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Short Communication

Pyrrosia porosa (C. Presl) Hovenkamp – A New Diploid Cytotype of South India from Kolli Hills of Eastern Ghats, Tamil Nadu, India

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- Kolli Hills
- Eastern ghats

Abstract

The present investigation is on the chromosome count of *Pyrrosia porosa* (C. Presl) Hovenkamp, a fern of Kolli Hills, Eastern Ghats, South India. The young sori were collected from Kuzhivalavu of Kolli Hills. The sori showed 37 bivalents at first meiosis of spore mother cells. Diploid cytotype of *P. porosa* has been reported from Eastern India and Eastern Himalaya so far. This is the first report of the diploid cytotype from South India.

INTRODUCTION

The Kolli Hills is a part of the Eastern Ghats, which is a mountain range that runs almost parallel to the east coast of Tamil Nadu. Kolli Hills are located in Namakkal district of Tamil Nadu. It extends to an area of about 418 km^2 between 11˚10' - 11˚30'N latitude and 78˚15'-78˚30' E longitude (Figure1). Its elevation ranges from 700-1400m. *Pyrrosia porosa* (C. Presl) Hovenkamp is a tropical and subtropical species, and is commonly distributed in South India. This plant is in the form of lithophytes and epiphytes found mostly along the road sides and rarely found inside the forest. The species was found in Western Ghats [1,2] and Kerala, South India [3,4]. Tetraploid cytotype of this taxon was reported from Himachal Pradesh of Western Himalaya and Nilgiris of South India [5-7]. Diploid cytotypes were recorded from Parasnath hills in Eastern India and Darjeeling in Eastern Himalaya [8,9]. The present investigation deals with the chromosome count of this taxon from Kolli Hills, South India.

MATERIALS AND METHODS

The developing sori were collected in the early morning (6.00 to 7.15am) and fixed in Carnoy's fluid. For meiotic chromosome studies, the acetocarmine squash technique was followed [10]. The chromosomes were seen from spore mother cell before diplotene and diakinesis of the first division of meiosis. The best preparation was selected for photographs using the Olympus - CX21 microscope under 100 X magnification. The herbarium specimens were deposited in the Centre for Cryptogamic Studies, Department of Botany, St. Joseph's College (Autonomous), Tiruchirappalli, Tamil Nadu, India.

RESULTS AND DISCUSSION

Plant description

Pyrrosia porosa (Presl) Hovenkamp, Blumea 30(1): 208. 1984.

Synonym: *Niphobolus porosus* C. Presl, Tent. Pterid. 202. 1836.

Rhizome creeping, fully covered by scales, lanceolate in shape, 4 × 1.5 mm, brown colour, base cuneate or round, apex acuminate, margin fimbriate, frond simple, monomorphic, indistinctly, linear-oblong to lanceolate, up to 25.5 × 1.6 cm, narrow in apex and base, margin entire, vein distinct, primary veins ascending, parallel, secondary veins connecting primary vein, tertiary veins indistinct, frond dark green, lower surface of frond pale brown, stellate hairs (1mm) in two layer. Sori numerous, towards the distal half of the frond, orbicular, secure by stellate hairs, marked by dark spot above the frond (Figure 2).

Specimen examined

Kuzhivalavu, Kolli Hills. CCSH 311, 22.4.2015

Each spore mother cell of *P. porosa* shows 37 bivalents (Figure 3). This is sexual diploid in nature. 64 normal spores were observed in one sporangium. These results were confirmed with the report of Roy et al. [8], Also the same report from Eastern

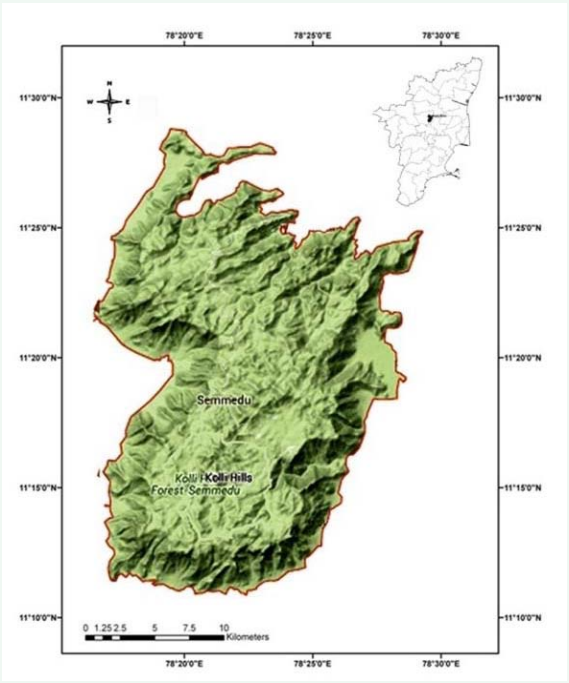

Figure 1 Study area of Kolli Hills.

Figure 2 Habit *Pyrrosia porosa* (C. Presl) Hovenkamp.

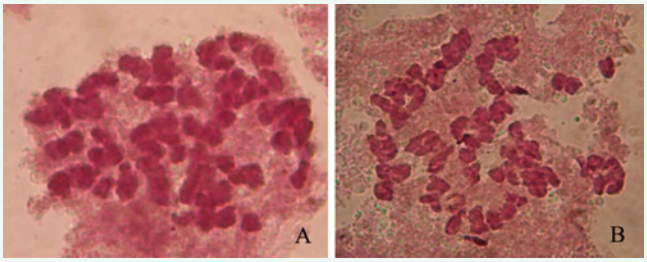

Figure 3 A & B. Spore mother cell showing 37 bivalent at first metaphase of meiosis.

Himalaya [9]. The result obtained by this investigation is the first record of South India.

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