National Botanical Research Institute, Lucknow for providing research facilities to carry out this work.

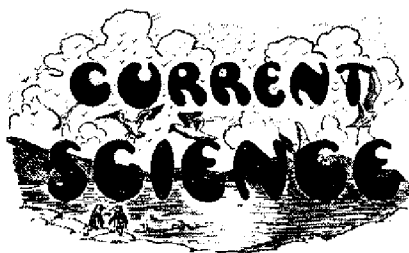
Received 26 May 2003; revised accepted 14 August 2003

ARTI GARG  
TARIQ HUSAIN\*

*Taxonomy and Biodiversity Division,  
National Botanical Research Institute,  
Rana Pratap Marg,  
Lucknow 226 001, India*

*\*For correspondence.  
e-mail: hustar\_2000@yahoo.co.uk*

## FROM THE ARCHIVES



Vol. XI AUGUST 1942 [NO. 8]

### Council of Scientific and Industrial Research

Dr Sir S. S. Bhatnagar has made over a sum of approximately Rs 13,000, which he has personally earned as royalties this year, to the Council of Scientific and Industrial Research for the purpose of

financing research workers engaged on schemes of research in operation under the Board of Scientific and Industrial Research irrespective of whether the work is carried out under his direction at Delhi, or under the direction of any other recognised director of research, elsewhere in India. The help will be given to those workers who have earned no royalties, as their work had to be given in the interest of the war effort or development of industry. A part of this donation will be utilised for preparing an oil painting of the Hon'ble Dewan Bahadur Sir A. Ramaswamy Mudaliar, whose name is so intimately associated with the promotion of industrial research in this country. A sum of Rs 1000 will be donated to the Delhi University for encouraging scientific and industrial researches and a further sum of Rs 2880 has been ear-

marked for granting two scholarships of Rs 60 each for two years in the Punjab University.

Messrs Tata Sons have made a munificent grant of Rs 8,30,000 to the Council of Scientific and Industrial Research for the construction and equipment of a National Chemical Laboratory. The Laboratory will be located at Poona and will be associated with the name of Tatas.

A donation of Rs 1,00,000 to the Council of Scientific and Industrial Research has been made by Messrs Indian Wire and Steel Products Ltd, for carrying out such work as may be agreed upon between the donors and the Council.

— By courtesy of the Editor  
*Journal of Scientific and  
Industrial Research*