ARTHROMERIS JARRETTII—A NEW SPECIES OF POLYPODIACEAE FROM SUBANSIRI DISTRICT, NEFA, INDIA

Arthromeris jarrettii Sastry et Chowdh. sp. nov. (Figs. a-h).

Affinis *A. lehmannii* (Mett.) Ching, sed margine pinnarum crenato, pinnis linearibus, soris submarginalibus uniserialibus, soris margine pinnarum et costa excepta occupantibus differt.

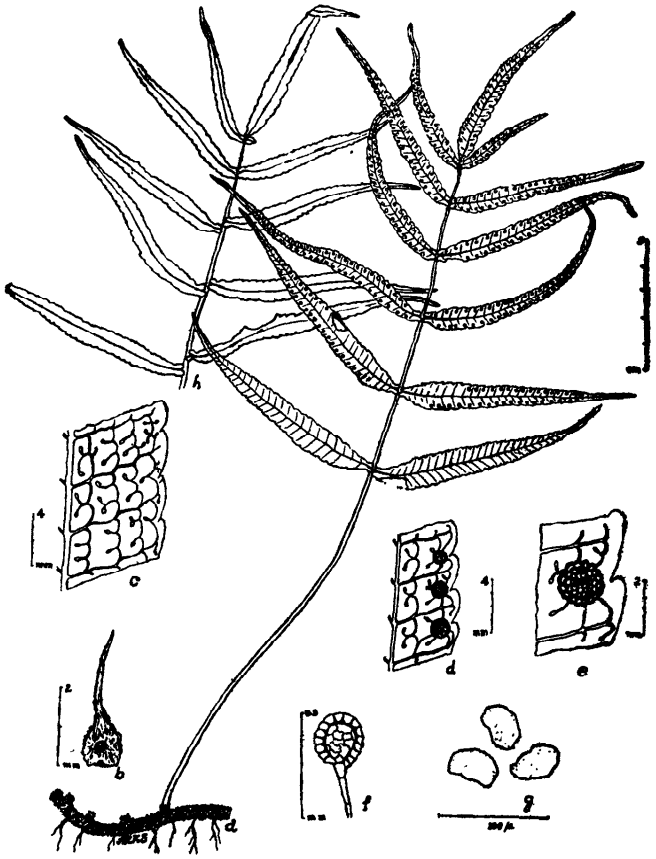
Herba epiphytica. *Rhizomate* longe repente, furcato, *c.* 2 mm crasso, paleis sublaceratis, subclathratis, *c.* 3 × 1 mm, bicoloris, basibus peltatis, brunneo-maculosis, sursum abrupte setosis dense vestito. *Stipitibus* erectis, 9-15 cm longis, stramineis, leviter sulcatis, ad basin squamosis, ceterum glaberis. *Laminis* 5-16 cm longis, 14-21 latis, imparipinnatis. *Pinnis* lateralibus (4) 6-7-jugis, sessilibus, pinnis terminalibus similibus, 3.5-10.8×0.5-1.5 cm, lineari-lanceolatis, pinnis infimis sterilibus, oppositis vel suboppositis, textura initio herbacea, in sicco chartacea, glabris, supra glaucis, subtus tarde albido-brunneis, ad rachidem articulationibus, ad basin amplexicaulis, ad apicem caudato-acuminatis; crenatis; costa in segmentis manifesta; venis lateralibus (13) 15-30 (33) jugis, flexuosis, oblique patentibus, adscendentibus atque marginem non unitis; venulis transversalibus 3-4. *Soris* discoidibus, *c.* 1.5 mm in diametro, uniserialibus, submarginalis, venulum secundum occupantibus, soris sinu oppositilariter dispositis. *Sporangiis* glabris, *c.* 14 cellulis incrassatis in annulo dispositis. *Sporis* subglobosis, bilateralibus, spinulosis.

Holotypus *A. R. K. Sastry* 40966A lectus inter Amjee-Begi in distr. Subansiri in provincia NEFA die 30.11.1964 positus in *CAL.* Isotypi *A. R. K. Sastry* 40966B-F in ASSAM, isotypus *A. R. K. Sastry* 40966G in K. Paratypi *A. R. K. Sastry* 44887, Begi-Amjee, 12.5.1966 in ASSAM.

Arthromeris jarrettii Sastry et Chowdh. sp. nov.

Near to *A. lehmannii* (Mett.) Ching, but differs in its linear, crenate margined pinnae and distinct uniseriate submarginal rows of sori in between costa and margin of pinnae.

Epiphytic. *Rhizome* wide-creeping, branched, *ca* 2 mm thick, densely scaly. *Scales* sublacerate, subclathrate, *ca* 3 × 1 mm, bicolorous, brown spotted at peltate base, abruptly setaceous upwards. *Stipes* erect, 6-10 mm apart, 9-15 cm long, stramineous, shallowly grooved, glabrous except for the scaly base. *Fronds* 5-16 cm long, 14-21 cm wide, imparipinnate. *Pinnae* sessile (4) 6-7-jugate, with a terminal odd pinna, 3.5-10.8 × 0.5-1.5 cm, linear-lanceolate, uniform, the lower most pair sterile, opposite-subopposite, herbaceous when fresh becoming chartaceous on drying, glabrous, glaucous above, dull greyish beneath, articulate with rachis, amplexicaulous at base, caudate-acuminate at apex; crenate; costae prominent upto apex of pinnae; lateral veins (13) 15-30 (33) pairs, 3-4 mm apart, flexuous, obliquely patent, not touching the margin; transverse veinlets 3-4 in between costa and margin; areoles with simple as well as bifurcating free veinlets with clavate apices. *Sori* discoid, *ca* 1.5 mm in diam.; in a single submarginal row, confined to the second row of anastomosing transverse veinlets, opposite the sinus of marginal crenations. *Sporangia* glabrous; annulus about 14-celled; foot, hyaline, 2-3-celled. *Spores* subglobose, bilateral, spinulose.



Arthromeris jarrettii Sastry et Chowdh.
Figs. a-h: a. Habit. b. Scale. c. Portion of sterile Pinna. d. Portion of fertile Pinna. e. Sorus f. Sporangium. g. Spores (From *A. R. K. Sastry* 40966 A). h. Frond showing much reduced pinna of the terminal pair.

Holotype *A. R. K. Sastry* 40966A, Amjee-Begi, Subansiri District, NEFA, 30.11.1964, (CAL). Isotypes *A. R. K. Sastry* 40966B-F (ASSAM); *A. R. K. Sastry* 40966G (K). Paratypes *A. R. K. Sastry* 44887, Begi-Amjee, 12.5.1966 (ASSAM).

Frequent on huge tree trunks covered with moss, in dense forests at an alt. of *c.* 1650 m. All the specimens collected invariably showed the lower most pair of pinnae sterile and subequal while the upper most pair is fertile and strikingly unequal in size.

This species is named in honour of Dr. (Miss) F. M. Jarrett, Kew Herbarium, who confirmed it to be new.

ACKNOWLEDGEMENTS

We sincerely thank the Director, Botanical Survey of India, for kindly sending the specimen to Kew Herbarium and for other facilities; Dr. (Miss) F. M. Jarrett, for scrutiny and opinion on this species; Dr. M. P. Nayar, Keeper, Central National Herbarium, Calcutta, for Latin transcription and Dr. A. S. Rao, Regional Botanist, Shillong, for useful suggestions.

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CHROMOSOME NUMBERS OF SOME GRASSES OF DEHRA DUN

INTRODUCTION

In order to understand fully the pattern of variation and evolution in any group of plants, it is essential to compare large number of individuals with support of evidences obtained from different fields of Botany.

The cytological characters like the number of chromosomes in somatic tissue and their behaviour at meiosis are indicators of evolutionary processes. Chromosomes as carriers of genes are in a sense units of evolutionary activity and change in chromosome number and behaviour have a direct effect on the evolutionary processes and speciation. Taking the above facts into consideration, a chromosome survey of Dehra Dun grasses has been undertaken. This paper records the chromosome number and their behaviour at meiosis of six species of grasses.

MATERIAL AND METHOD

All the species examined, were collected in the vicinity of Dehra Dun. The chromosome counts were made from aceto-carmine squashes of dividing pollen mother cells after fixing the spikelets in acetic-alcohol (1 : 3). The slides were made permanent by using N-butyl alcohol-acetic acid series and mounting in Euparal. The chromosome numbers of six species belonging to different tribes of the family Gramineae are given in the Table.

TABLE

Sr. No.	Name	Acc. No.	Place of collection	n	Meiotic Behaviour
1.	*Apluda mutica*	1/68	Dandalakhon	10+2'B'	10 II+2 I
2.	*Brachiaria ramosa*	6/68	Vishnu Road	21	21 II
3.	*Chrysopogon serrulatus*	3/68	D. L. Road	10	10 II
4.	*Cymbopogon distans*	4/67	Barlowganj	30	30 II
5.	*Setaria viridis*	12/68	DAV College	18	18 II
6.	*Chloris dolichostachya*	14/68	Travor Road	20	20 II

RESULTS AND DISCUSSION

Apluda mutica Linn.

Two extra chromosomes were observed at diakinesis beside the normal complement of twenty chromosomes. The Chromosomes differ from the normal complement in their smaller size and behaved like 'B' chromosomes. They are usually seen as univalents at all phases. They also lagged in several cells and showed irregular distribution (Figs. 1-4). The occurrence of 'B' chromosomes is a very common feature in many genera of the tribe *Andropogoneae* (*vide* Chromosome Atlas of Flowering Plants by Darlington, C. D. and A. P. Wylie, 1955).