

Prof. R. R. Das, Head of the University, for necessary laboratory facilities.

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TRANSFER OF SOME OLD WORLD SPECIES OF *CENTRATHERUM* CASS. TO *PHYLLOCEPHALUM* BL.

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In a recent world revision of the genus *Centratherum*¹, it has been pointed out that the genus *Centratherum*, as defined by Bentham² has in fact two types of pollen grains "geographically correlated with chromosome numbers" thus suggesting that the genus is heterogeneous. DeCandolle³ had excluded the old world species from *Centratherum* and placed them under the genus *Decaneurum*. Blume⁴, a few years earlier, had however, erected the genus *Phyllocephalum*, with the same circumscription and as such Blume's name has to be adopted for the old world species of this genus.

Kirkman¹ however, recognizes only two species from South Indian region viz., *Phyllocephalum scabridum* (DC. in Wight) Kirkman and *P. indicum* (Less) Kirkman, reducing all other species to synonymy under either of these two. During a detailed study of various aspects of morphology, anatomy and cytology of these species, the present author obtained evidence to support the retention of most of them under their original specific identity (table 1) and the following new combinations are proposed; the respective basionyms are given as required under the Rules of Nomenclature.

New Combinations:

1. *Phyllocephalum courtallense* (Wight) Narayana, Comb. nov. *Decaneurum courtallense* Wight, Icones Plantarum Indiae Orientalis, t. 1081. 1846.
2. *Phyllocephalum mayurii* (C.E.C. Fischer) Narayana, Comb. nov. *Centratherum mayurii* C. E. C. Fischer, Kew Bull. 1940: 45. 1940.
3. *Phyllocephalum phyllolaenum* (DC.) Narayana, comb. nov. *Decaneurum phyllolaenum* DC. Prodr. 7: 264. 1838.
4. *Phyllocephalum rangacharii* (Gamble) Narayana, Comb. nov. *Centratherum rangacharii* Gamble, Kew Bull. 1920: 38. 1920.
5. *Phyllocephalum ritchiei* (Hook. f.) Narayana, Comb. nov. *Centratherum ritchiei* Hook. F., Fl. Brit. India 3: 228. 1881.
6. *Phyllocephalum sengaltherianum* (Narayana) Narayana, Comb. nov. *Centratherum*

TABLE I
Main distinguishing characters of *Phyllocephalum* species and their distribution

Species	Habit	Leaf and bract characters	Cypsela	Pappus	Cytology, somatic chromosome types	Distribution
<i>P. courtallense</i>	Perennial	Lower leaves serrate and upper leaves entire, linear lanceolate Bracts Coarsely hairy	Ribbed, 2 mm long	Very few, short	7 pairs 'm' type 2 pairs 'sm' type microsatellite in one pair	Courtallum and Anamalai Hills
<i>P. mayurii</i>	Annual	Leaf margin slightly recurved	Ribbed, less than 2 mm long	Copious, long	1 pair 'sm' type 8 pairs 'm' type No satellite in chromosomes	Karnataka State, Kemmangundi Hills, Sakaleshpur and Hassan
<i>P. phyllolaenum</i>	Annual	Leaf margin not recurved Bracts with moniliform hairs	Ribbed, 3 mm long	Copious, shorter than corolla	5 pairs 'm' type 4 pairs 'sm' type No satellite in chromosomes	All over South India

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<i>P. rangacharii</i>	Perennial	Leaf serrulate elliptic-lanceolate Bracts coarsely hairy	Ribbed, 2 mm long	Very few, short	6 pairs 'm' type 3 pairs 'sm' type No satellite in chromosomes	Tirunelveli and Anamalai Hills
<i>P. ritchiei</i>	Annual	Leaves elliptic-ovate, serrulate outer Bracts cordate	Ribbed, 2 mm long	Copious, long	3 pairs 'm' type 6 pairs 'm' type Linera satellite in 2 pairs of chromosomes	Concan and Canara only
<i>P. sengaltherianum</i>	Perennial	Elliptic-lanceolate Bracts hirsute	Ribbed, 2 mm long	Very few, short	7 pairs 'm' type 2 pairs 'sm' type No satellite in chromosomes	Tamil Nadu Tirunelveli Sengaltheri
<i>P. tenue</i>	Annual	Elliptic-lanceolate serrate, Bracts with moniliform hairs	Turgid not ribbed	Copious, shorter	7 pairs 'm' type 1 pair 'sm' type 1 pair 'st' type microsatellite in one pair	Concan, Mahabaleshwar Khandala and Western Ghats

sengaltherianum Narayana in Curr. Sci., 1981, 50: 279.

7. *Phyllocephalum tenue* (Clarke) Narayana, Comb. nov. *Centratherum tenue* Clarke, Compositae Ind. 1876. 4.

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3. DeCandolle, A. P. and In Wight, R., *Contributions to the botany of India*, London, 1834, 7.
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OVICIDAL EFFECT OF DIFLUBENZURON ON ASH WEEVIL

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DIFLUBENZURON [Dimilin (R), 1-(4-Chlorophenyl)-3-(2, 6-difluorobenzyl) urea], popularly known as the moulting inhibitor is known for its inhibitory action

on chitin synthesis and deposition in insects, causes difficulty in moulting¹⁻³. Subsequently diflubenzuron was widely reported to have larvicidal activity^{4,5}, contact activity and to cause pupal mortality^{6,7}. Sterilizing effect of diflubenzuron was recently reported on *Anthonomus grandis* Boh.,⁸ *Musca domestica* F.⁹ and *Spondoptera littoralis* Boisd¹⁰. The effect of diflubenzuron was tested on the adult ash weevil (*Myloccerus undecimpustulatus maculosus* Desb.), the larvae of which cause economic damage to varieties of *Gossypium barbadense* L. in southern India¹¹.

The full-grown larvae and pupae were collected from cotton fields and maintained in the laboratory for adult emergence; the freshly emerged adults were fed with cotton leaves sprayed with 0.1% (1000 ppm) aqueous formulation of diflubenzuron (Dimilin 25% WP). Also ash weevil adults of unknown age and mating status were collected from cotton fields and fed with the treated leaves after one day of starvation. Twenty-four pairs of adults were studied with three replications for each experiment along with control.

Diflubenzuron partially inhibits oviposition but completely inhibits fertility in freshly emerged and virgin females, whereas the females of unknown age and mating status collected from the field laid both fertile and sterile eggs after feeding on the treated leaves (table 1), however, it does not interfere with courtship and mating.

Freshly emerged females fed with diflubenzuron-treated leaves laid significantly lower number of eggs (10.7 eggs/female) than freshly emerged ones fed with untreated leaves (436 eggs/female). The females of unknown age and mating status also showed a similar reduction in oviposition when fed with treated leaves and laid 52 eggs/female while those females fed with