

REVALIDATION OF THE AFRICAN BIOPHYTUM HELENAE BUSC. & MUSCHLER (OXALIDACEAE)

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When working up the material of *Biophytum* (*Oxalidaceae*) present in the Rijks-herbarium at Leyden I came upon an African specimen which according to the African Floras should be *B. sensitivum* (L.) DC. It differed, however, considerably from the Asian representatives of that species.

Being curious to know whether *B. sensitivum* (L.) DC. occurs in Africa, which appeared to be important for its geographical distribution in conjunction with my revision of the *Oxalidaceae* for the Flora Malesiana, I could borrow, thanks to the kind cooperation of the directors of the Royal Botanic Gardens, Kew, and Brussels, a large amount of African material of '*B. sensitivum*', in all approximately 40 and 150 sheets respectively.

Hitherto this was referred to *B. sensitivum* in all African Floras, onwards of Hooker's Niger Flora (1849).

The differences between the Indo-Pacific *B. sensitivum* (L.) DC., of which the type came from Ceylon, and the African species are very clear and are contrasted in the key below. The African material is homogeneous; there is only a variation in the degree of hairiness of the leaflets, but this is taxonomically of slight importance, being also in minor degree inconstant in *B. sensitivum sensu stricto*.

Sepals 4—7 mm, linear-lanceolate, acute, \pm as long as the petals, in fruit much longer than the pedicels. Seeds coarsely and transversally ridged and tubercled. Stem soft, compressible, never branched, \pm glabrous. Leaves 7—12-jugate. Leaflets \pm glabrous, those of the terminal pair 8—18 mm, midrib in lower leaflets ending \pm excentrically in the obtuse to rounded apex. Flowers homostylous (midstyled form).

B. sensitivum

Sepals 3½—5 mm, ovate-oblong to lanceolate, acuminate, $\frac{1}{2}$ — $\frac{2}{3}$ times as long as the petals, in fruit \pm as long as the pedicels. Seeds with 2 smooth margins, in between shallowly reticulate to irregularly furrowed. Stem becoming woody at base, sometimes branched in the tuft, usually pubescent. Leaves 8—23-jugate. Leaflets glabrous or appressed-pubescent, those of the terminal pair 4—10 mm, the midrib in lower leaflets ending in the acroscopic corner of the \pm rectangular apex. Flowers hetero-tristylous.

B. helenae

It is clear that the African specimens belong to a distinct species.

The oldest available name for it seems to be *B. helenae* Busc. & Muschler (1913) which was hitherto in the African Floras reduced to *B. sensitivum* as a synonym. Though the type specimen of it was destroyed at Berlin, it appears to have been pictured in a drawing published in a work 'Nella regione dei Laghi equatoriali' volume 3 (1913) 300, of which a print of the first proof is preserved in the Brussels Herbarium. The work itself is extremely rare and only present at Florence and in the Library of Congress, Washington, D.C., according to Schubert & Troupin (Bull. Soc. Roy. Bot. Belg. 85, 1952, 5; see also Taxon 4, 1955, 95).

Though the drawing is rather crude, the presence of a distinct stem and the large number of leaflets unmistakably agree with the African '*B. sensitivum*'. This appears

more fully from the rather extensive original description by Buscalioni & Muschler. From that description it appears also that it is different from any other African *Biophytum* as well as from *B. sensitivum sensu stricto*.

In 1923 De Wildeman has published three other names for the African species which all have soon been reduced to '*B. sensitivum*'; of all three I have seen the types from Brussels; they all belong to *B. helenae*.

The synonymy appears to run as follows:

Biophytum helenae Buscalioni & Muschler, Bot. Jahrb. 49 (1913) 475; Piscicelli, Nella regione dei Laghi equatoriali 3 (1913) 300, tab. — Type: *Duchess of Aosta 1154*, B†, descr. et tab. cit.!

B. sensitivum [non (L.) DC.] *auct. afric.*: Hook., Niger Fl. (1849) 269; Klotzsch in Peters' Naturw. Reise Moss. 1 (1862) 85; Knuth, Pfl. Reich Heft 95 (1930) 393, 439, *pro specim. et syn. afric.*; Delhaye, Inst. Roy. Col. Belge, Bull. Séances 23 (1952) 850; Wilczek, Fl. Congo Belge 7 (1958) 14; Exell, Fl. Zamb. 2 (1963) 158, f. 24c.

Oxalis sensitiva (non L.) Oliver, Fl. Trop. Afr. 1 (1868) 297.

B. bequaertii De Wildeman, Pl. Bequaert. 2 (1923) 49. — Type: *Bequaert 5182*, BR!

B. bogoroensis De Wildeman, l.c. 51. — Type: *Bequaert 4945*, BR!

B. homblei De Wildeman, l.c. 52. — Type: *Homblé 811*, BR!

Distribution: Widely distributed through West, central and East tropical Africa.

Note: Through the characteristic seed structure, with a circular smooth ridge and the otherwise shallow reticulate to irregularly furrowed surface *B. helenae* seems closer allied to *B. petersianum* than to *B. sensitivum*.