
Aethephyllum RUSCHIOIDAE

H. E. K. Hartmann

Aethephyllum N.E.Br. MDG 1928: 400; Ihlenfeldt & Struck 1987: 411–453; Hartmann 2001: 26–27; Klak & Bruyns 2012: 293–307; Klak 2012: 27–33 \equiv *Micropterum* Schwantes subg. *Aethephyllum* (N.E.Br.) Schwantes KuaS 1950: 7 **Typus** **A. pinnatifidum** (L.f.) N.E.Br. \equiv *Micropterum pinnatifidum* (L.f.) Schwantes **Etym** Gk *aethe*, irregular, unusual, *phyllon*, leaf, referring to the lyrate or pinnatifid leaves.

Short-lived annuals with decumbent branches; **L** pinnatifid, bifacial, epidermis with prominent bladder cells, wax cover thin, rugose; **Fl** apparently solitary, but in reality almost the whole plant representing the dichasial **Inf**, pedicellate, petals white or yellow, stamens yellow with darker anthers, filaments basally papillate, 5 flat nectaries; **Fr** pedicels s-shaped, base of capsule short funnel-shaped, top flat, covering membranes short, translucent and flexible, expanding sheets rising into high rims and merging distally (in the open capsule) into a thin, flimsy layer, no distinct expanding keel discernible, valve wings broad over the entire length of the valve, 5 locules; **S** testa with distant naps; **Ecol** plentiful after fires, mostly in Fynbos, but also coastal, winter rainfall (Fig. 1); **Distr** from Kamieskroon, NC,

over Clanwilliam, Piquetberg, Tulbagh, Vanrhynsdorp, to the Cape, WC, S Africa.

Note: Based on more recent studies in the Dorotheantheae (Klak & Bruyns 2012), the genus **Aethephyllum** is enlarged here in order to include three species with lyrate leaves (see also key in Klak 2012: 32), requiring two new combinations.

Aethephyllum herrei (Schwantes) H.E.K. Hartmann **comb. nov.** \equiv *Micropterum herrei* Schwantes Kakteen und andere Sukkulenten 1, 1950: 8 **as basionym** = *Cleretum herrei* (Schwantes) Ihlenf. & Struck 1987: 437 **LT**, designated by Ihlenfeldt & Struck 1987: 437, Herre s.n. 1949 (HBG).

Ascending in growth, rather robust, **I** 3.5 mm \emptyset ; **L** lyrate, \pm 40 mm l, 15 mm b, epidermis with big bladder cells; **Fl** \pm 8 mm \emptyset , sessile, 6–9 white to purple petals, 6–8 filamentous staminodes, 15–17 stamens basally papillate, filaments yellowish, anthers orange (Fig. 2); **Fr** stalks s-shaped, lateral rims instead of covering membranes; **S** roundish in side view, testa cells convex with undulate anticlinal walls, greyish-black; **Ecol** sandy places, near the sea shore, fire successor; **Distr** Cape Town to Simonstown, Somerset West, WC, S Africa

Note: Morphologically, **A. herrei** differs from **A. pinnatifidum** in its more robust habit, reduced covering membranes, and convex testa cells without naps.

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Fig. 1 Distribution of *Aethephyllum* is restricted to the southern part of the winter rainfall area (Copyright H.E.K. Hartmann)

Key to the Species of *Aethephyllum*

1. Petals yellow, top of capsules flat	<i>A. pinnatifidum</i>
– Petals white to purplish suffused, capsule tops with ribs	2
2. Fruit stalks short and s-shaped, seeds greyish-black (anthracite)	<i>A. herrei</i>
– Fruit stalks 30–40 mm long, almost straight, seeds brown	<i>A. lyratifolium</i>



Fig. 2 *Aethephyllum herrei* in flower after rains in August 2012; note the few and short petals and the prominent erect valve rims in the ripening central capsule (Copyright C. Wakfer)

Aethephyllum lyratifolium (Ihlenf. & Struck) H. E.K.Hartmann **comb. nov.** \equiv *Cleretum lyratifolium* Ihlenf. & Struck Beiträge zur Biologie der Pflanzen 61, 1987: 437 as **basionym**, **Typus** Bayer 2596 (HBG).

Decumbent with gross bladder cells; **L** irregularly lyrate, amplexicaul; **Fl** stalks short or absent, 4–5 mm \varnothing , petals ca. 1 mm l, white, stamens 5; **Fr** stalks 30–40 mm l, base roundish, low, top with low valve rims, covering membranes absent to half over the locules, \varnothing 8–10 mm; **S** triangular in side view, brown, testa cells concave, anticlinal walls straight; **Ecol** in gravel; **Distr** from Khamieskroon, NC, to Laingsburg, WC, S Africa.

Note: This species is most similar to *A. herrei*, from which it differs in the straight fruit stalks, the

low valve rims, and the brown seeds, as opposed to blackish-grey ones in *A. herrei*.

A. pinnatifidum (L.f.) N.E.Br. MDG 1928: 400 ≡ *M. pinnatifidum* L.f. 1781: 260 ≡ *Cleretum pinnatifidum* (L.f.) L.Bolus SAG 1927: 327 ≡ *Cleretum pinnatifidum* (L.f.) N.E.Br. GC 1927: 228 nomen illeg. ≡ *Micropterum pinnatifidum* (L.f.) Schwantes KuaS 1950: 7 **LT**, designated by Hartmann 2001: 27, “*M. pinnatum*” 649.7 (LINN) = *M. pinnatum* Thunberg 1791: 15 **LT**, designated by Hartmann 2001: 27, Thunberg 12003 (UPS).

L at first opposite, later on all flowering branches spirally arranged; **Fl** pedicels elongating before the buds open, papillae on filaments as thin threads; **S** almost round in side view, the naps well separated; **Ecol** in coastal Fynbos, fire successors; **Distr** from Vanrhynsdorp to Tulbagh, WC, S Africa.

Note: **A. pinnatifidum** differs from the other two species in its yellow petals and the absence of ribs on the valves. As in other annuals, seeds from habitat germinate tardily in cultivation, requiring treatment with KOH or some mechanical destruction of the seed coat to improve germination success.

References

- Bolus L. (1927) South African succulents ...: SAG 17: 134, 238–239, 256, 280–281, 326–327, 365, 398–400, 433–435
- Brown N.E. (1927) Mesembryanthemum ... GC 81: 12, 31–33, 52–53, 70, 84–85, 113–114, 116, 251–253, 430; GC 82: 92–93, 113–114, 228, 251, 263, 290–291, 348–349, 369, 390, 409, 429–430, 449–450, 470–471, 489–490, 509–511
- Brown N.E. (1928) Ergänzungen zu dem Mesembriaceen-Aufsatz. MDG 43: 400–401
- Hartmann H.E.K. (2001): Illustrated Handbook of Succulent Plants: Aizoaceae A-E. Springer. Heidelberg
- Ihlenfeldt H.-D., Struck M. (1987) Morphologie und Taxonomie der Dorotheanthinae Schwantes (Mesembryanthemaceae). BBP 61: 411–453
- Klak C. (2012) Two new species of *Cleretum* (Ruschioideae-Dorotheanthaeae, Aizoaceae) from the Northern Cape ... Haseltonia 18: 29–35
- Klak C., Bruyns P.V. (2012) Phylogeny of the Dorotheanthaeae (Aizoaceae). ... Taxon: 61, 293–307
- Linnaeus C. fil. (1781) Supplementum plantarum. Systematis vegetabilium – ed. 13 generum plantarum: 227, 258–261, 392. At the expenses of the orphanage, Braunschweig
- Schwantes G. (1950) *Micropterum* Schwantes. KuaS 1(2): 4–5, (3) 6–8
- Thunberg P. (1791) Descriptiones Mesembryanthemorum quorundam in Capitis Bonae Spei Africes ... Novorum Actorum medico-physicorum academiae Caesareae Leopoldino-Carolinae naturae curiosorum in Germania 8: App.: 1–18