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## CRITICAL NOTES ON SOME *HIBISCUS* SPECIES\*

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### Abstract

The present paper deals with critical discussions on *Hibiscus micranthus* L.f., *H. aristivalvis* Garcke and *H. purpureus* Forssk. *H. micranthus* var. *ovalifolius* sensu Boiss. generally accepted as a distinct variety is reduced to the synonymy under *H. micranthus* var. *alii* S. Abedin. which is described as a new variety. *H. micranthus* var. *asper* Cuf. is reduced to the synonymy under *H. micranthus* var. *rigidus* (L.f.) Cuf.

- I. *Hibiscus micranthus* Linn.f., Suppl. 308. 1781; Mast. in Hook.f., Fl. Brit. Ind. 1: 335. 1874; Cooke, Fl. Bomb. Pres. Rep.ed. 1: 113. 1958; Parker, For. Fl. Punj.ed. 3.40.1956; Stewart in Nasir & Ali, Ann. Cat. Vasc. Pl. W. Pak. Kash. 478. 1972.

Distribution: Tropical Africa, South Africa, Arabia, India, Pakistan Burma and Ceylon.

In view of the extreme variability of various characters, noted below, a detailed study has been made.

### I. *Qualitative Characters*

- 1) Leaves elliptic or ovate.
- 2) Branches and leaves scabrous or bristly.
- 3) Branches straight or entangled.

### II *Quantitative Characters*

- 4) Length of lamina.
- 5) Breadth of lamina.
- 6) Length of petiole.

In order to study the variations a scatter diagram (Fig. 1) based on data obtained from about 60 randomly chosen specimens was prepared. This diagram showed the dis-

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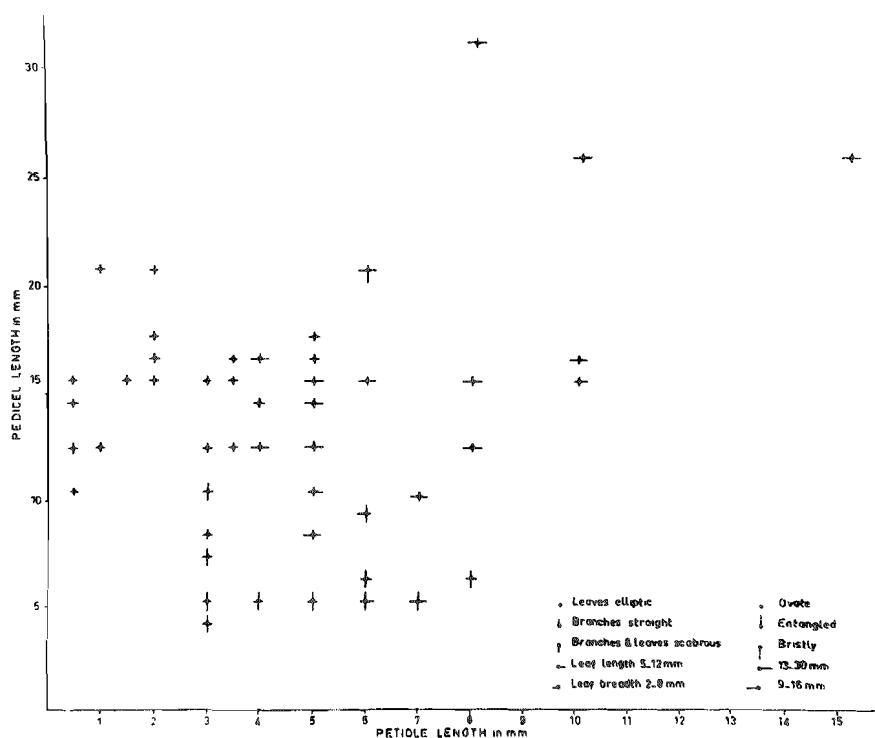


Fig. 1. Scatter diagram showing various characters of *Hibiscus micranthus* vars. *micranthus*, *rigidus* and *alii*.

continuous variation with slight overlapping in a few characters. It is concluded from this study that there are three distinct taxa involved (considered here as varieties) and may be easily separated on the basis of the combination of characters given below in the key.

#### Key to the varieties

1. +Pedicel 3-10 mm long, rarely up to 15 mm.  
Branches entangled with each other. All parts usually with raised stellate hairs, bristly to touch.

c. var. *alii*

- Pedicel 10-40 mm long. Branches straight.  
All parts usually with appressed stellate hairs, scabrous.

- 2 +Leaves narrow to broadly elliptic, 5-20 mm long, 2-10 mm broad. Petiole subsessile to 6 mm long.

b.var *rigidus*

Leaves ovate, 20-45 mm long, 15-40 mm broad. Petiole 5-20 mm long.

a.var *micranthus*

- 1(a) *Hibiscus micranthus* Linn.f.var. *micranthus*, (Fig. 2, F-G).

Holotype: Herb. Linn. n. 875. 2. (LINN!).

*Hibiscus micranthus* var. *genuinus* Hochr. in Ann. Cons. Jard. Bot. 4: 83. 1900.: Tack., St.Fl.Egypt. ed. 2.356. 1974.

*Hibiscus gossypinus* DC., Prodr. 1:453. 1824, non Thunberg 1800.

Holotype: Africae Australis, *Burchell*, 2364 (G-DC!).

*Hibiscus purpureus* sensu Chiov. in Bull. de Soc.bot.it. 115. 1923, non Forssk. 1775.

Distribution: Tropical Africa, S Africa, Madagascar, Arabia, India, Pakistan and Ceylon.

In Pakistan it is common in Sind and occasionally found in Baluchistan and N.W.F.P.

- 1(b) *Hibiscus micranthus* var. *rigidus* (L.f.) Cuf. in Ann. Natur. Mus. W. 56: 49. 1948; (Fig. 2, D-E)

Holotype: Herb. Linn. n. 875.6 (LINN!).

*Hibiscus rigidus* L.f., Supple. 310.1781.

*Hibiscus suborbiculatus* Wall., Cat. no. 1906. 1828 nom. nud. India, *Wallich* 1906 (K-W!).

*Hibiscus micranthus* var. *asper* Cuf. in Ann. Natur. Mus.W. 56:48. 1948. Syn. nov.

Lectotype: Zanzibar, Sept. 1873, *Hildebrandt* 192 (W!).

Distribution: Tropical Africa, Arabia, India and Pakistan. It is confined to Sind In Pakistan.

Cufodontis (1948) distinguished *Hibiscus micranthus* var. *asper* Cuf. from the

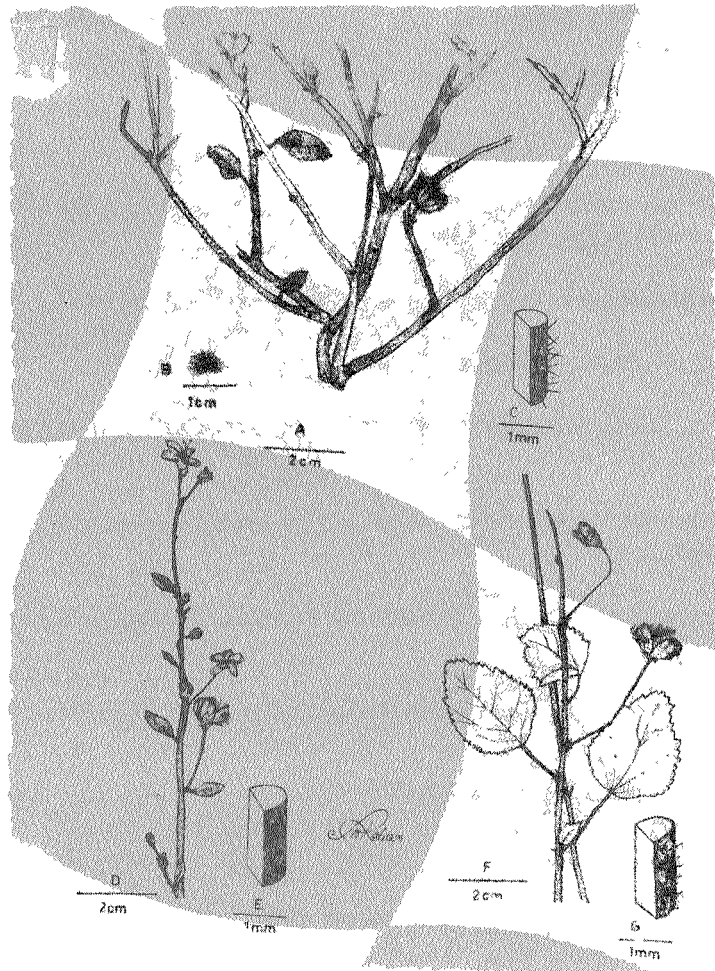


Fig. 2 *Hibiscus micranthus* var. *allii* A. Fruiting twig; B, Seed; C; Stem with hairs; *Hibiscus micranthus* var. *rigidus* D. Flowering twig; E. Stem with hairs. *Hibiscus micranthus* var. *micranthus* F. Flowering twig; G, Stem with hairs.

present variety on the basis of the very prickly nature of the plant in the former and slightly prickly plants in the latter. Study of the specimens cited by him under both the varieties reveal the fact that this character is not good enough and all the specimens look similar, hence the var. *asp* *r* Cuf. is merged with the present variety.

1(c) *Hibiscus micranthus* var. *alii* S. Abedin var. *nov* (Fig. 2, A-C).

Holotype: Habitat in rupestribus peninsulae sin aiticae Aucher-Eloy 855 (G-Boiss.!).

*Hibiscus ovalifolius* sensu Boiss., Fl.Or. 1:839, 1867; sensu Post, Fl. Syr. Pal. Sin. ed. 2.1:244, 1932; non (Forssk.) Vahl.

*Hibiscus micranthus* var. *ovalifolius* sensu Hochr., in Ann. Cons. Jard. Bot. 4:83, 1900; sensu Cuf. in Ann. Natur. Mus. W. 56, 49, 1948; sensu V. Tackholm, St. Fl. Egypt. ed. 2.356, 1974 non *Hibiscus ovalifolius* (Forssk.) Vahl.

*Hibiscus purpureus* var. *ovalifolius* sensu Chiev., in Bull. de-Soc. bot. it. 115, 1923 non *Hibiscus ovalifolius* (Forssk.) Vahl, nec *Hibiscus purpureus* Forssk.

*Distribution*: Tropical Africa, Arabia, India and Pakistan.

In Pakistan it commonly occurs in Baluchistan more so in Mekran. Also found in Punjab.

In literature this variety has often been referred to as *Hibiscus micranthus* var. *ovalifolius* (Forssk.) Hochr. (Hochreutner, 1900; Cufodontis, 1948 and Tackholm, 1956, 74). Validity of the name of the variety is debatable. Hochreutner (1900) who first gave this varietal name based it on an entirely different species, *Hibiscus ovalifolius* (Forssk.) Vahl, and cited Aucher-Eloy 4281a and 855 and Schimper 890. Cufodontis (1948) himself remarked under *Hibiscus micranthus* var. *ovalifolius* (Forssk.) Hochr. "Although Forsskal's plant, described in detail below, definitely does not belong to the group of forms, not even to the section of it, the use of the name for a variety is allowed according to the rules of nomenclature particularly when there cannot be any doubt which plant was meant by Hochreutner" (translation from German). *Hibiscus ovalifolius* (Forssk.) Vahl on which Hochreutner's variety is based is an entirely different taxon and is conspecific with *Hibiscus purpureus* Forssk. (see discussion under *Hibiscus purpureus* Forssk.). Hence *Hibiscus micranthus* var. *ovalifolius* (Forssk.) Hochr. cannot be used for the present taxon.

In the same paper Cufodontis (1948) has described *Hibiscus ovalifolius* (Forssk.) Vahl and writes in the discussion "Since the two names belong to two completely different plants, this one is to be rejected completely though it is not according to the rules of nomenclature regarding priority" (translation from German).

This statement is very confusing. On the one hand he is describing it as a valid species and on the other hand at the same time rejecting the same. Further, when the two species are different no question arises to reject one name or to consider priority.

The persistent use of the name *Hibiscus ovalifolius* (Forssk.) Vahl in the concept of *Hibiscus micranthus* L.f. was first caused by the distribution of Schimper's collection from Arabia in 1837 in which this name was used on number 8907 for a plant which

belongs to *Hibiscus micranthus* var. *alii* S. Abedin. Later, confusion was again caused by the distribution of Kotschy's collection from Sudan in 1841 for which this name was used on number 388 for a plant which belongs to *Hibiscus micranthus* var. *Kotschyanus* Cuf. (Cufodontis 1948).

2. *Hibiscus aristivalvis* Garcke, in Bot. Zeit. 7:849. 1849; Andrews, Fl. Pl. Ang. Egypt. Sud. 2: 24. 1952;

Type: Mozambique, Sena, *Peters* (B n.v.).

*Hibiscus intermedius* A. Rich., Tent. Fl. Abyss. 1:58. 1847. non Belanger 1834; Mast. in Hook. f.l.c. 336; Cooke, l.c. 114; Stewart in Nasir & Ali, l.c. 478.

Holotype: Abyssinia, Choho, *Dillon & Petit s.n.* (P!).

*Hibiscus djabinianus* Parsa. Kew Bull. 1947: 18. 1947.

Isotype: Iran, Austral. alt. 700 m. 8.501939. *Parsa* 77 (K!).

*Distribution:* India, Pakistan, Arabia and Tropical Africa. It is very common in Lower Sind, Pakistan.

The type of this species was destroyed in Berlin during the last World War.

The name *Hibiscus intermedius* A. Rich. (1847) has been adopted for this species by most of the previous authors but it is antedated by *Hibiscus intermedius* Belanger (1834) which is probably an *Alcea* species.

*Hibiscus djabinianus* Parsa (1947) is conspecific with this species.

Exell (1960) has adopted *Hibiscus palmatus* Forssk. for this species. He writes "After examining the type of *H. palmatus* Forssk. (at Copenhagen) I have no doubt at all that it is the species usually known as *H. aristivalvis* Garcke". Christensen (1922) has remarked about the type of *Hibiscus palmatus* Forssk. that "The scanty specimen belongs probably to *Pavonia*, allied to *P. columella* Cav." I have also examined Forsskal's specimen and I fully agree with the views of Christensen.

3. *Hibiscus purpureus* Forssk., Fl. Aegypt.-Arab. 126. 1775.

Holotype: (C!).

*Urena ovalifolia* Forssk., Fl. Aegypt.-Arab. 124. 1775.

Holotype: (C!).

*Hibiscus calyphyllus* Cav. Diss. 5:283. t.140. 1788.

**Holotype:** (P-JU. 12369!).

*Hibiscus calycinus* Willd., Sp.Pl.ed. 4.3:817. 1801. *nom. illegit.*

**Distribution:** Tropical Africa, S. Africa, Madagascar and Mascarene Islands; elsewhere cultivated.

It is a first record from Pakistan and occasionally cultivated as an ornamental.

It seems that the present species *H. purpureus* Forssk. was not fully understood and properly adopted by most of the workers. A few, however, adopted this name but in a different concept. De Candolle (1824) considered it as a doubtful species. Hochreutiner (1900) also considered it as a doubtful species. He, however, placed it near *H. vitifolius* L. under the section *Pterocarpus* Garcke of the genus *Hibiscus* L. Christensen (1922) in his "Index to Forsskal's Plants" considered it as a valid species. Chiovenda (1923) adopted this name but with a different concept as indicated by the citation of *H. micranthus* L.f. under its synonymy. Cufodontis (1948) considered the present species to be conspecific with *H. pseudohirtus* Hochr.

*Urena ovalifolia* Forssk. which undoubtedly resembles the present species has been generally considered to be conspecific with *H. micranthus* L.f. Vahl (1790) transferred this species to *Hibiscus* Linn. and called it *H. ovalifolius* (Forssk.) Vahl. De Candolle accepted Vahl's combination and placed it near *H. micranthus* L.f. under the section *Bombicella* of the genus *Hibiscus* L. Boissier (1867) and Post (1932) considered *H. ovalifolius* (Forssk.) Vahl as a valid name and cited *H. micranthus* L.f. as a synonym. Masters (1874) and Rukshit & Kundu (1970) considered it to be conspecific with *H. micranthus* L.f. Hochreutiner (1900) reduced it to varietal rank under *H. micranthus* L.f. Christensen (1922) (based on Garcke *in sched.*) correctly considered *U. ovalifolia* Forssk. to be conspecific with *H. purpureus* Forssk. Chiovenda (1923) reduced *U. ovalifolia* Forssk. to varietal rank under *H. purpureus* Forssk. Baker (1937; fide Cufodontis 1948) probably for the first time showed the relationship of *U. ovalifolia* Forssk. to *H. calyphyllus* Cav. which no doubt matches *H. purpureus* Forssk. as confirmed by the study of type specimens.

Willdenow (1800) described *H. calycinus* Will. and cited *H. calyphyllus* Cav. in the synonymy, thus rendering it to be illegitimate. However, both are conspecific with *H. purpureus* Forssk.

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