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TWO NEW SPECIES OF *SELAGINELLA* FROM INDIA

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In the course of revisionary studies of the family Selaginellaceae Milde, the author came across a few peculiar specimens of the genus *Selaginella* P. Beauv., which on critical study turned out to be new to science. The two species are described in detail with illustrations.

Selaginella ganguliana R. D. Dixit, *sp. nov.* (Plate I, Figs. A-E, G-I)

Selaginella ganguliana sp. nov. S. pallida (Hook. et Grev.) Spring affinis sed differt foliis distantibus, dentatis ; medianis late-ovatis, cordatis, aristatis, arista plus quam dimidio, longitudinis laminae ; sporophyll ovate-lanceolatis, long aristatis.



Plate I : *Selaginella ganguliana* R. D. Dixit, *sp. nov.* Holotype—*Nair* 51560, Plant numbered-I (CAL).

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Holotypus : INDIA : Kerala : Trivandrum-Aruvikara, 40 m, 29.12.1973, *N. C. Nair* 51560, Plant numbered—I (CAL). *Paratypus* : Kerala : Kuttikanam, 22.10.1968, *N. C. Nair* 40008 (CAL).

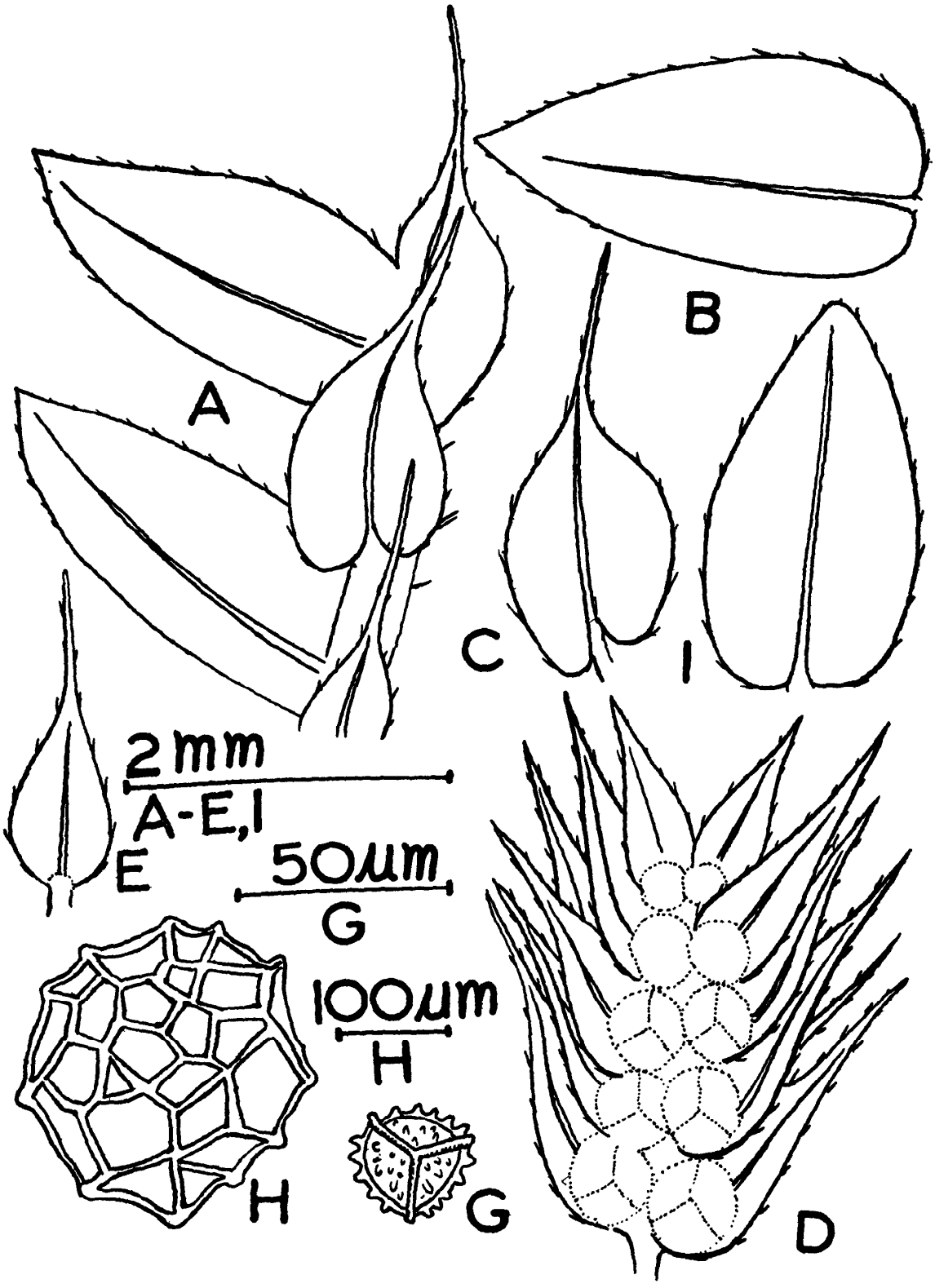
Selaginella ganguliana R. D. Dixit, *sp. nov.* (Plate I, Figs. A-E, G-I)

Stems 10-15 cm, erect, copiously branched throughout except lowermost part, lateral branches again pinnate, flabellate ; rhizophores long, wiry, confined in the basal one-third. Leaves heteromorphic throughout, membranaceous, pale-green to pinkish-green when dry ; lateral leaves ovate, unequal at the base, proximal side dentate, distal side smooth except apical denticulate part, acute ; axillary leaves, ovate, dentate, subobtuse ; median leaves broadly ovate, unequal and cordate at the base, distantly dentate throughout, aristate, arista more than half as long as lamina. Strobili terminal at the apex of branchlets, 1.0-1.5 cm × 3.0-5.0 mm ; sporophylls uniform, ovate-lanceolate, long aristate, dentate ; megaspores dull-yellow, trilete, 300-500 μm in diameter, reticulate ; microspores deep-orange-red, trilete, 40-50 μm in diameter, papillate.

Holotype : INDIA : Kerala : Trivandrum-Aruvikara, 40 m, 29.12.1973, *N. C. Nair* 51560, Plant numbered—I (CAL). *Paratype* : Kerala : Kuttikanam, 22.10.1968, *N. C. Nair* 40008 (CAL).

Distribution : INDIA (Kerala), endemic.

Etymology : The specific epithet is given in the honour of Prof. H. C. Gangulee of Calcutta University, Calcutta, under whose guidance the author worked for Ph. D. degree.



Selaginella ganguliana R. D. Dixit, *sp. nov.*

Figs. A-E, G-I : A. Part of vegetative branch. B. Lateral leaf. C. Median leaf. D. Strobilus. E. Sporophyll. G. Proximal part of microspore. H. Distal part of megaspore. I. Axillary leaf.

The present species can be easily distinguished from *S. pallida* (Hook. et Grev.) Spring by its median leaves broadly ovate, oblique and strongly cordate at the base, sporophylls ovate-lanceolate and long aristate.

Selaginella nairii R. D. Dixit, *sp. nov.* (Plate II, Figs. A-I)

Selaginella nairii sp. nov. S. minutifolia Spring affinis sed differt caulibus pergraceilibus, erectis, 1.5-7.0 cm longis, foliis chartaceous, lateralibus laevibus sed minute denticulatis apicibus, subacutis, medianis ellipticus, laevibus sed apicibus denticuliformibus, subacutis.

Holotypus : INDIA : Orissa, Jeypore, 830 m, 17.9.1970, *N. C. Nair* 40637, Plant numbered—II (CAL). *Isotypus* : *N. C. Nair* 40637A (CAL). *Paratypus* : Orissa : Devighat, 900 m, 22.9.1970, *N. C. Nair* 40692 (CAL).



Plate II : *Selaginella nairii* R. D. Dixit, *sp. nov.* Holotype—*Nair* 40637, Plant numbered-II (CAL).

Selaginella nairii R. D. Dixit, *sp. nov.* (Plate II, Figs. A-I)

Stems slender, erect, 1.5-7.0 cm long, pale stramineous on drying, copiously branched from the base, lateral branches short, pinnate ; rhizophores very slender confined at the base only. Leaves heteromorphic through out, distant, chartaceous ; lateral leaves decurrent, ovate, equal at the base, smooth except minutely denticulate apical part, subacute ; axillary leaves ± like lateral leaves ; median leaves much smaller than the lateral leaves, elliptic, smooth except minutely denticulate apical part. Strobili terminal at the apex of branchlets, short, 2.0-4.0 × 1.5-2.0 mm, comprising of only 3-6 pairs of heteromorphic, ciliate sporophylls, larger sporophylls sterile, ovate-oblong, acute ; smaller sporophylls fertile, membranaceous, translucent-white, long ciliate throughout, mostly bearing megasporangia, megaspores trilete, dull-yellow, 150-250 μm in diameter ; microspores pale, trilete, 30-35 μm in diameter.

Holotype : INDIA : Orissa, Jeypore, 850 m, 17.9.1970, *N. C. Nair* 40637, Plant numbered—II (CAL). *Isotype* : *N. C. Nair* 40637A (CAL). *Paratype* : Orissa-Devighat, 900 m, 22.9.1970, *N. C. Nair* 40692 (CAL).

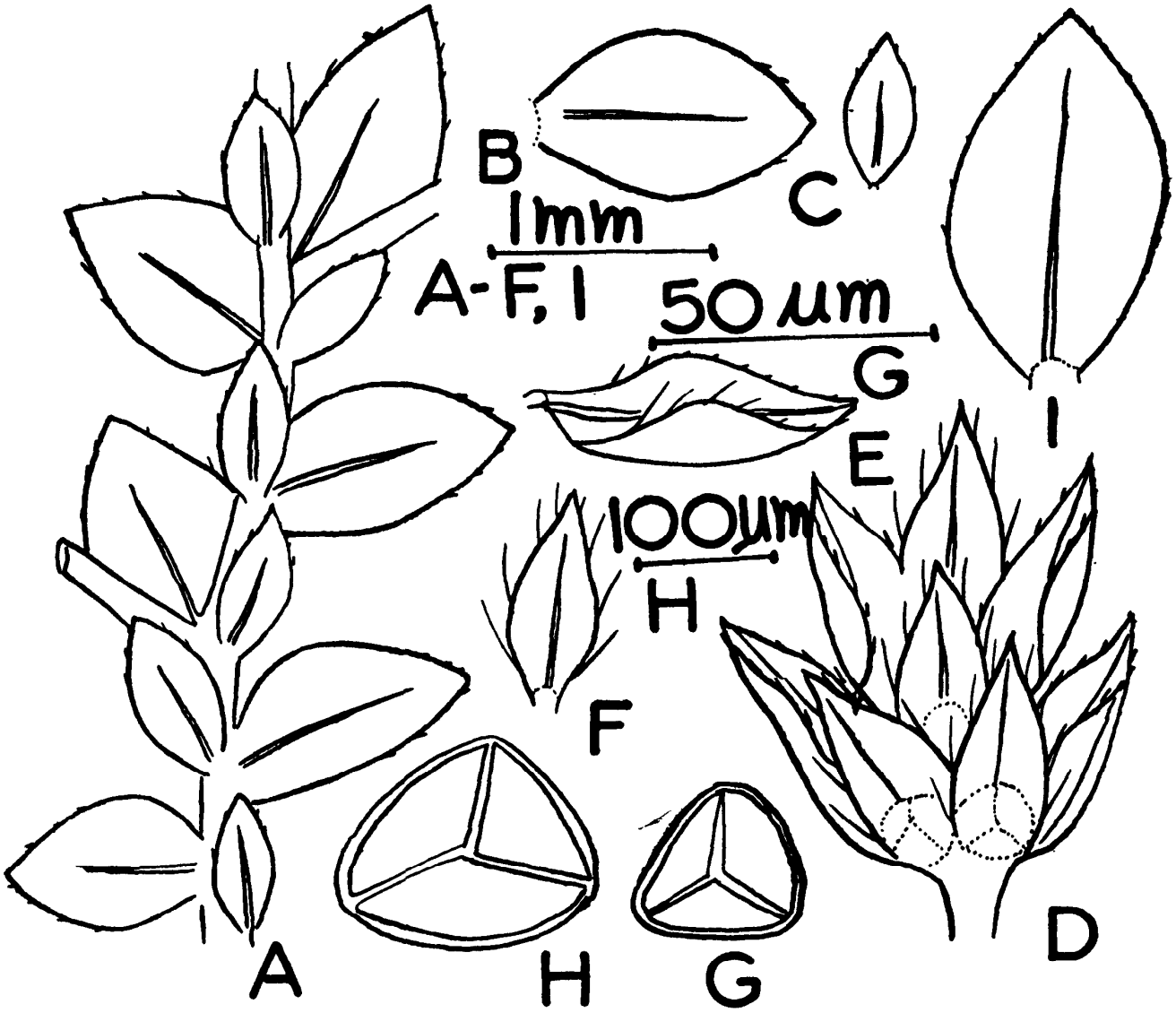
Distribution : INDIA (Orissa), endemic.

Etymology : The specific epithet is given in the honour of collector of the plants, who was also in-charge of the Cryptogamic Unit and promoted the cause of taxonomic work on pteridophytes during his tenure.

The present species can be easily distinguished from *S. minutifolia* Spring by its very slender, longer stems up to 7 cm high, leaves smooth in margins except minutely denticulate apex, median leaves much smaller, elliptic and subacute.

ACKNOWLEDGEMENTS

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Selaginella nairii R. D. Dixit, *sp. nov.*

Figs. A-I : A. Part of vegetative branch. B. Lateral leaf. C. Median leaf. D. Strobilus. E. Larger sporophyll. F. Smaller sporophyll. G. Proximal part of microspore. H. Proximal part of megaspore. I. Axillary leaf.