

NEW HOSTS OF BROOMRAPE IN BALUCHISTAN

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Abstract

During the survey carried out in 1978, *Apium graveolens* and *Othonnopsis intermedia* were recorded as new hosts for *Orobanchae aegyptiaca* and *O. stocksii* respectively.

Introduction

Broomrape (*Orobanche* Sp.) is an angiospermic parasite belonging to family *Orobanchaceae*. It is commonly observed in the fields of cash crops viz; potato (*Solanum tuberosum* L.), tomato (*Lycopersicon esculentum* Mill.), sarda *Cucumis melo* Linn.) and water melon (*Citrullus vulgaris* Schrad.) in the uplands of Baluchistan (Quddus et al. 1969; Jafar & Shafiq, 1975). The parasite causes heavy losses to the growers by damaging the crops. The production decreases considerably and the losses have been estimated upto the extent of 80% (Jafar & Shafiq, 1975).

Wilhelm (1962) and Wilhelm *et al.* (1965, reported the occurrence of broomrape (*Orobanchae ramosa* L.) on a number of crops, ornamentals and weeds including hemp, tobacco, tomato and lettuce in California and other areas. Clapham *et al.* (1962) reported that *O. ramosa* appears on hemp and tobacco in Britain. He also reported its occurrence on several plants in other areas of Europe, Caucasus, North Africa, South Africa and Western Asia.

Bhaigava *et al.* (1976) observed *O. indica* Ham., on fenugreek (*Trigonella foenum-graecum* L.) and on a weed (*Physalis minima* L.) in India, Rao (1953) described the following hosts of *O. indica* from India: *Vicia sativa* L., *Cyperus rotundus* L., *Zea mays* L., *Fumaria parviflora* Lam., *Chenopodium album* L. and *Anagallis arvensis* L.

Previously Quddus *et al.* (1969) observed *O. aegyptiaca* Pers. in Baluchistan on *Lactuca serariolia* L., *Heliotropium europaeum* Steud., *Lepidium draba* L., *Tanacetum gracile* Hook. f. et Thoms., *Petunia hybrida* L., *Convolvulus arvensis* L., *Helianthus annuus* L., *Brassica oleracea* var. *botrytis* L., *Euphorbia helioscopia* L., *Solanum nigrum* L., *Tropaeolum majus* L., *Momordica charantia* L., *Lagenaria vulgaris* Sc1., *Citrullus vulgaris* var. *fistulosus* Schrad.

Jafar & Shafiq (1975) reported the occurrence of new hosts of *O. aegyptiaca* in Baluchistan on *Achillea santolina* L., *Aster altaicus* Willd., *Brassica campestris* var. *rapa* L., *Hyoscyamus niger* L., *Cucurbita moschata* L., *Hibiscus trionum* L., *Luffa acutangula* L., *Ocimum sanctum* L., *Peucedanum graveolens* Boiss., *Prunus amygdalus* Stocks, *Prunus armeniaca* L., and *Zinnia elegans* Jacq.

A survey was carried out to record the appearance of broomrape in Quetta valley during the spring of 1978. During the course of this study two new hosts of broomrape were recorded.

New Hosts Records

1. *Orobanche aegyptiaca* Pers. on *Apium graveolens* Linn.

Celery (*Apium graveolens*) is grown for its edible petioles and the seeds are used in flavoring (Core, 1955). The crop is being cultivated since the English-men came to Baluchistan (Burkill, 1956). It is also cultivated on a small scale in other parts of the country. *O. aegyptiaca* was found growing in association with this plant. There appears to be no previous record of broomrape parasitizing celery.

The root system of a number of Celery plants was thoroughly washed which revealed that there existed positive union between the roots of the host and the parasite. Morphology and floral characters were in agreement with the characters given by Nasir & Ali (1976). The angiospermic parasite was identified as *Orobanche aegyptiaca* Pers. The average number of flowers in each stalk was 140.

2. *Othonnopsis intermedia* Boiss.

This is a medicinal herb and is self sown in the hilly tracts of Baluchistan (Burkill, 1956). The herb is locally known as Manguli and Gungan. It is used as a cure for boils, pimples and headaches. An *Orobanche* species was found parasitizing this weed in Quetta valley. There existed actual root attachment between the host and the parasite.

On the basis of morphology and floral characters as described by Nasir & Ali (1976), the parasite was identified as *Orobanche stocksii* Boiss. The average number of flowers in the inflorescence in the stalk was 110.

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