

Kew

PLANTS PEOPLE
POSSIBILITIES



Springer

Notes on Tropical African Aizoaceae

Author(s): C. Jeffrey

Source: *Kew Bulletin*, Vol. 14, No. 2 (1960), pp. 235-238

Published by: [Springer](#) on behalf of [Royal Botanic Gardens, Kew](#)

Stable URL: <http://www.jstor.org/stable/4114793>

Accessed: 19/10/2013 08:43

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Royal Botanic Gardens, Kew and Springer are collaborating with JSTOR to digitize, preserve and extend access to *Kew Bulletin*.

<http://www.jstor.org>

Notes on tropical African *Aizoaceae*

C. JEFFREY

The following notes are occasioned by the preparation of an account of this family for the 'Flora of Tropical East Africa'.

Gisekia pharnaceoides *L.* var. **pseudopaniculata** *Jeffrey*, var. nov. a typo floribus minoribus in cymas umbelliformes paucifloras laxas dispositis et pedicellis pedunculisque filiformibus differt.

Typus varietatis: Kenya, Northern Frontier Province, Dandu, 5 May 1952, *Gillett* 13041!. Holotypus in Herb. Kew. (K).

Limeum praetermissum *Jeffrey*, sp. nov. ex affinitate *L. dinteri* Schellenb. a quo sepalis acuminatis staminibus 5 et mericarpiis plerumque laevibus differt.

Planta perennis. *Rami* 40 cm. longi, procumbentes, herbacei, ut folia inflorescentiaeque pilis glandulosis viscidis densiuscule oblecti, demum glabri, sublignosi, albidocorticati. *Folia* alterna, petiolata; lamina 15–26 mm. longa, 7–12 mm. lata, carnosula, obovata, elliptica vel oblanceolata, basi angustata, apice rotundata vel breviter retusa; petiolus brevis, ad basin margine membranaceo-dilatatus, 2–4 mm. longus. *Stipulae* nullae. *Inflorescentiae* oppositifoliae, cymosae, laxiramosae, 15–35-florae, 60–100 mm. longae. *Bractae et bracteoli* parvi, anguste lanceolati, margine albidomembranacei, apice acuminati. *Pedunculi* 36–66 mm. longi, racemosi. *Pedicelli* 2–6 mm. longi. *Sepala* 5–6 mm. longa, 2–3 mm. lata, libera, ovata, extra dense glandulosa, herbacea, margine albidomembranacea, apice longiuscule acuminata, acumine saepissime recurvato. *Staminodia* nulla. *Stamina* 5, libera; filamenta ovata, acuminata, basi late dilatata, glabra. *Ovarium* biloculare, superum, bicarpellatum; stylus brevis, filiformis; stigma 2, subrecta, linearia. *Fructus* in mericarpia 2 secedens; mericarpia hemisphaerico-reniformia, 2.1 mm. lata, 3 mm. alta, indehiscencia, exalata, facie superiore plerumque laeve, sed sub margine facierum commissuralium breviter regulariterque sulcata, basi obscure biauriculata, auriculis laevibus.

Typus speciei: Kenya, Northern Frontier Province, Wajir, 27 May 1952, *Gillett* 13371!. Holotypus in Herb. Kew. (K).

Corbichonia rubrivioleacea (*Friedr.*) *Jeffrey*, comb. nov.

Orygia rubrivioleacea *Friedr.* in *Mitt. Bot. Staats. Munchen* 8: 340 (1953)

Type: South West Africa, *H. & E. Walter* 2366 (M, holo.).

Trianthes portulacastrum *L.* is established (in *Sp. Pl.* 223: 1753) without a phrase-name but by some references to previously published works. The first of these, '*Sauv. meth.* 127' refers to a description in Sauvages' 'Methodus Foliorum seu Plantae Monspelienses' in which is given sufficient floral detail of the plant there involved to enable its inclusion under *Pentandria Digynia*, where indeed it is placed by Linnaeus.

The other elements cited by Linnaeus are the following:

- '*Portulaca curassavica procumbens, capparidis folio, flore muscoso, capsula bifurca. Herm. par. 213 t. 213. Raj. suppl. 506.*'
 '*Portulacae affinis, folio subrotundo, flore pentapetalo dilute purpureo. Sloan. jam. 89. hist. I. p. 205. Raj. suppl. 506.*'
 '*Kali curassavicum procumbens, foliis subrotundis. Pluk. alm. 202. t. 95. f. 4.*'

None of these (except perhaps the plate in the *Paradisus*, which gives a hint that the plant there illustrated might possess but one style) gives sufficient floral detail to enable the plants concerned to be placed in the Linnaean system. However, it is clear (1) that these latter elements are all referable to one monogynous species, two specimens of which (the respective types of the Sloane and Hermann elements) are to be found in the Sloane herbarium; and (2) that this is the species generally accepted as *T. portulacastrum* L. This same species was described by Linnaeus later (in *Mant.* 1, 69:1767) as *T. monogyna*, under which he cites his own *T. portulacastrum* as a synonym.

The digynous plant of the Sauvages, however, is clearly a different species, which I consider conspecific with that later described by Linnaeus (*Mant.* 1, 70: 1767) as *T. pentandra*. Since this element must have been the one considered by Linnaeus when he placed *T. portulacastrum* in his system, it might be argued that it is by this one alone that *T. portulacastrum* ought to be typified. However, there are three arguments against this view. The first is that Linnaeus gives his *T. portulacastrum* as a synonym of his *T. monogyna*. Secondly, a typification for the species has already been indicated; Fawcett & Rendle in '*Flora of Jamaica*' 3(1), 167 (1914) designate the type of *T. portulacastrum* as being in the Sloane Herbarium. Thirdly, the generally accepted use of *T. portulacastrum* L. has been for the monogynous plant. Further, I feel that the mental image Linnaeus had in mind when he established his *T. portulacastrum* was of the monogynous plant, and that had he been presented with a specimen of each (without the floral details, not obvious unless the flowers are dissected, having been revealed) he would have identified the monogynous plant with his *T. portulacastrum*. Therefore I feel justified in proposing as lectotype for the species *Trianthema portulacastrum* L. the plate and description in Hermann, '*Paradisus Batavus*' 213, t. 213 (1698), '*Portulaca Corassavica procumbens Capparidis folio flore muscoso, capsula bifurcata*', for which the Hermann specimen in the Sloane Herbarium may represent the typotype. This also has the effect of stabilizing the application of the generic name *Trianthema* L., since *T. portulacastrum* L. is its type species, and I propose (see below) to transfer the digynous plant to another genus.

Some confusion of generic limits was encountered during investigation of the species of *Sesuvium* L. and *Trianthema* L. Clarification of the problem has resulted in the separation of three genera and the splitting of *Trianthema sensu stricto* into two subgenera, as follows:

1. **Trianthema** *L.* Type species: **T. portulacastrum** *L.*, *Sp. Pl.* 223 (1753)

subgenus **Trianthema**

subgenus **Papularia** (*Forsk.*) *Jeffrey*, stat. et comb. nov. Type species : **Trianthema crystallina** (*Forsk.*) *Vahl*, *Symb. Bot.* **1**, 32 (1790).

syn. *Papularia* *Forsk.*, *Fl. Aegypt.-Arab.* 69 (1775) pro. gen.

2. **Sesuvium** *L.* Type species: **S. portulacastrum** (*L.*) *L.*, *Syst. ed.* 10: 1058 (1759)

3. **Zaleya** *Burm. f.* Type species: **Z. decandra** (*L.*) *Burm. f.*, *Fl. Ind.* 110, t. 31 (1768)

These taxa may be distinguished as in the following key:

Operculum of capsule 2-valved, the valves usually separating; ovules 4, attached at one side to the interocular septum; ovary 2-locular; stigmata 2 **Zaleya**

Operculum of capsule one-valved, capsule pyxidiate:
 Styles 2-5; ovary 2-5-locular; placentation axile; ovules many; flowers usually solitary **Sesuvium**
 Style 1; ovary 1-locular; placentation parietal; flowers solitary or clustered **Trianthema**
 Ovules 4-many; flowers usually solitary . . . subgen. **Trianthema**
 Ovules 2, superposed; flowers usually clustered . . . subgen. **Papularia**

Certain new combinations and reductions to synonymy are made below:

Trianthema triquetra [*Rottler ex*] *Willd.* subsp. **parvifolia** (*Sond.*) *Jeffrey*, stat. et comb. nov.

Trianthema parvifolia *Sond.* in *Harv. & Sond.*, *Fl. Cap.* 2: 598 (1862). Type: South Africa, Gamka River, *Drège* (BM, iso.!, K, iso.!)

Trianthema crystallina (*Forsk.*) *Vahl* var. *rubens* *Sond.*, *l.c.* Type: South Africa, Orange River, *Drège* (K, iso.!)

Trianthema crystallina (*Forsk.*) *Vahl* var. *corymbosa* *Sond.*, *l.c.* Type: South Africa, Orange River, *Drège* (K, iso.!)

Trianthema hereroënsis *Schinz* in *Bull. Herb. Boiss.* **5**, app. 3, 76 (1897). Type: South West Africa, *Stapff* (Z, holo.)

Trianthema triquetra [*Rottler ex*] *Willd.* subsp. **triquetra** var. **sanguinea** (*Volkens & Irmscher*) *Jeffrey*, stat. et comb. nov.

Trianthema sanguineum *Volkens & Irmscher* in *Engl., Bot. Jahrb.* 48: 497 (1912). Type: Tanganyika, Moshi District, between Himo and Pangani River, *Volkens* 458 (B, holo.!)

Trianthema nigricans *Peter* in *Fedde, Repert.*, *Beih.* **40**(2), Anhang 30 (1932). Type: Tanganyika, Masai District, Emugur Belekj, *Peter* 42741c (B, holo., destroyed)

Zaleya pentandra (L.) Jeffrey, comb. nov.

Trianthema pentandra L., Mant. 1, 70 (1767). Type: cultivated at Uppsala from seed sent by Forskål from Arabia (LINN, lecto.).

Trianthema redimita Melville in Kew Bull. 7, 268 (1952). Type: Kenya, Northern Frontier Province, Mudo, near Wajir, Dale K700 (K, holo.!).

Zaleya sennii (Chiov.) Jeffrey, comb. nov.

Trianthema sennii Chiov., Fl. Som. 2, 225 (1932). Type: Somalia, Mahaddei, Senni 666 (FI, holo.!).

The species concept in Palaeontology

‘ . . . and heard great argument,
About it and about: but evermore
Came out by the same door as in I went.’

It is hard for taxonomists who deal with contemporary organisms to agree on what they mean by a species. But the specific names which they use should, among animals though not always among plants, correspond to discrete entities in the real world: populations whose members interbreed among themselves but are unable, or almost unable, to do so with members of other groups. Taxonomists dealing with the organisms of a single past epoch may also hope to name similar populations which lived at that time. But when palaeontologists try to name organisms succeeding one another in time there can be no such barriers separating one generation from the next and taxonomy becomes essentially subjective, the more so as gaps in the geologic record are filled in.

‘In a phylogenetic continuum a “species” is a kind of nebulous and fluctuating area in a ceaseless process and has no temporal, morphologic or genetic boundary between it and preceding or subsequent areas.’

And yet, as we can only refer to organisms by names, and as there are enormous theoretical and practical advantages to be gained by naming extinct organisms, whose fossils often supply the best means for identifying geologic strata and understanding the course of evolution, the irrational attempt to name these organisms has to be made, and is made with some success, just as mathematicians operate successfully with concepts such as $\sqrt{-1}$ which they know to be irrational.

The present symposium* by 16 British and one American palaeontologist provides the best, perhaps the only thorough, account of the methods, tricks and obstinate perplexities of those who practise this fascinating, irrational and necessary art. If it reduces the reader to the despair of Omar Khayyam; let him reflect that Omar in his despair made great discoveries.

J. B. GILLETT

* *The species concept in Palaeontology: a symposium*. Systematics Association Publication No. 2. Edited by P. C. Sylvester-Bradley. Pp. vi + 145. London: British Museum (Natural History), 1956. Price 12/6.