



Full Length Article

Cordyceps natans Pat., a New Record to India

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ABSTRACT

Genus *Cordyceps* comprises of more than 100 species. Most of them are entomogenous. In India only 06 species have been reported till date of which four occur in Maharashtra state viz. *Cordyceps blattae* (T.Petch) T.Petch, *C. superficialis* (Peck) Sacc., *C. militaris* (L.ex St.Amans) and *C. forquignoni* Quel. In the present paper *Cordyceps natans* Pat., an entomogenous species has been described as a new record to India.

Key words: Mycotaxonomy, Entomogenous, *Cordyceps*

INTRODUCTION

Genus *Cordyceps* comprises of more than 100 species (Ove Erikson, 1982). Kobayasi (1941) listed 124 species from the world. Most of them are entomogenous, a few are epiparasites on *Elaphomyces* species, two on sclerotia of *Claviceps* species and some occur on Spiders (Mains, 1955). Most species develop on larva, pupa and adults of insects. Ascal apparatus and ascospores is a typical character of family and order Clavicipitales. In India only 06 species have been reported till date (Bilgrami *et al.*, 1991; Sarbhoy, 1996). Four species have been reported from Maharashtra state viz. *Cordyceps blattae* (T. Petch) T. Petch, *C. superficialis* (Peck) Sacc., *C. militaris* (L.ex St.Amans) and *C. forquignoni* Quel (Patil, M.S., Jagdale, S.V., Nanaware, 2002; Mahamulkar, 2001 and Anjali Patil and Patil, 2008).

During the systematic mycological survey in different botanically rich localities confined to the Western Ghats of Maharashtra State in the rainy season of 2011 and 2012, many rare & interesting saprophytic, parasitic & hyper parasitic fungi were collected. Among these *Cordyceps*, an

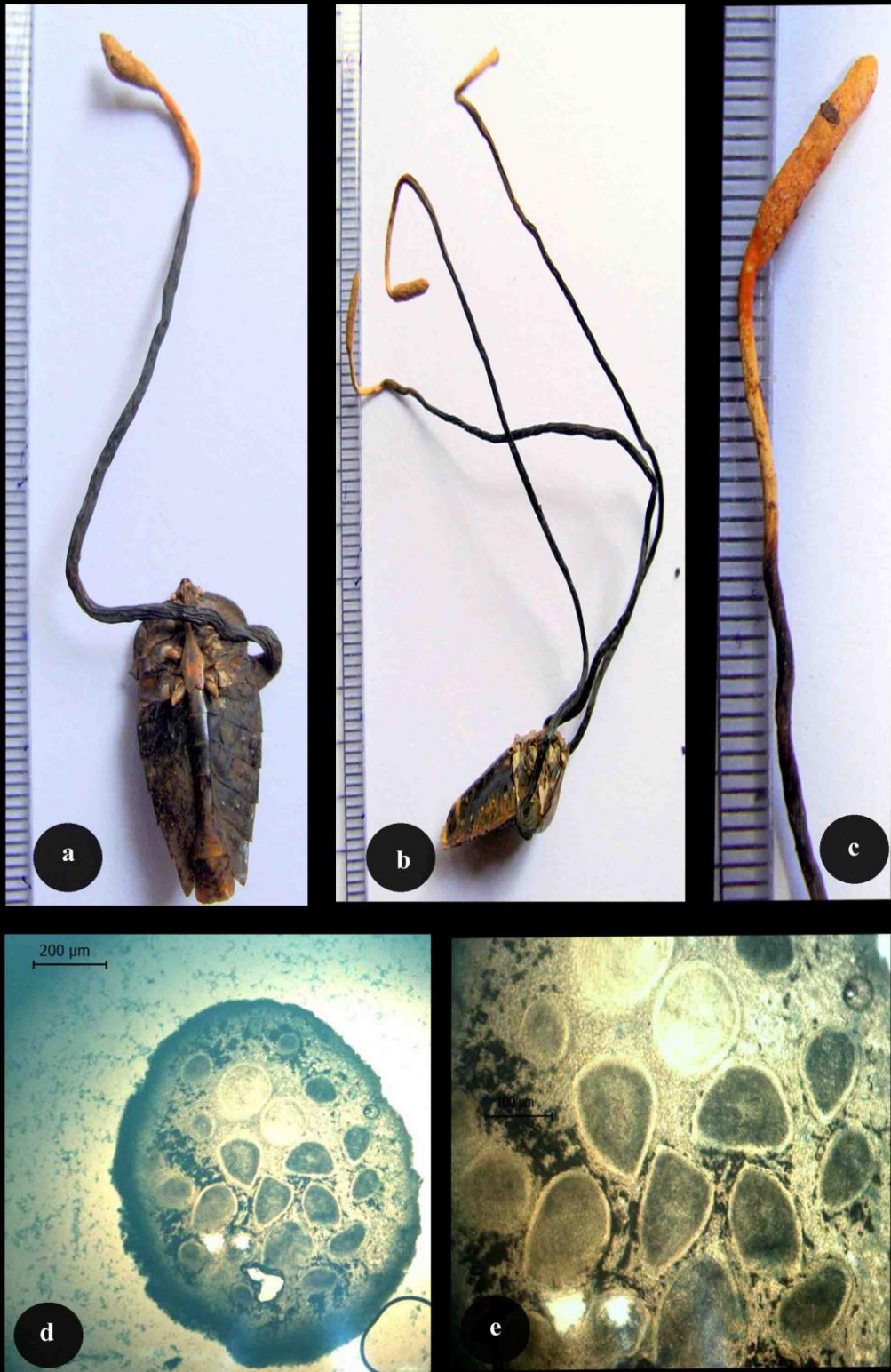
entomogenous taxon has been collected & described. The material is deposited in National Fungal Culture Collection of India, Agharkar Research Institute, Pune, Maharashtra, India.

***Cordyceps natans* Pat. Bull. Soc. Mycol. Fr. 3: 127, 1987. Plate I: Figs. a -e.**

= *C. natans* Pat. var. *acanthosomae* Hara, *Nawas Insect World* 15: 26, 1911.

Stromata solitary or tri-ternate, simple, rarely terminally branched, erect, sometimes curved & coiled, varying from 1- 4 per body of the insects (1 & 2 stromata per body dominant), stalks filiform, blackish with orange-yellow apex; surface glabrous, 5 -18 cm long, 1.5 - 4 mm thick; terminal fertile part fusiform or clavate, orange-yellow, 4 -12 x 1.5 - 4 mm; perithecia embedded in the stroma, elongate, ovate, with long neck, 450 - 800 x 150 - 250 µm; asci numerous, tenuous, clavate or cylindrical, apically capitate & 8-spored; ascospores parallel, cylindrical-filiform, hyaline, septate, smooth & not divided into part spores (immature), 200 - 250 x 1.5 - 2 µm.

PLATE I



a - Habit : Infested dead insect with single stroma ; b- Insect bearing many stroma ;
c- Fertile head of the stroma (bright orange) ; d- T.S.of stroma with perithecia ;
e- Part of stroma with perithecia and asci

Habit

On dead body of adult Stinkbug viz. *Nezara viridula* L. (Pentatomidae), Tillari, District Sindudurg, Maharashtra, India collected by Dr. Anjali Patil and deposited in National Fungal Culture Collection of India, ARI, Pune, Maharashtra, India under A.M.H. No. 9562.

Remarks

Present collection matches morphologically to *C. natans* Pat. especially the stromata-which are fertile, with orange yellow head and long sterile cylindrical stalk, collected on dead body of the adult Stinkbug from Formosa, Japan and China (Tanda and Nagase, 1978). The present collection differs in a few aspects from *C. natans* Pat., viz. number of stromata per host and length of individual stromata. It is a new record to fungi of India.

LITERATURE CITED

- Eriksson Ove, 1982.** *Cordycep sbifusispora* sp.nov. *Mycotaxon*, **15**:185-188.
- Hara K, 1911.** On the entomogenous fungi (2) (in Japanese). *Nawas Insect World* **15**:26-27.
- Kobayasi Y, 1941.** The genus *Cordyceps* and its allies. *Sci. Rep. Tokyo, Bunrika Diagaku Sect. B.5*: 53-260.
- Mains EM, 1955.** North American species of *Cordyceps*. *Mycologia*, **47** (1): 169-222.
- Rogerson CT, 1970.** The Hypocrealean fungi (Ascomycetes, Hypocreales). *Mycologia*, **62**:865-910.
- Seifert KA, 2001.** Entomogenous *Cordyceps* and related genera from Mexico. *Mycotaxon*, **78**:115 - 125.
- Tanda S and Massami N, 1978.** Some entomogenous fungi in Taitung, Famosa. *J. Agri. Sci. Tokyo Uni.*, **23**(1): 79-86.

How to Cite this Article:

Anjali Patil, BT Dangat and MS Patil, 2014. *Cordyceps natans* Pat., a new record to India. *Sci. Res. Rept.*, **4**(1):64-66.