

# ON THE REDISCOVERY OF FOUR RARE SPECIES OF FERNS FROM INDIA

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## ABSTRACT

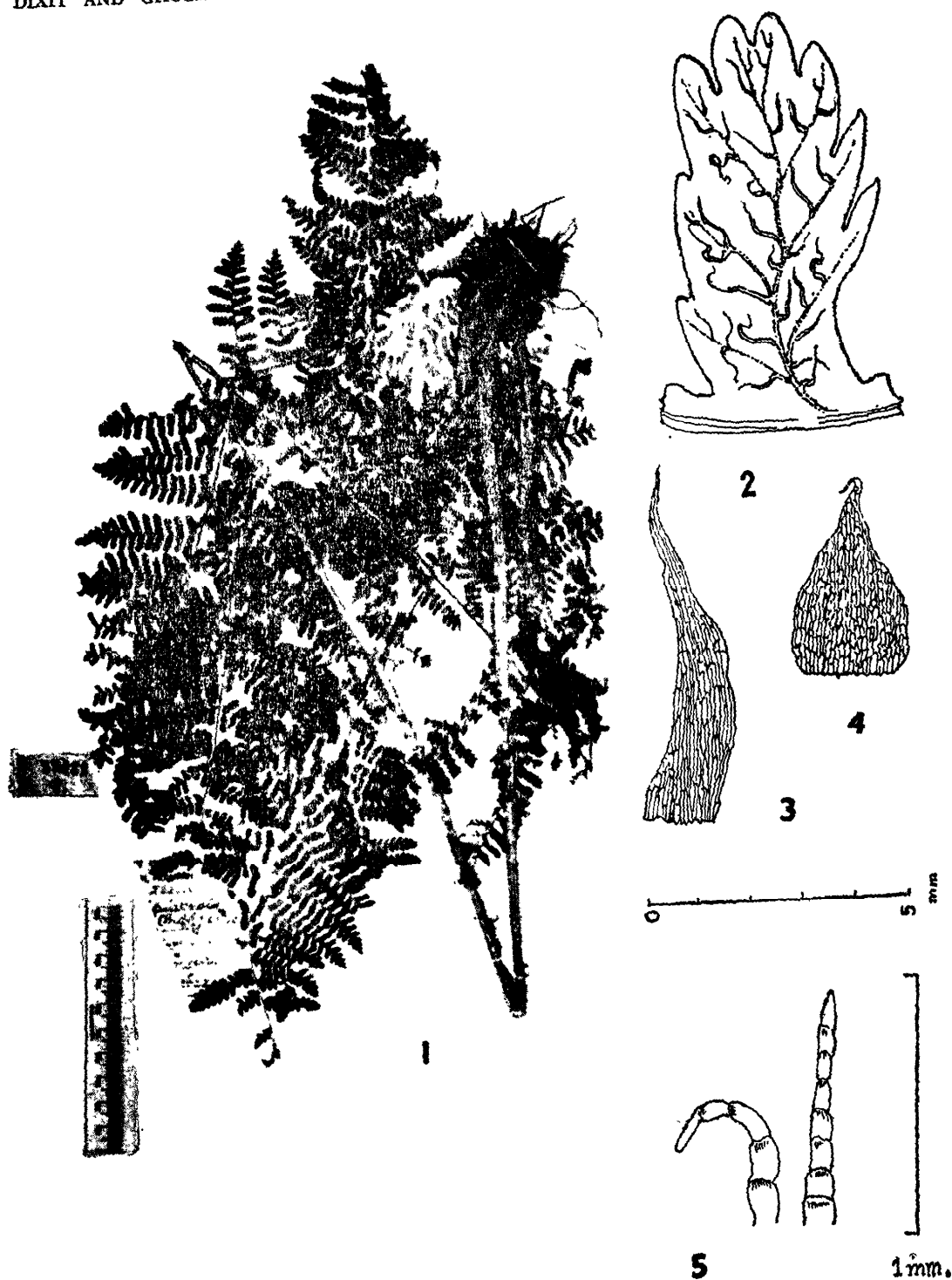
*Ctenitis manipurensis* (Bedd.) Ching, *Lindsaea javanensis* Bl., *L. lucida* Bl. and *L. orbiculata* var. *commixta* (Tagawa) Kram. have been rediscovered after a lapse of about one hundred years during special collection tours to Manipur in February 1978, 1984 and to Arunachal Pradesh and Meghalaya in May 1982.

*Ctenitis manipurensis* (Bedd.) Ching was originally described by Beddome (1888) as *Polypodium manipurense* based on an incomplete collection of G. Watt 6423 (K) in the year 1881-82 from Manipur. Later in his supplement to Handbook (1892), he added additional description and distribution based on some other collections made by G. Mann from Khasi hills and Wallich 322, 2nd sheet, from Nepal and treated this species as *Phegopteris manipurensis* (Bedd.) Bedd. During the course of identifications of pteridophytic collections made in February-March 1978 from Manipur, a specimen was determined on the basis of Beddome's description and also by comparison of Wallichian Microfiche as *Ctenitis manipurensis* (Bedd.) Ching. A thorough search was made to locate any additional specimens, if any, in herb CAL and finally two old unidentified specimens were determined as this species. One of them was a collection by G. Watt 6426 from the type locality, so far, not cited in any published work. The other specimen from Khasia hills (possibly G. Mann's collection, s.n. Accession No. 16898),

was examined by J. G. Baker with interesting notings from C. B. Clarke to Beddome as follows : (a) "I send you the specimen because it will interest you. It has been lately send out by Baker, marked you will see in his hand writing *Lastrea setosa* Bedd., so that our *Cystopteris setosa* must be still unknown at KEW, (b) *Lastrea setosa* Bedd. is *Cystopteris setosa* and this plant is certainly not that." Thus Clarke was absolutely correct in his judgement and the specimen was identified as *Phegopteris manipurensis* by Beddome and cited in supplement.

In spite of several collection trips made to the areas of occurrence of this species, so far, it could only be collected in March 1978 i.e. after the lapse of about one hundred years. Since, there is no illustrations of the species in any of the earlier publications, it is considered desirable to append here detailed description and illustrations of the species to facilitate easy identification of future collections from Manipur or elsewhere. With regards to *Lindsaea* species, the description and illustrations are provided by Dixit and Ghosh (1983) in their revisionary studies of the genus from the Indian region, therefore, only specimens examined are furnished.

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*Ctenitis manipurensis* (Bedd.) Ching

Figs. 1-5 : 1. Habit, Dixit 59022.2. 2. Pinnule. 3. Rhizome scale. 4. Stipe scale. 5. Ctenitis Hairs.

**Ctenitis manipurensis** (Bedd.) Ching in Bull. Fan Mem. Inst. Biol. Bot. 8: 297. 1938. *Polypodium manipurense* Bedd. in Journ. Bot. Lond. 235. 1888; Baker in Ann. Bot. 5: 459. 1891. *Phegopteris manipurensis* (Bedd.) Bedd. Handb. Ferns Brit. India Suppl. 83. 1892. *Dryopteris manipurensis* (Bedd.) C. Chr. Ind. Fil. 276. 1905.

Plants terrestrial; rhizome thick, erect, clothed with palebrown, broadly lanceolate scales. Fronds deltoid, ovate-lanceolate, 70.0-90.0 × 40-50 cm; stipes 35-45 cm., dull brown, clothed with many chartaceous scales and ctenoid hairs, rachises also covered with similar scales and hairs; margins wavy to irregularly serrate in the apical parts, veins anastomosing, ctenitoid; sori medial on each vein, exindusiate. (Fig. 1).

*Specimens examined* (All specimens in CAL): MANIPUR: Sirohifuror 213 m. 1881-82, G. Watt 6426; Sirohi hills, 25.2.78, Dixit 59022 (Four gatherings). MEGHALAYA: Khasia hills, Sept. G. Mann? s.n.; Accession no. 16898.

*Microfiche examined*: NEPAL 1821, Wallich 322 (2nd sheet).

**Lindsaea javanensis** Bl. Enum. Pl. Jav. 219. 1828; Dixit and Ghosh in Proc. Indian Acad. Sci. (Pl. Sci.) 92 (3): 246. f. 19-20. 1983.

The species has been known so far merely by two collections of the year 1889 available in herb CAL.

*Specimens examined*: MEGHALAYA: Khasia, Oldham s.n. Accession no. 5405. ASSAM: Lakhimpur, Dec. 1889. G. Mann. s.n. Accession no. 5406. ARUNACHAL PRADESH: Lower Subansiri-New Itanagar: Ganga Sagar Lake, 22.5.82, Dixit 32146 (BSA, CAL). Scarce.

**Lindsaea lucida** Bl. Enum. Pl. Java 216. 1828; Dixit and Ghosh, Proc. Indian Acad. Sci. (Pl. Sci.) 92 (3): 252. f. 34-35. 1983.

The species has been known in the Indian herbaria by a few specimens collected during the years 1876, 1881 and 1882 as mentioned on the sheets from the main land and in the year 1890 from the Andaman Islands. Recently it has been collected from Manipur in the year 1984. The plants found in abundance near stream side in moist shady situations in deep forest and are fast disappearing due to destruction of the primary forest.

*Specimens examined*: WEST BENGAL: Darjeeling-Kurseong 22.2.1876, s.l. 60 (CAL). MEGHALAYA: Garo hills, July 1881, Pantling s.n. Accession no. 5327 (CAL). MANIPUR: Kalanga hills, 1000 m, May 1882, Watt 6925 (CAL). Moreh: Boom Yang ± 1300 m, 27.3.1984, Ghosh 16621, three specimens (CAL). Specimens without any mention of date of collections. ASSAM: Jenkins s.n., specimens numbered 1, Accession no. 5331; Masters s.n. (DD). ANDAMAN ISLANDS: Andamans, Gopalkabang, 26.7.1890, King's collector s.n. Accession no. 5309 (CAL).

**Lindsaea orbiculata** var. **commixta** (Tagawa) Kram. in Fl. Mal. Ser. II, 1(3): 207. 1971; Dixit and Ghosh in Proc. Indian Acad. Sci. (Pl. Sci.) 92(3): 246. f. 17-18. 1983. *Lindsaea commixta* Tagawa in Acta Phytot. Geobot. 6: 37. f. 3. H-J. 1937.

Kramer (1972) cited seven specimens housed in BM under this taxon from Uttar Pradesh (N. W. Himalayas), Assam, Kerala in India. However no specimen is available in any Indian Herbaria and only one photograph was obtained from BM for examination by Dixit and Ghosh (1983) and for the rest of 6 specimens cited by Kramer, the authorities of BM also could not trace out (Personal communication) the specimens.

*Specimens examined*: MEGHALAYA. Jaintea Hills-Jowai: Jorain forest, 18.5.82, Dixit 32075 (BSA, CAL). Abundant.

*Photograph examined*: (Obtained from

the herb BM) : UTTAR PRADESH : Dehra Dun. Mussorie, *Fleming* 864 (CAL). ——. *A Handbook to the ferns of Brit. India, Ceylon and Malay Peninsula with supplement*. Thacker Spink & Co., Calcutta. 1882.

## ACKNOWLEDGEMENT

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