

A new species of *Lygodium* (Lygodiaceae) from North Andamans, India

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A new species of the fern genus *Lygodium* has been described in detail with photographs and illustrations from Saddle Peak in the North Andamans, India.

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Introduction

In the course of identification of fern collections of the genus *Lygodium* Sw. made from the Andaman and Nicobar Islands during Nov-Dec.1992 by the first author, a few peculiar specimens of *Lygodium* were collected from Saddle Peak (ca 650 m) in the North Andamans which turned out to be new to science (cf. Panigrahi & Dixit 1966; Singh & Panigrahi 1984) and named as *Lygodium andamanicum* Dixit, Bhandari & Mukhopadhyay.

The genus *Lygodium* Sw. belongs to the monogeneric family Lygodiaceae Presl s.s., and comprises about 40 species, of which 10 are reported from India, (Panigrahi & Dixit 1966; Singh & Panigrahi 1984). Out of 10 species, three are known from the Andaman and Nicobar Islands (Ellis 1987).

The new species is allied to *L. flexuosum* (L.) Sw. and *L. japonicum* Thunb., but can be distinguished by the characters given in Table 1.

To facilitate the easy identification in the field and herbarium, the habit photographs and SEM photographs of spore exine of all three species are also provided.

Lygodium andamanicum Dixit, Bhandari & Mukhopadhyay, sp. nov.

Lygodium flexuosum et *L. japonicum* affinis, sed frondibus gracilibus, flexuosis; marginalibus. paucis et remote positis differt. In *L. flexuosum* frondibus robustis, dumeto formatis, flexuosis; pinnulis ovatis, elongatis, obtusis, sporophoris marginalibus, mutis arte positis in *L. japonicum*. Frondibus gracilibus flexuosis, dumatoformatis, pinnules, ovato-lanceolatis, acutis, sorophoris, marginalibus, multis, arte positis. – Figg. 1-4.

Type: North Andamans: Saddle Peak, ca 650 m, Dec. 1992, Dixit 53396 CAL (holotype), BU (paratype).

Rhizomes creeping. Fronds flexuose, 2-3 m long, climbing on bushes. Primary rachis branches indistinct, about 2 m long, dormant apex bearing 1-1.5 mm long, septate, brown hairs; secondary rachis branches 4-6 cm long, wiry, pinnate or furcate, usually lobed at the base, hairy on both surfaces, papery but firm in texture, greenish-brown when dry. Pinnules stalked; stalks 5-10 mm long, elliptic, 3-3.5

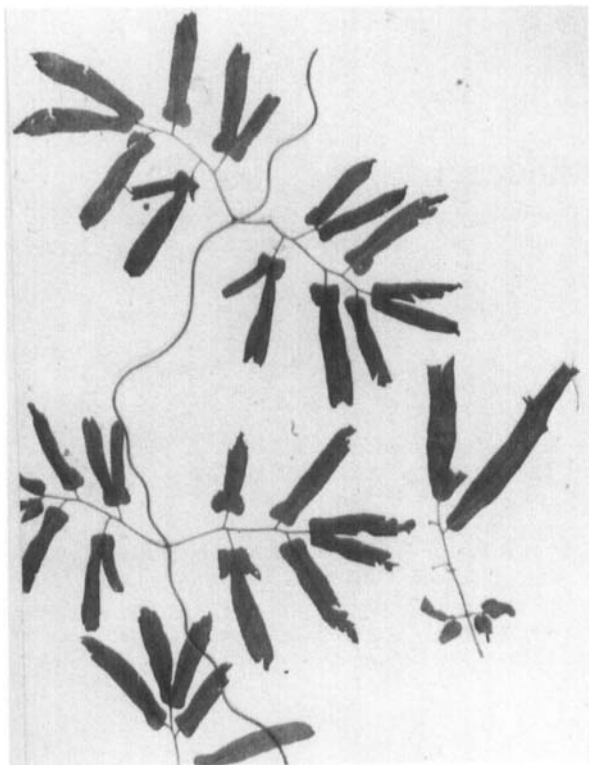


Fig. 1. *Lygodium andamanicum*. Habit. (Dixit 53396 (CAL)).

mm long, 0.5-1cm broad, truncate or cordate at base, apiculate at apex, margins finely crenate. Sorophores a few, distantly placed on the margins, 3.5m long, 5-6 solitary sporangia; spores trilete, 70-90 μm . in diameter, exine verrucate. – Figs 1-4, 13.

Habitat. Plants climbing on bushes and tree trunks deep into forest along the slope near hill top. Abundant in one patches; fertile.

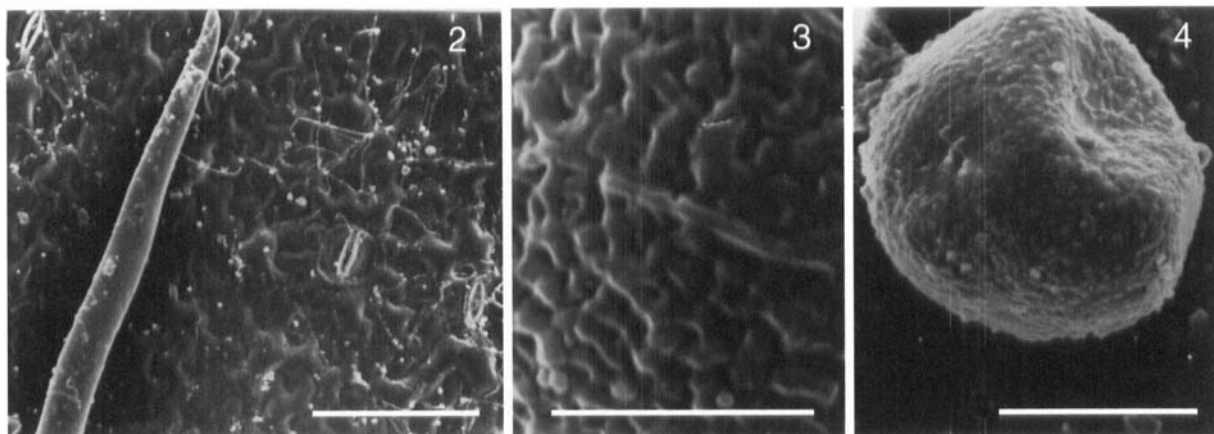
Etymology. The specific epithet (*andamanicum*) has been derived from the place of collection, Andaman Island in India.

Distribution. Only known from the type locality: India, North Andamans, Saddle Peak.

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Figs 2-4. *Lygodium andamanicum*. – Fig. 2. Part of epidermis with hairs and stomata. Scale bar 100 μm . – Fig. 3. Proximal part of spore. Scale bar 50 μm . – Fig. 4. SEM of part of exine. Scale bar 10 μm .

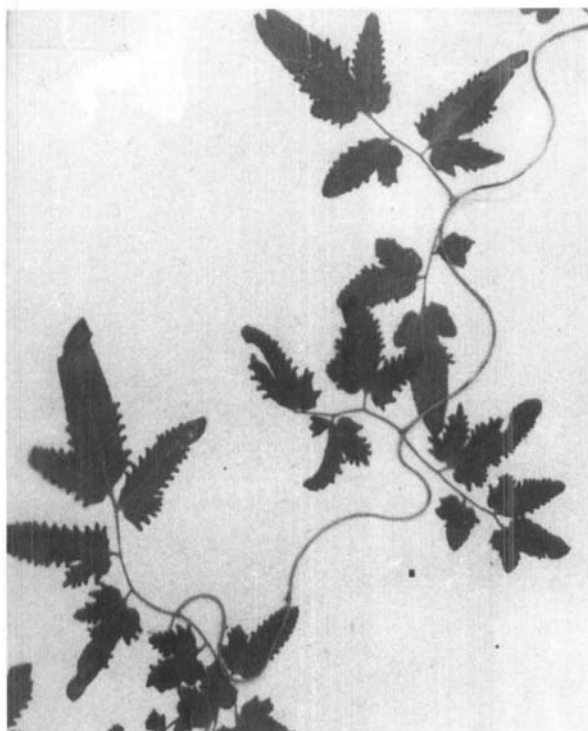


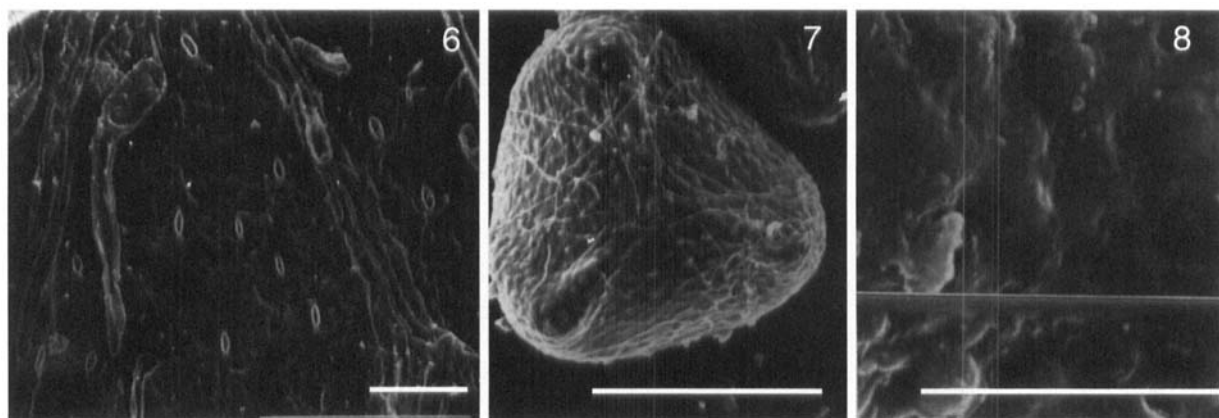
Fig. 5. *Lygodium flexuosum*. Habit.



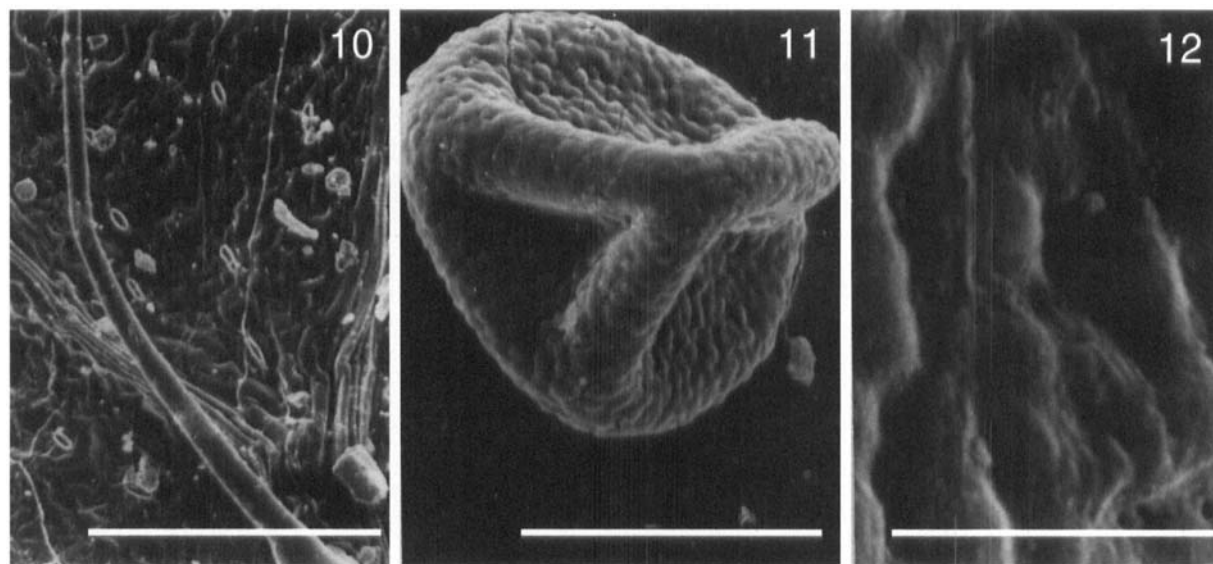
Fig. 9. *Lygodium japonicum*. Habit.

Table 1. Differences between *Lygodium andamanicum*, *L. flexuosum* and *L. japonicum*.

	<i>L. andamanicum</i>	<i>L. flexuosum</i>	<i>L. japonicum</i>
Fronds	slender, flexuose, not forming thickets.	robust, flexuose forming thickets	slender, flexuose forming thickets
Pinnules	elliptic, apiculate	ovate-elongate, obtuse	ovate-lanceolate, acute
Sorophores	marginal, a few, distantly placed	marginal, many, closely placed	marginal, many, closely placed
	Figs 1-4, 13	Figs 5-8, 13	Figs 9-12, 13



Figs 6-8. *Lygodium flexuosum*. Fig. 6. Part of epidermis with hairs and stomata. Scale bar 100 μ m. – Fig. 7. Proximal part of spore. Scale bar 50 μ m. – Fig. 8. SEM of part of exine. Scale bar 10 μ m.



Figs 10-12. *Lygodium japonicum*. – Fig. 10. Part of epidermis with hairs and stomata. Scale bar 100 μ m. – Fig. 11. Proximal part of spore. Scale bar 50 μ m. – Fig. 12. SEM of part of exine. Scale bar 10 μ m.

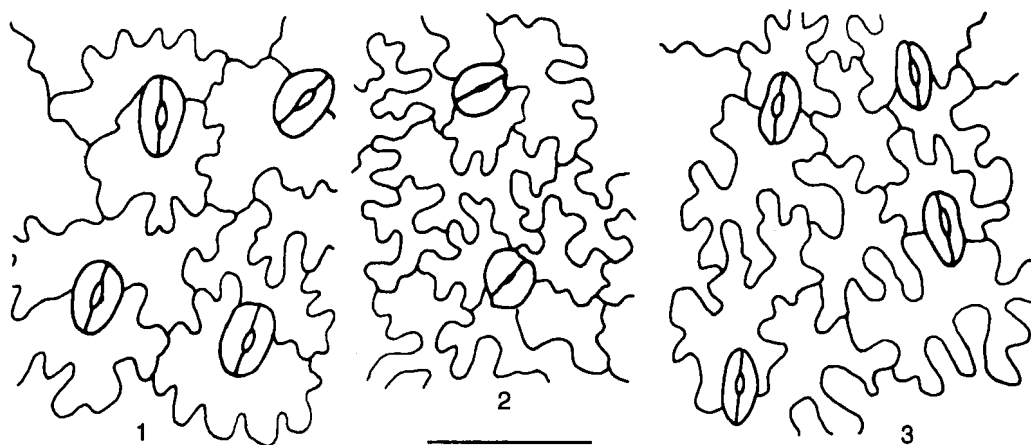


Fig. 13. Part of epidermis with stomata. 1. *Lygodium flexuosum*, 2. *L. japonicum*, 3. *L. andamanicum*. – Scale bar 0.1 mm.