FACTORS RESPONSIBLE FOR UNDERUTILIZATION OF *COCCINIA GRANDIS* AND *LUFFA ACTANGULA* IN JAMMU

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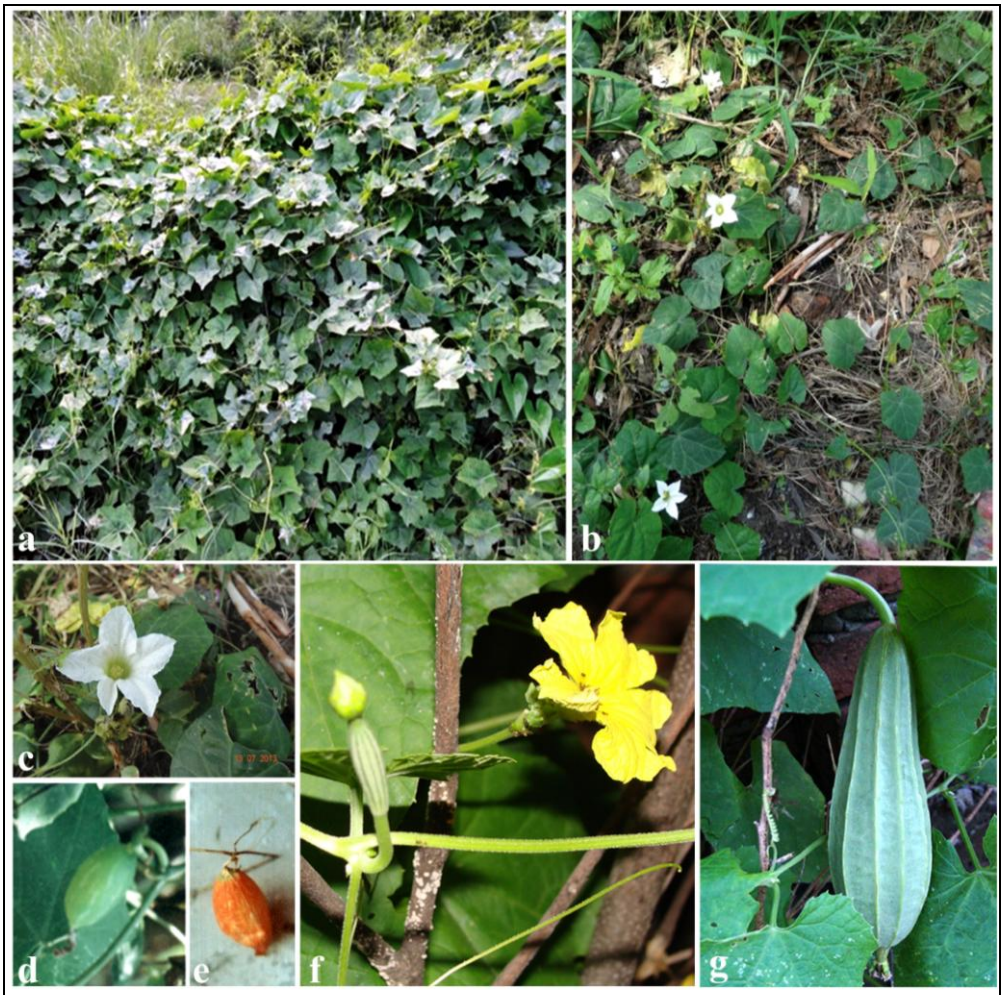
Abstracts: Cucurbitaceae though known world-wide on account of having broadly grown taxa such as *Cucumis sativus* (cucumber), *Citrullus lanatus* (water melon) and *Cucumis melo* (melon) that are consumed on a large scale (Jeffrey 1980), it also contains some lesser known species that are rich in minerals and vitamins**.** *Coccinia grandis* (L.) Voigt (syn. *C. indica*) and *Luffa actangula* (L.) Roxb. are the two such species (Kalloo and Bergh 1993; Rai *et al.* 2008). These provide prized vegetables, have the ability to grow in habitats that are generally inhospitable to other plants and are not taken by stray animals on account of having herbivory-deterrent compounds. Despite having potential to supplement world's food / medicinal basket, these have remained underutilized particularly in Jammu region. Present communication describes the factors responsible for less utilization of *C. grandis* (syn. *C. indica*) and *L. actangula* in Jammu (Sharma and Kachroo 1981).

Keywords: Coccinia grandis, Luffa actangula, Jammu

INTRODUCTION

C grandis commonly called Ivy gourd, Kunduru, Kandori is a large dioecious twining perennial species, with solitary male and female flowers, ovoid and oblong fruits which are green when raw and scarlet when ripe (Figs. 1a-e). Fruit of this plant is a good source of minerals and vitamins A and C. Ayurvedic practitioners are known to use nearly all parts of this plant (roots, leaves and fruits) for wound healing, treating jaundice, diabetes, stomach ache, skin diseases, fever, asthma and cough (Shaheen *et al*. 2009; Yadav *et al*. 2010; Bahera *et al.* 2011; Tamilselven *et al.* 2011). Except some areas where the species is cultivated, it grows luxuriantly in the wild. In Jammu, *C. grandis* has been found growing luxuriantly on waste lands and climbing along hedges, trees, fences and walls in Old Jammu University Campus, MA Stadium, Rajinder Park, Residential complex of IIIM and surroundings of Mahamaya temple. In rainy season, plants of this species grow rapidly (upto 4 inches a day) in dense blankets and shade other plants from sunlight. Despite the occurrence of prized cucurbits in abundance in wild, locals rarely use its vegetables. Preliminary observations made presently and those reported by Kumbhalkar *et al*. (2013) revealed that while some vines bear bitter, others bear edible fruit. Due to inability of locals to distinguish the vines bearing two kinds of fruits, edible fruits also remain unconsumed. Critical morphological analysis of *C. grandis* growing in different locations can assist in identifying plants with edible and larger fruits. This endeavor will help in making Kandori the poor man's prized food and assist in isolation of genotype important for plant breeding. Further chemical analysis of different accessions will assist in identifying the herbal products present and their quality.

L. actangula, commonly called Ridged Luffa, Angular Luffa, Kali Tori, Jangli Kandoli, is a monoecious cucurbit having sub-rounded to ovate leaves; pedicillate singly occurring female flowers (Fig. 1f). Male flowers are borne in axillary racemes (Fig. 1f), calyx lobes are lancelolate and fruit is oblong green having prominent longitudinal sharp angles (Fig. 1g). While the leaf extract of this plant is used as an eye wash and for curing conjunctivitis, the fruits and seeds find use in herbal preparations for the treatment of venereal diseases, particularly gonorrhea (Martin 1979). The mature fruits are harvested, dried and processed into sponges that are used for scrubbing body and cleaning utensils. This species has been found growing in the wild in Parmandal areas. Though in this region, this species is also cultivated and relished for its mildly bitter flavour, slightly spongy texture and sweet juiciness, it has not received the attention of local breeders because of its lesser productivity in comparison to its sister species *L. cylindrica* . This limitation demands in-depth studies on reproductive and cytological aspects of the species so that strategies may be designed to thwart the bottle neck of reduced reproductive capacity.



Figs a-b . Vines of *Coccinia indica* **growing on hedges and waste lands. Figs. c-e. Flower, unripe and ripened fruit of** *C. indica* **Fig.f. Female and male flowers of** *Luffa actangula* **Fig. g. Fruit of** *L. actangula*

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