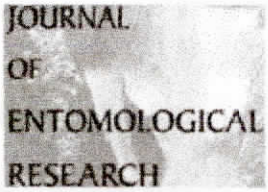

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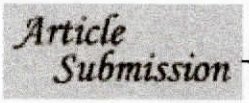

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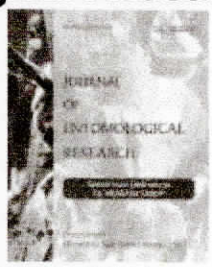

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First record of damage by pest snail in medicinally important *Barleria cristata* L. plants in western ghat of India

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ABSTRACT

In India, western ghat region of Maharashtra is one of the known natural habitat of various medicinal plants. *B. cristata* L. (Family *Acanthaceae*) is one such medicinal plant abundantly found in this region. Several studies on *B. cristata* L. revealed that the whole plant or its specific parts are being utilized for the treatment of many diseases without any side effects. This is extensively used for Ayurvedic / herbal preparations in India. Now these days during the monsoon season it has been observed that *B. cristata* L. is attacked by pest snail. Snail causes 70-80% damage to leaf biomass of *B. cristata* L. the present finding. This constitutes first report on occurrence of snail as pest of *B. cristata* L.

Key words : *Barleria cristata*, medicinal plant, pest, snail, western ghat

INTRODUCTION

Barleria cristata L. (Family *Acanthaceae*) is a well-known perennial, ayurvedic herb and distributed in tropical Asia and Africa. In India, this plant is available in Maharashtra, Madhya Pradesh, Western ghats, Gurgram, Haryana, Chhatisgarh, Chandigarh, Bengaluru, New Delhi, Uttar Pradesh, Kerela, Southern India, Kumaoun, Uttarakhand and Thar desert of Rajasthan (Kiritikar, 2000). Several studies on *B. cristata* L. revealed that the whole plant or its specific parts like leaf, stem, root, bark, and flower are utilized for the treatment of toothache, urinary infection, jaundice, fever, gastrointestinal disorders, whooping cough, inflammations, glandular swellings. It is also known to possess diuretic property diuretic and tonic without any toxic effects. Owing its incredible medicinal potential it used for ayurvedic/ herbal preparations in India. In recent time, *B. cristata* L. was found to be devasted by the attack of injurious pest snail. Severe leaf biomass has been reported of *B. cristata* L. due to pest snail. Hence, both quantity and quality of medicinal compounds present in *B. cristate* get reduce due to damage caused by snail during plant development. Accordingly, this study is the first to document the presence of snail as pest on *B. cristata* in western ghat.

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MATERIALS AND METHODS

Study area and Plant material : Occurance of snail on *B. cristata* L. was seasonal. Therefore monsoon season was fixed for the present study. Three districts of Maharashtra namely Ratnagiri, Raigad and Sindhudurg were selected as study site during year of 2017-2018. Natural habitats as well as garden potted plants of *B. cristata* L. (Family *Acanthaceae*) were used for study.

RESULTS AND DISCUSSION

The first incidence of damage by snail in *B. cristata* L. was noticed in Mandangad tahsil of Ratnagiri District, Maharashtra. Later it was recorded in all three districts namely Ratnagiri, Sindhudurg and Raigad. During this study, it was noticed that pest snail affecting the *B. cristata* L. during Monsoon season only. Seasonal occurrence of some other insects were reported on *B. cristata* L. and *B. prionitis* as reported by David and Rangarajan (1966). In another report, it was reported that pests and diseases causes 26% to 38% yield losses (Cerda *et al.*, 2017). The snail was found to cause 70 to 80% leaf biomass loss of *B. cristata* L. (Fig. 1). During this study, it was observed that pest snail affected only the leaves. Due to the attack of snail *B. cristata* L., exhibited symptoms like less flowering and seed