

NEW COMBINATIONS AND A NEW NAME FOR SRI LANKAN COLEUS SPECIES (LABIATAE)

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SUMMARY

Seven *Coleus* species, of which six occur in Sri Lanka and one in East Africa, are transferred to *Plectranthus*. The following new names are published: *P. grandis* (Cramer) Willemse, *P. inflatus* (Benth.) Willemse, *P. malabaricus* (Benth.) Willemse, var. *malabaricus* and var. *leptostachys* (Benth.) Willemse, *P. kanneliyensis* (Cramer & Balasubramaniam) Willemse, *P. crameri* Willemse (*nom. nov.* for *Coleus mollis* Benth.), *P. elongatus* (Trim.) Willemse, and *P. scandens* (Guerke) Willemse.

INTRODUCTION

After having collected a number of Labiatae in tropical East Africa I experienced great difficulty in determining the species belonging to the *Plectranthus-Coleus*-complex. The species of this complex are sometimes very variable and species limits are therefore not clear. Other problems are the nomenclatural confusion in the literature and the fact that a number of new species still have to be described. In Upland Kenya Wildflowers (1974) Agnew calls such species Type A, B, F, G, or H. A further problem is the delimitation of genera, which is far from clear, as a thorough study of the tropical and East African species has not yet been undertaken.

During the months of July/August 1978 and December 1978/January 1979 I have been to Sri Lanka (Ceylon), where I collected specimens of Labiatae, among which most of the *Coleus* and *Plectranthus* species that occur in that island. I was interested in these species from Asia, as I wanted to compare them with the East African material.

Cramer recently reviewed the genus *Coleus* in Sri Lanka critically and he comes to the conclusion that as far as the Sri Lankan species are concerned the delimitation from *Plectranthus* can be upheld.

DISCUSSION

Plectranthus L' Hérít., Stirp. Nov. (March/April 1788) 84, *nom. cons.*, was based on two species, viz. *P. punctatus* (L. f.) L' Hérít. and *P. fruticosus* L' Hérít.

Germanea Lamk., Encycl. 2 (April 1788) 690, was also based on two species, viz. *G. urticifolia* Lamk. and *G. masculosa* Lamk.

Coleus Lour., Fl. Cochinch. (1790) 372, was based on *C. amboinicus* Lour., a species probably of African origin, but widely cultivated in the tropics. Loureiro indicated that the stamens are united at the base and Bentham (1832, 1848) came to regard this characteristic as being of over-riding importance. Although he acknow-

ledged that he had created an artificial assemblage, he enlarged *Coleus* to include very different sections. So *Coleus* was separated from *Plectranthus* because of the fused bases of the stamens.

Morton (1962), after examining the West African material, strongly advocated a transference of most of the *Coleus* species to *Plectranthus*. Some of them must be transferred to *Solenostemon* Schumacher & Thonn. *emend.* J. K. Morton. Morton pointed out that the property whether the stamens are free or united at the base is not a reliable character. Closely related species with similar calyx and flower characters can have stamens which are united and free respectively.

Codd (1975) and Launert (1968) agree with Morton. Keng (1969) in his revision of Malesian Labiatae kept *Coleus* and *Plectranthus* separate, but later on (1978) he united the two genera. He mentions *P. apoensis* and *P. congestus* as species closely related to *Coleus amboinicus*. They share calyx characters, but the two *Plectranthus* species have free stamens, while the *Coleus* species has the stamens fused. Although Morton, Launert, Codd, and Keng agree that *Coleus* cannot be upheld, they do not agree about the generic limits of *Plectranthus*. Morton and Codd separate *Solenostemon* Schumacher & Thonn. *emend.* J. K. Morton and *Rabdosia* (Bl.) Hassk. [syn. *Isodon* (Benth.) Kudo, *Homalocheilos* J. K. Morton] from *Plectranthus*. *Solenostemon* differs from *Plectranthus* by the distinctly 2-lipped calyx, upper lip large and reflexed, lower lip bifid to various degree, with narrow segments, lateral teeth very short and rounded. *Coleus amboinicus* group: Upper lip as in *Solenostemon*, but all four other lobes of the same size, narrow-pointed. *Plectranthus sens. str.* [*Isodon* (Benth.) Kudo, *Rabdosia* (Bl.) Hassk.]: All 5 calyx segments about equal, fairly short in proportion to the tube.

Keng checked these characters with the species and it appeared to him that these extremes are connected by intermediate structures. He ends saying: 'The only conclusion can be that in this complex the calyx structure is variable and one is unable to sharply define taxa within it, and the inflorescence structures (namely whether of stalked cymes or in verticillasters) are not always correlated with the calyx characters, which of course defeats distinction of more than one genus.'

Cramer (1977), however, disagrees with the opinion of Morton, Launert, Codd, and Keng. He examined 40 specimens of 11 different *Coleus* species from various localities of Sri Lanka. As they all have fused filaments, he concluded that this fusion of stamens, in combination with two secondary characters, formed a sufficient basis for circumscribing *Coleus* as a valid genus distinct from *Plectranthus*, at least as far as the Sri Lankan species are concerned.

My opinion is that by limiting his studies to only the Sri Lankan species, Cramer has reduced the value of his conclusions. I fully agree with Keng's opinion that *Coleus*, *Solenostemon*, *Rabdosia*, and probably some other closely related genera must be included in *Plectranthus*. Consequently, all Sri Lankan *Coleus* species belong to *Plectranthus*.

CONCLUSION

As seven *Coleus* species from Sri Lanka and a related East African species have not yet been published under *Plectranthus*, a transfer will be necessary. I have listed all Sri Lankan species in the same order as in Cramer's revision. Only the most important synonyms are mentioned.

1. *Plectranthus amboinicus* (Lour.) Spreng., Syst. 2 (1825) 690.*Coleus amboinicus* Lour., Fl. Coch. (1790) 372.*C. aromaticus* Benth. in Wall., Pl. Rar. (1830–31) 16.*Plectranthus aromaticus* (Benth.) Roxb., Fl. Ind. ed. Carey (1832) 22, non Roxb. 1814.**2. *Plectranthus rotundifolius* (Poir.) Spreng., Syst. 2 (1825) 690.***Germanea rotundifolia* Poir., Encycl. Suppl. 2 (1812) 763.*Coleus rotundifolius* (Poir.) A. Chev. & E. Perrot., Vég. Util. Afr. Trop. Franç. 1 (1905) 101, 119.*Solenostemon rotundifolius* (Poir.) J. K. Morton, J. Linn. Soc. Bot. 58 (1962) 272.**3. *Plectranthus scutellarioides* (L.) R. Br., Prod. (1810) 506.***Ocymum scutellarioides* L. Sp. Pl. ed. 2, 2 (1763) 834.*Coleus scutellarioides* (L.) Benth. in Wall., Pl. As. Rar. 2 (1830–31) 16.*C. blumei* Benth., Lab. Gen. Sp. (1832) 56.*C. pumilus* Blanco, Fl. Filip. (1837) 482.*C. crispipulus* Merr., Philip. J. Sc. 5 (1910) Bot. 382.*C. rehnelianus* A. Berger, Bot. Jahrb. 54 (1915) Beibl. 120, p. 71.*Solenostemon scutellarioides* (L.) Codd, Bothalia 11 (1975) 439.

A very variable ornamental species. It is not possible to distinguish varieties.

4. *Plectranthus barbatus* Andr., Bot. Rep. 9 (1809) t. 594.*Coleus barbatus* (Andr.) Benth. in Wall., Pl. As. Rar. 2 (1831) 15.In African literature this plant has been confused with the following species. I have the impression that the plant which Agnew (1974) called *P. species* type B, is in reality *P. barbatus* Andr.**5. *Plectranthus grandis* (Cramer) Willemse, *comb. nov.****Coleus grandis* Cramer, Kew Bull. 32 (1977) 550.*Plectranthus barbatus* auct., non Andr.: Agnew, Upland Kenya Wildflowers (1974) 633–636.When I was in Sri Lanka this winter, I collected material of this shrub and compared it with the plants I have found in Kenya and Uganda. I first identified the East African plants with the help of Agnew, Upland Kenya Wild Flowers, and the East African Herbarium in Nairobi. Then I came to the conclusion that *P. barbatus* was the correct name. However, when I compare the African plants with the plants from Ceylon, I cannot find any substantial difference. So I conclude that *P. barbatus sensu* Agnew and *Coleus grandis* Cramer are identical.**6. *Plectranthus inflatus* (Benth.) Willemse, *comb. nov.****Coleus inflatus* Benth., Lab. Gen. & Sp. (1832) 58.*C. benthamianus* Arn., Pug. Pl. Ind. Or. (1836) 36.**7. *Plectranthus malabaricus* (Benth.) Willemse, *comb. nov.****Coleus malabaricus* Benth. in Wall., Pl. As. Rar. 2 (1831) 16.**a. var. *malabaricus****C. macraei* Benth., Lab. Gen. & Sp. (1832) 58.*C. walkeri* Benth. in DC., Prod. 12 (1848) 77.

b. var. leptostachys (Benth.) Willemse, *comb. nov.*

C. leptostachys Benth. in DC., Prod. 12 (1848) 77.

C. malabaricus var. *leptostachys* (Benth.) Hook. f., Fl. Brit. Ind. 4 (1885) 625.

8. *Plectranthus kanneliyensis* (Cramer & Balasubramaniam) Willemse, *comb. nov.*

Coleus kanneliyensis Cramer & Balasubramaniam, Kew Bull. 32 (1977) 558.

9. *Plectranthus crameri* Willemse, *nom. nov.*

Coleus mollis Benth in DC., Prod. 12 (1848) 77.

C. malabaricus Benth. var. *mollis* (Benth.) Hook. f., Fl. Brit. Ind. 4 (1885) 626.

Unfortunately, on transfer to *Plectranthus* this species must receive a new epithet, as there is an earlier *Plectranthus mollis* (Ait.) Spreng., Syst. 2 (1825) 690, which is a synonym for *Ocimum molle* Ait.

10. *Plectranthus elongatus* (Trim.) Willemse, *comb. nov.*

Coleus elongatus Trim., J. Bot. 27 (1889) 165.

Englerastrum elongatum (Trim.) Alst., Kew Bull. (1926) 298

The combination *Plectranthus elongata* Moon, Cat. (1824) 44 is not a valid name, being used by Moon as a synonym for *Plectranthus barbatus* Andr.

Coleus elongatus is related to *C. scandens* from tropical East Africa. Alston, l.c., (1926) transferred both species to *Englerastrum* Briq. Cramer (1975) pointed out that Briquet (1894) gave the following characters for the genus *Englerastrum*: calyx actinomorphic with subequal teeth; filaments connate in the lower half into a sheath split dorsally. *Coleus*: calyx zygomorphic or bilabiate; filaments connate in the lower half into a tube. Because *C. elongatus* and *C. scandens* have a zygomorphic calyx. Cramer (1975) concluded that both species belong to *Coleus* and not to *Englerastrum*. He also found another character to add weight to his opinion, namely that the corolla tube of *C. scandens* is sigmoidly bent towards the base, which, he thinks, 'is quite distinctive of the genus *Coleus*, at least in Sri Lanka'.

Fries (1924) expanded the concept of *Englerastrum* in order to include African species such as *Plectranthus tetragonus* Guerke and *P. floribundus* N. E. Br. Codd (1971) includes them in *Plectranthus* subgenus *Nodiflorus* Codd. Following my broad view of *Plectranthus*, in which *Coleus* is included, I come to the conclusion that *Coleus scandens* and *C. elongatus* belong to *Plectranthus*. It is also necessary to transfer the African species:

Plectranthus scandens (Guerke) Willemse, *comb. nov.*

Coleus scandens Guerke, Bot. Jahrb. 19 (1894) 221.

Englerastrum scandens (Guerke) Alst., Kew Bull. (1926) 299.

11. *Plectranthus zatarhendi* (Forsk.) E. A. Bruce var. ***tomentosus*** (Benth.) Codd, Bothalia 11 (1975) 399.

P. zeylanicus Benth., Lab. Gen. & Sp. (1832) 36.

P. tomentosus Benth. in E. Mey., Comment. Pl. Afric. Austr. (1838) 229.

Coleus zeylanicus (Benth.) Cramer, Kew Bull. 32 (1977) 560.

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