



NOTE

Exormotheca tuberifera (Marchantiophyta, Exormothecaceae) from the Western Ghats of Kerala, India

C. N. Manju^(1,2*), P. R. Nikesh⁽³⁾ and K. P. Rajesh⁽⁴⁾

1. Malabar Botanical Garden, Olavanna, Calicut, Kerala, India.

2. Department of Botany, the Zamorin Guruvayurappan College, Calicut, Kerala, India.

3. Ashoka Trust for Research in Ecology and the Environment (ATREE), Jakkur Post, Bangalore, Karnataka, India.

4. Department of Botany, the Zamorin Guruvayurappan College, Calicut, Kerala, India. Email: kprajesh.botany@gmail.com

* Corresponding author. Malabar Botanical Garden, Olavanna, Calicut, Kerala, India; Email: manjucali@gmail.com

(Manuscript received 7 April 2011; accepted 11 May 2011)

ABSTRACT: *Exormotheca tuberifera* Kashyap a rare liverwort is reported from Kerala part of the Western Ghats of India.

KEY WORDS: *Exormotheca tuberifera*, Exormothecaceae, liverwort, Kerala, New record.

INTRODUCTION

The genus *Exormotheca* Mitt. of the family Exormothecaceae is represented by 12 valid species in the world, of which two viz., *E. ceylonensis* Meijer and *E. tuberifera* Kashyap have been known from India. Udar and Chandra (1964) reported *E. ceylonensis* from Kodaikanal and Daniels (1999) recorded from Kanyakumari and Thirunelveli districts of Tamil Nadu. *E. tuberifera* was described from the North Western Himalayas by Kashyap (1914). Kaul et al. (1995) recorded it from Simla, Mussoorie, Pachmarhi, Purander and Madras. Recently we could collect this species from the Neriamangalam hills of Ernakulam district in Kerala. It turns out as a new record of this genus and species to the Western Ghats of Kerala, hence reported here.

TAXONOMIC TREATMENT

Exormotheca tuberifera Kashyap, New Phytologist 13: 208. 1914; Kaul et al., Rec. Studies Indian Bryo. 142. 1995.

Plants once or twice dichotomously branched, upper surface green with a deep, narrow median groove, air chambers at the dorsal surface open on the outside by pores which are raised slightly above the surface; pores surrounded by cells which are similar to epidermal cells. The chambers are arranged in a single layer and are full of simple green filaments which reach nearly to the roof, upper cell is elongated, with few chloroplast. Ventral surface bears two rows of scales which arise

from the midrib. Scale has no appendages. The plant bears tubers at the apex and on the ventral surface. *Exormotheca tuberifera* is monoecious. The antheridia occur often in a depression in one group behind the female receptacle and along the midrib in the median groove. The mature receptacle is usually carried upwards on a long stalk, some bears smaller stalks. The stalk has a deep furrow containing rhizoids, involucre may develop sporogonia. The latter may be one or two in each involucre. The capsule has a small foot but long seta. The capsule is always fully exerted and directed upwards. The elaters are 120 to 140 µm long with three or four lax spiral bands. The spores are tetrahedral, 55 to 60 µm in diameter (Fig. 1).

Specimens examined: India, Kerala, Ernakulam district, Neriamangalam (alt. 700 m), on land cuttings, Nikesh P.R. 15601 (CALI, MBGS).

Distribution: This species is distributed in North Western Himalayas, Simla, Mussoorie, Pachmarhi, Purander and Madras. The present collection is a new record for Kerala.

Note: *E. tuberifera* is characterized by the presence of tubers produced at the apex of the thallus, formed by the thickening of the apex or by ventral modified shoots.

ACKNOWLEDGEMENTS

The first author is thankful to Kerala State Council for Science Technology & Environment (KSCSTE), Thiruvananthapuram for the award of Post Doctoral Fellowship. We are thankful to the staff members of the



Fig. 1. *Exormotheca tuberifera*. A: Habit. B: Enlarged view of habit. C: Spore.

Kerala Forest Department for extending support during our field study.

LITERTURE CITED

Daniels, A. E. D. 2010. Checklist of the bryophytes of the Tamil Nadu, India. *Arch. Bryol.* **65**: 1-118.

Kashyap, S. R. 1914. Morphological and biological notes on

new and little known West Himalayan liverworts-II. *New Phytol.* **13**: 206-226.

Kaul, A., A. K. Pareek and D. Jain. 1995. *Exormotheca tuberifera* Kash. a new report from central India. In: Kumar, S. S. (ed.), *Recent Studies on Indian Bryophytes*, pp. 141-145, Bishen Singh Mahendrapal Singh, Dehra Dun, India.

Udar, R. and V. Chandra. 1964. *Exormotheca ceylonensis* Meijer – New to Indian flora. *Curr. Sci.* **33**: 436-448.



印度喀拉拉邦西高止山脈的新紀錄 – 塊莖短托蘚 (*Exormotheca tuberifera*)

C. N. Manju^(1,2*), P. R. Nikesh⁽³⁾ and K. P. Rajesh⁽⁴⁾

1. Malabar Botanical Garden, Olavanna, Calicut, Kerala, India.

2. Department of Botany, the Zamorin Guruvayurappan College, Calicut, Kerala, India.

3. Ashoka Trust for Research in Ecology and the Environment (ATREE), Jakkur Post, Bangalore, Karnataka, India.

4. Department of Botany, the Zamorin Guruvayurappan College, Calicut, Kerala, India. Email: kprajesh.botany@gmail.com

* 通信作者。Malabar Botanical Garden, Olavanna, Calicut, Kerala, India; Email: manjucali@gmail.com

(收稿日期：2011年4月7日；接受日期：2011年5月11日)

摘要：本文描述印度喀拉拉邦西高止山脈的一個稀有蘚類，塊莖短托蘚 (*Exormotheca tuberifera* Kashyap)。

關鍵詞：塊莖短托蘚、短托蘚科、蘚類、喀拉拉邦、新紀錄。