

Distribution and Host Diversity of *Cassytha filiformis* Linn. in Chandrapur District of Maharashtra.

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ABSTRACT

Cassytha filiformis Linn. commonly known as *adher vel* belonging to family Lauraceae. This plant is distributed throughout India and utilized for its medicinal properties. It is leafless, stem hemiparasite, vine, green in colour distributed colonially at various places in Chandrapur District of Maharashtra. During the survey, the plant species found growing luxuriantly on six different dicotyledonous host plant species viz. *Maytenus senegalensis* (Lamk.) Excell, *Ziziphus oenoplia* Nill, *Azadirachta indica* Juss., *Diospyros melanoxylon* Roxb., *Melia azedarach* L. and *Prosopis juliflora* (Sw) DC. A taxonomic description along with Herbarium was prepared for each host taxon and photographs were deposited.

Keywords: *Cassytha filiformis*, host, relationship, associations

INTRODUCTION

Human beings depend upon the diversity of the natural ecosystem for several essential ecological services. Plants contribute to fulfilling the need for human beings in a variety of ways. Some plant species found growing in association with each other maintaining host-parasite relationships. About 4500 species of flowering vegetation are known to us, out of these more than 1% are parasites obtaining a few or all their water and nutrients from other plants. In the present study, distribution and host diversity of *Cassytha filiformis* Linn. belonging to family Lauraceae was studied. For the present investigation, a survey of the Chandrapur district was carried out. The genus is leafless, stem hemiparasite [1], vine, green in colour [2] attaches to the stem of host species.

23 species of *Cassytha* have been reported which are found distributed in tropical and subtropical regions of the world. The genus has host specificity which determines the distribution of the genus. Cue-vas-Reyes et al.[3]; Thorogood et al. [4]; Fernandez-Aparicio et al.[5] and Goro Kokubugata et al. [6] studied host specificity of the *Cassytha*. Present investigation was carried out to examine the host diversity of *Cassytha* in Chandrapur District of Maharashtra.

METHODOLOGY

Plant Material:

For the present investigation, a plant species *Cassytha filiformis* Linn. (Fig. 1) was examined.

Citation: *Sp. Pl.* 35, 1753; Cooke, *Fl. Pres. Bombay* 2: 536, 1906; Ugemuge, *Fl. Nagpur* 319, 1986; Almeida, *Fl. Maharashtra* 4: 248, 1996; Singh & Karthikeyan[12], *Fl. Maharashtra State* (Dicot) 2 : 825, 2000.

Leafless twining partial stem parasite; branches filiform, greenish. Leaves reduced to minute ciliate scales. Flowers white, in axillary, lax spikes, trimerous, bisexual; petals 6 (3+3), free unequal; stamens 9, whorls; anthers 2 celled. Fruit a globose drupe enclosed in perianth. Single seeded.

Common name: Adhar vel

Place of collection: Ballarpur FDCM Depot,

Status of plant in Nature: wild, grow on other plant

Flowering & Fruiting: March-May.

Exsiccata: 01 Fig. 01

Methodology

To study the distribution and host diversity of *Cassytha filiformis* Linn. (Fig.1) following methodology was adapted-

i) Extensive exploration: Extensive field survey was carried out in different places of Chandrapur District of Maharashtra including forest, villages to find out the *Cassytha filiformis* Linn.

ii) Collection of plant material:

Fresh plant of *Cassytha filiformis* Linn. was collected along with its host. Naturally growing plant species

under study was photographed along with host species. For the identification purpose plant species was photographed along with certain flowering twigs. Certain photographs of the flowers were also taken to make identification easier.

iii) Identification of collected plant species:

Identification, taxonomical description and authentication of host and hemiparasite was carried out by referring to different floras including Flora of Maharashtra State: Dicotyledons Vol I and II [7], Flora of Maharashtra [8], Flora of British India [9], Flora of Chandrapur and Gadchiroli district Ph. D. thesis, Nagpur University Nagpur [10] and Ethnobotanical studies of Chandrapur and Gadchiroli district Ph. D. thesis, Nagpur University Nagpur [11].

iv) Preparation of herbarium

Herbariums were prepared from freshly collected plant species of host and hemiparasite. *Exsiccata* was numbered for hemiparasite (01) and host (02,03,04,05,06 and 07), herbarium sheets were stored according to the accepted system of classification in the Botany Department of college.

RESULTS AND DISCUSSION

In the present study, *Cassytha filiformis* Linn. was found growing as hemiparasite on six different angiospermic host plants, belonging to five families viz. *Celastraceae*, *Rhamnaceae*, *Meliaceae*, *Ebenaceae*, and *Mimosaceae*. The species under study was found growing luxuriantly on specific genera of the family - *Maytenus senegalensis* (Lamk.) Excell Family- *Celastraceae* (Fig 2) *Ziziphus oenoplia* Nill Family- *Rhamnaceae* (Fig 3), *Azadirachta indica* Juss. Family-*Meliaceae* (Fig 4), *Melia azedarach* L. Family-*Meliaceae* (Fig 5), *Diospyros melanoxylon* Roxb. Family-*Ebenaceae* (Fig 6) and *Prosopis juliflora* (Sw) DC. Family- *Mimosaceae* (Fig 7).

During the study, it was observed that the ecological habitat of the host varies widely. *Cassytha filiformis* Linn. is host-specific and it weakens or hinders the normal growth and development of host. Based on the present investigation it becomes evident that *Cassytha filiformis* Linn. is a stem parasite for support. Goro Kokubugata and Masatsugu Yokota (2012) concluded

that the environmental factors necessary for the host species influence the distribution of the species.

Table1: Host diversity of *Cassytha filiformis* L.

Sr. No.	Host species	Host Family	Place of occurrence	Exsiccata
1	<i>Maytenus senegalensis</i>	Celastraceae	Gondpipari, Kothari	02
2	<i>Ziziphus oenoplia</i>	Rhamnaceae	Ballarpur, Rajura	03
3	<i>Azadirachta indica</i>	Meliaceae	Chimur, Palasgaon	04
4	<i>Melia azedarach</i>	Meliaceae	Warora, Visapur	05
5	<i>Diospyros melanoxylon</i>	Ebenaceae	Chichpalli, Somnath	06
6	<i>Prosopis juliflora</i>	Mimosaceae	Bhadrawati, Durgapur	07



Fig.1 *Cassytha filiformis* Linn. **Fig 2:** *Maytenus senegalensis* (Lamk.) Excell Family- Celastraceae **Fig 3:** *Ziziphus oenoplia* Nill Family- (Rhamnaceae)



Fig 4: *Azadirachta indica* Juss. Family-Meliaceae **Fig 5:** *Melia azedarach* L. Family-Meliaceae **Fig 6:** *Diospyros melanoxylon* Roxb. Family-Ebenaceae



Fig 7: *Prosopis juliflora* (Sw) DC. Family- Mimosaceae

CONCLUSION

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Conflicts of interest: The authors stated that no conflicts of interest.

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