the species occupies an intermediary position between these two genera, the author accepts J.F. Veldkamp's opinion because similarities are more to *Cyrtococcum* rather than *Panicum*.

Cyrtococcum sparsicomum (Nees ex Steud.) A Camus in *Bull. Mus. Hist. Nat.* (Paris) 27:118.1921; Fisher in Gamble, *Fl. Pres. Madras* 1786. 1934&3: 1237. 1957 (repr. ed.); Senaratna, Grass. Ceylon 121:1956. *Panicum sparsicomum* Nees ex Steud., Syn. Pl. Glumac. 1:83.1854; Hook.f., *Fl. Brit. India* 7:58.1896; Alston in Trimen, Handb. Fl. Ceylon 6 (Suppl.): 321.1931; Bor, Grass. Burma Ceylon India Pakistan 330. 1960; Nair in Henry, Chithra and Balakrishnan, Fl. Tamil Nadu Series 1: Analysis 3:131.1989; Davidse in Dassanayake, *Rev. Handb. Fl. Ceylon* 7:344.1994.

Specimens examined: Tamil Nadu: Dindigul Anna District, Alagarkovil MPCA, Alagarmalai R.F.: ± 475 m, 7.iii.1994, M.B. Viswanathan 3075; ± 215, 3.ii.1995. M.B. Viswanathan 17016; ± 450 m, 4.ii.1995, M.B. Viswanathan 17027.

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35. *SCURRULA PARASITICA* LINN. PARASITIC ON *CALLIANDRA* SPP. AND ITS MANAGEMENT

Scurrula parasitica is an epiparasite on a variety of economically important trees including ornamental trees of high aesthetic value. It spreads on branches affecting bio-mass production of its host (William 1980).

The genus *Calliandra* (Leguminosae: Mimosae) also called Trinidad Flame Tree is represented by a group of ornamental flowering trees with handsome, bipinnate feathery leaves and powder-puff like flowers. *Calliandra guildingi* (*tweedii*) is a free flowering hardy tree blooming round the year. The flowers (anthers) are reddish-purple. White flowered *Calliandra speciosa* is also in cultivation.

In 1994, it was observed that *C. guildingi* planted on either side of the front of the old Agricultural College, Hebbal, Bangalore which had grown beyond their usual size, the tertiary branches stretching laterally,were invaded by the flowering parasite *S. parasitica*. Another species *C. speciosa* grown near the entrance of the floriculture section at GKVK Campus of the University of Agricultural Sciences, Bangalore, was also found parasitized by the same species.

As characteristic of any true parasite. *S. parasitica* also does not kill the host immediately. Only the branches of *C. guildingi* heavily infested by *S. parasitica* succumbed ultimately, which effectively is in partial agreement with the observation made by Bidie in Fischer 1926, who wrote that the exotic plants invaded by the parasites of Loranthii are killed. In the case only two of the four branches infested by the parasite were killed, which may be due to allelopathic effect, at a later stage. The parasitized branches beyond the point of cortical root development were thin with sparse flowers and presented a very sickly and dried appearance at the tip, thus affecting both growth as well as its aesthetic value, while the parasite putting forth a luxuriant growth looked like a leafy cascade. The parasite spread on all the branches and established itself very well, at the cost of the host.

Interestingly, of the several (105) trees in the first location belonging to 15 species of 11 genera, only two plants of *C. guildingi* and *C. speciosa* plants not pruned and maintained properly were infested by the parasite, indicating the parasites' preference to these neglected plants, while the other plants of *Calliandra* spp. which were pruned regularly were free from *S. parasitica*. Periodical pruning a little below the point of infestation would result in the selective elimination of the parasite along with its haustoria.

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36. TWO NEW RECORDS OF *ASTERACEAE* FOR ANDHRA PRADESH

During the course of floristic studies on Asteraceae in Andhra Pradesh, India, some interesting specimens were collected from the Eastern Ghats. After critical studies on the specimens, thorough perusal of literature and authenticated specimens in various herbaria, viz. MH and CAL, these were identified as *Adenostemma lavenia* (L.) O. Ktze, var. *angustifolium* (Clarke) Koster and *A. lavenia* (L.) O. Ktze. var. *madurense* (DC.) Panigrahi which are new distributional records for Andhra Pradesh. An artificial key, description along with nomenclatural citations, distribution, ecological and phenological data are given for both the taxa.

Adenostemma J.R. Forster et J.G.A. Forster

1. Leaves broadly ovate, chartaceous, distinctly dentate to serrate-dentate, achenes more than 4 mm long, minutely glandular to glabrous ..... var *madurense*

1. Leaves lanceolate, coriaceous, serrate or crenate, achenes less than 3 mm long, muricate ..... var. *angustifolium*

1. Leaves maximum 10 cm broad, crenate to serrate, achenes densely warty ..... var. *lavenia*

Adenostemma lavenia (L.) O. Ktze., Rev. Gen. Pl. 1: 304.

1891. var. *angustifolium* (C.B. Clarke) Koster in Blumea 1: 475. 1935; Panigrahi, Kew Bull. 30 (4): 652. 1975.

A. angustifolium Arnott in Nov. Act. Nat. Cur. 18. 347. 1836; DC., Prodr. 7:266. 1838; Grierson in Dass. & Fosb. Rev. Handb. Fl. Ceylon. 1:138. 1980. *A. viscosum* J.R. & G. Forst. var. *angustifolium* C.B. Clarke, Fl. Brit. Ind. 3:242. 1882. Pro parte.

Erect herb, 30- 50 cm, stem glabrous. Leaves opposite, 3.5 - 13 x 0.8 - 2 cm, base attenuate in lower ones, obtuse in uppermost ones, entire in the lower half, crenately serrate to serrate in upper half, obtuse. Heads solitary or a few in terminal corymbs, 6 mm, white, homogamous, not rayed; peduncle 0.6 - 2 cm, puberulous and glandular. Involucral bracts 18, 2-seriate, 4-4.5 mm, oblong or narrowly oblong-elliptic, 3-veined, pubescent on dorsal side, obtuse or obtusely apiculate. Receptacle alveolate, 2 mm across. Florets 30 - 34, corolla 3 mm long, 5-lobed; lobes ovate, obtuse, glabrous, sparsely hairy at base on dorsal side. Stamens 5; anthers oblong, 1 mm long obtuse at base, hood ovate, obtuse. Style 5.5 mm, exerted; exertion 2 - 2.5 mm; branches 3-3.5 mm, spathulate, obtuse. Pappus of 3-5 clavate scales, 0.4 mm long, basally united to form a ring. Achene oblanceolate, 1.6 - 2 mm, muricate.



Nuthan, D and Vasundhara, M. 1997. "Scurrula parasitica Linn. parasitic on calliandra spp. and its management." *The journal of the Bombay Natural History Society* 94, 179–180.

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