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RESEARCH NOTES
A NOTE ON FORAGING OF THE OCCIDENTAL BEE *APIS MELLIFERA* L. ON 'SHAIN' *PLECTRANTHUS RUGOSUS* IN PAKISTAN

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The European bee *Apis mellifera* L., previously reported to be indifferent to 'shain' *Plectranthus rugosus*, has been observed foraging on this wild plant in the higher hills during the last few years. On average honey yield of *A. mellifera* on *P. rugosus* varied from 7.4 to 12.9 kg per colony in Swat area.

INTRODUCTION

'Shain' *Plectranthus rugosus* is one of the commonest shrubs in the Western Himalayas. It blooms during autumn and is known to be an excellent wild honey plant for the oriental bee *Apis cerana* F. (Singh, 1975; Ahmad & Muzaffar, 1984), while the European bee *Apis mellifera* did not forage on this plant (Atwal & Goyal, 1974; Wali-ur-Rahman & Chaudhry, 1985). Studies were undertaken to evaluate *P. rugosus* as honey source for the occidental bee *A. mellifera* as well.

MATERIALS AND METHODS

Studies were carried out on honey production potential of the European bee *Apis mellifera* colonies on 'shain' *Plectranthus rugosus* in Swat area. The adaptation of *A. mellifera* to *P. rugosus* was based on the honey produced by the European bee colonies of variable strength (5 to 10 frame bees) placed on *P. rugosus* at different locations in Swat during August-October, 1990.

Honey production on 'shain': The 'shain' *P. rugosus* is the commonest shrub in the

Table 1. Honey produced by *A. mellifera* colonies on 'shain' *P. rugosus*

Duration	Locality	Bee strength (frames)	Average honey yield (kg)
August, 18 to October 10, 1990	Babu	6 to 10	7.4 (n = 77)
August 18 to October 15, 1990	Oddu	6 to 8	11.9 (n = 100)
September 15 to October 17, 1990	Behar	5 to 10	12.9 (n = 87)
September 6 to October 17, 1990	Behar	5 to 10	10.3 (n = 51)

Western Himalayas. In addition to its being a suitable forage for cattle and a good soil erosion control plant, it is an excellent honey source. It is distributed at 2000 feet to 9000 feet height in the mountains in Balochistan, Waziristan, Kurram, Salt Range, Cherat, Chitral, Swat, Gilgit, Baltistan, Hazara, Murree hills, Poonch and Azad Kashmir. It flowers from August to October and is known to be an excellent source of late fall flow upon which *A. cerana* bees overwinter since the times immemorial. During present studies, observations were made on the honey production potential of the occidental bee *A. mellifera* on this plant in Swat area. The details of honey yield per colony are presented in Table 1.

Thus, *A. mellifera* colonies migrated on 'shain' in the higher hills (Swat) developed very well and produced surplus honey while the other colonies were fed sugar solution during late summer and autumn (August - October).

Conclusions: The European bee *Apis mellifera* colonies produced autumn honey crop on 'shain' *Plectranthus rugosus* in the higher hills (Swat). Thus *A. mellifera* colonies, migrated to *P. rugosus* in the hilly areas during August - October and produced on average 7-13 kg honey per colony. The bees overwintered with adequate food reserves.

REFERENCES

Ahmad, R. and N. Muzaffar. 1984. Modern Beekeeping (Urdu version). Misc. Publ., Pak. Agri. Res. Council, Islamabad. 350 pp.

Atwal, A.S. and N.P. Goyal. 1974. *Apis mellifera* turns indifferent to 'shain' *(Plectranthus rugosus).* Everyday Sci. 19 (2): 25-26.

Singh, S. 1975. Beekeeping in India. Indian Council Agri. Res., New Dehli. 214 pp.

Wali-ur-Rahman and M.I. Chaudhry. 1985. Bee-foraging plants at Peshawar. Pak. J. Forest. 35 (2): 71-75.