



Aloiampelos tenuior var. *ernstii*, a new orange-flowered variety of rambling aloe (Asphodelaceae subfam. Aloioideae)

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Abstract

A red- and several yellow-flowered variants of *Aloiampelos tenuior* (Asphodelaceae subfam. Aloioideae), a species of scrambling aloe, are well known, including in cultivation, and apart from the autonymic variety, at least four others have been given taxonomic recognition at that rank. The yellow-flowered varieties of *A. tenuior* are predominantly, but not exclusively, based on vegetative characters, while the red-flowered variety is distinguished by its flower colour, as well as vegetative characters. The orange-flowered form of *A. tenuior*, which is much less common in cultivation than *A. tenuior* var. *tenuior* or *A. tenuior* var. *rubriflora*, is here described as *A. tenuior* var. *ernstii*.

Keywords: *Aloe*, South Africa

Introduction

As presently understood, *Aloiampelos* Klopper & Gideon F.Sm. in Grace *et al.* (2013: 10), a segregate from *Aloe* Linnaeus (1753: 319), is a small genus of seven species in Asphodelaceae subfam. Aloioideae, with its representatives collectively known as rambling aloes, climbing aloes, or scrambling aloes (Van Wyk & Smith 2014: 106–121, Klopper & Smith 2017). Of these species, *Aloiampelos tenuior* (Haworth 1825: 281) Klopper & Gideon F.Sm. in Grace *et al.* (2013: 11), also known as the gardener’s aloe, is most widely cultivated and, along with *A. ciliaris* (Haworth 1825: 281) Klopper & Gideon F.Sm. in Grace *et al.* (2013: 10) var. *ciliaris*, horticulturally best known (Smith & Figueiredo 2015: 4, 20–21, Smith *et al.* 2021).

Aloiampelos tenuior is often treated as a variable species with no infraspecific taxa (Verdoorn 1961 [although mention is made of “*Aloe* [now *Aloiampelos*] *tenuior* and its varieties” in this publication the taxon is treated at species level only], Glen & Hardy 2000, Grace *et al.* 2011, Van Wyk & Smith 2014). Alternatively, up to four varieties, apart from the autonymic one, are recognised (Reynolds 1950, Jeppe 1969, Bornman & Hardy 1971, Carter *et al.* 2011, Van Jaarsveld 2021). These varieties are based on a combination of, mostly, vegetative but also reproductive characters.

The two varieties of *A. tenuior* commonly encountered in cultivation are yellow- (*A. tenuior* var. *tenuior*) (Fig. 1A–B) and red-flowered [*A. tenuior* var. *rubriflora* (Reynolds 1936: 108) Van Jaarsveld (2021: 34)] (Fig. 1C–D), respectively, with *A. tenuior* var. *tenuior* ‘Gamtoos’ being a widely grown, very floriferous selection of the yellow-flowered one (Fig. 1E).

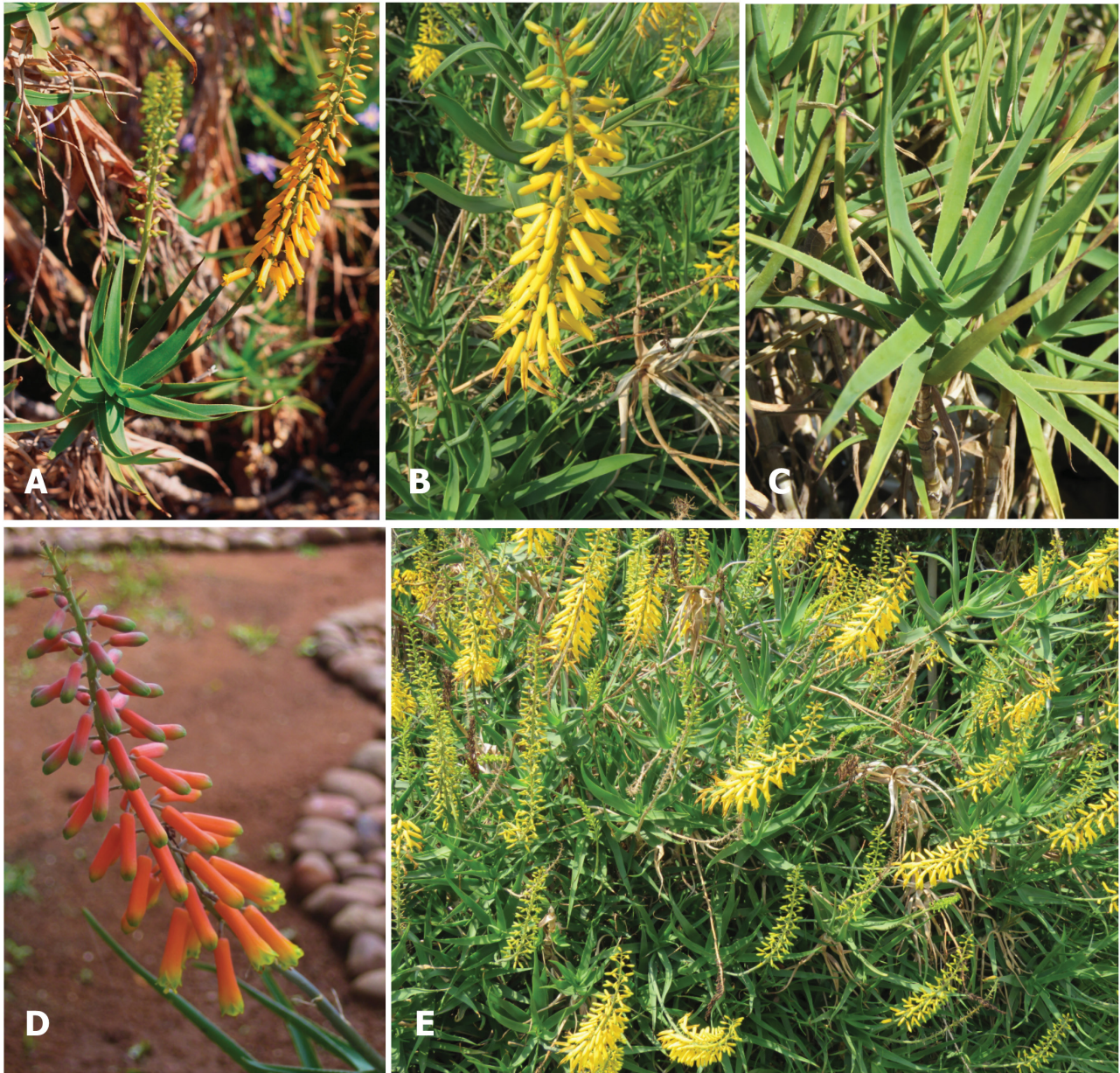


FIGURE 1. *Aloiampelos tenuior* var. *tenuior* (A–B) and *A. tenuior* var. *rubriflora* (C–D). A. Apical, leafy portion of a stem with inflorescences. B. Close-up of an inflorescence. C. Apical, leafy portion of a stem. D. Close-up of an inflorescence. E. The horticulturally popular cultivar *A. tenuior* var. *tenuior* ‘Gamtoos’ is very floriferous. Photographs by Gideon F. Smith (A–C, E) and Estrela Figueiredo (D).

Apart from the red- and yellow-flowered varieties being recognised taxonomically, we here describe the orange-flowered variant as *A. tenuior* var. *ernstii* Gideon F.Sm. & Figueiredo (Fig. 2A–C).

Material and methods

The description of *A. tenuior* var. *ernstii* is based on detailed, comparative morphological studies of living, cultivated aloiampeloid material from across a broad stretch of the natural geographical distribution range of *A. tenuior* in southeastern and eastern South Africa. Where possible, herbarium material of the species was accessed. Measurements were taken by hand using a ruler, except for floral measurements below 4 mm, which were taken using hand-held magnifying equipment.

Author attributions of the scientific plant names cited follow IPNI (2022+), albeit in the format required by *Phytotaxa*, i.e., protologues of names are cited as full bibliographic references.

Herbarium codes follow Thiers (2022+). Nomenclatural issues accord with the Shenzhen *Code* (Turland *et al.* 2018).



FIGURE 2. *Aloiampelos tenuior* var. *ernstii*. **A.** Apical, leafy portion of two stems with inflorescences. **B.** Close-up of an inflorescence showing the relatively short, orange, green-tipped flowers. **C.** Note the short peduncle. **D.** Dr Ernst J. van Jaarsveld (1953–) after whom *A. tenuior* var. *ernstii* is named. All photographs by Gideon F. Smith.

Results

The most recent treatment of *Aloiampelos tenuior* recognises it as a polymorphic species in which four varieties, apart from the autonymic one, are recognised (Van Jaarsveld 2021: 39). These are: (1) *A. tenuior* var. *decidua* (Reynolds 1936: 111) Van Jaarsveld (2021: 33); (2) *A. tenuior* var. *densiflora* (Reynolds 1950: 349) Van Jaarsveld (2021: 34);

(3) *A. tenuior* var. *rubriflora*; and (4) *A. tenuior* var. *viridifolia* (Van Jaarsveld 2007: 60) Van Jaarsveld (2021: 33). With the exception of the red-flowered *A. tenuior* var. *rubriflora*, all the other varieties are predominantly yellow- or yellowish green-flowered. Apart from *A. tenuior* var. *viridifolia*, which was described more than 50 years after the others, Reynolds (1950: 347–352) recognised and upheld all these varieties. This view was also followed by Jeppe (1969) and Bornman & Hardy (1971).

In addition to the yellow- and red-flowered forms of *A. tenuior*, an orange-flowered variant of the species has been encountered in horticulture. We are aware of only a single herbarium specimen, representative of a broadly conceived *A. tenuior*, which unambiguously records the flower colour as orange. This specimen, K000524360, held in the Herbarium of the Royal Botanic Gardens, Kew (Herb. K), was prepared from living material donated to Kew by well-known aloe expert Gilbert W. Reynolds, in 1951. The only locality information recorded on the herbarium label is “South Africa”.

To date we have been unable to recollect the orange-flowered variant from the wild. Material found in cultivation, however, retains its characters and flower colour. The possibility that the orange-flowered form is a hybrid between one of the yellow-flowered varieties of *A. tenuior* and the red-flowered *A. tenuior* var. *rubriflora*, has been considered, but this is unlikely as, generally, hybrid aloes show considerable heterosis (Smith & Figueiredo 2015), which is not at all evident in *A. tenuior* var. *ernstii*.

In both vegetative and reproductive morphology, the orange-flowered material represents a daintier, often smaller-growing variant of the species. For example, the racemes of *A. tenuior* var. *ernstii* are typically 5–8 cm long, while those of *A. tenuior* var. *tenuior* and *A. tenuior* var. *rubriflora* can be up to 20 cm long. Flowers of *A. tenuior* var. *ernstii* are also shorter (12–15 mm long) than in any of the other recognised varieties of the species (20–45 mm long). In terms of leaf morphology, those of the orange-flowered form are generally narrower (0.9–1.1 cm) than those of *A. tenuior* var. *tenuior* and *A. tenuior* var. *rubriflora* (1.0–2.2 cm). In an unpublished review of *Aloiampelos*, the morphology of the orange-flowered material was similarly found to be sufficiently different from the other varieties recognised in *A. tenuior* to warrant its recognition as a separate entity in the identification key presented for the genus (Ellis 2013: 107).

Nomenclature of *Aloiampelos tenuior* var. *ernstii*

Aloiampelos tenuior (Haworth 1825: 281) Klopper & Gideon F.Sm. in Grace *et al.* (2013: 11) var. *ernstii* Gideon F.Sm. & Figueiredo, var. nov.

Type:—SOUTH AFRICA. Gauteng province.—2528 (Pretoria): Tshwane, (–CA), ex hort., material originally collected in a domestic garden in Somerset West, Western Cape, South Africa, 20 August 2016, G.F. Smith & E. Figueiredo 42 (holotype PRU).

Diagnosis:—*Aloiampelos tenuior* var. *ernstii* differs from *A. tenuior* var. *tenuior* (40–45 mm long yellow flowers) and *A. tenuior* var. *rubriflora* (\pm 20 mm long red flowers) by its shorter (12–15 mm long), orange flowers. Plants of *A. tenuior* var. *ernstii* are generally daintier in most vegetative respects, with their leaves generally being narrower than those of *A. tenuior* var. *tenuior* and *A. tenuior* var. *rubriflora*.

Description.—Perennial, herbaceous, tangled, succulent shrub of 0.75–1.00 m tall. *Stems* clumped, slender, (0.5–) 0.75–1.00 m long, 5–10 mm diameter, branched low down or higher, erectly spreading or scandent to recurved or decumbent, mostly without persistent dried leaves. *Roots* cylindrical, 5 mm in diameter. *Leaves* rosulately and widely cauline-dispersed, erectly spreading to down-curved, papery when dry, dull light green to mid-green, without spots, linear-lanceolate to linear-attenuate, adaxial surface slightly concave to canaliculate; abaxial surface convex, texture smooth, tapering to apex, 7–19 cm long, 0.9–1.1 cm broad at base, basally sheathing; sheath obscurely to distinctly green-lineate, not auriculate, 0.5–2.0 cm long; margin same colour as blade, not cartilaginous, with minute, white teeth, up to 0.5 mm long, 1–5 mm apart. *Inflorescence* 1–3, borne simultaneously or successively, 10–12 cm tall, rarely once-branched, branch arcuate-erect. *Peduncle* 60–70 mm long, 3–4 mm broad at base, basally plano-convex, cylindrical above, light green, lacking a white, powdery bloom; sterile bracteate lower down, *sterile bracts* up to 5, basal bracts deltoid-triangular, apical bracts long-attenuate and hair-like, 3–6 mm long, straw-coloured, scarious, 1–3-nerved. *Racemes* cylindrical, 5–8 cm long, 4–5 cm wide; buds erect to suberect, flowers horizontal to drooping when mature. *Floral bracts* tapering long-attenuate and hair-like from a deltoid triangular base, not amplexicaul around pedicel, 3–4 mm long, 1.0–1.5 mm wide, straw-coloured, papery, 3- or 4-nerved, central nerve dark brown, prominent. *Pedicels* 3–4 mm long, light green. *Flowers*: actinomorphic, unscented, nectariferous; *perianth* orange, yellow towards tip, tip extremity green in bud and when mature, not pruinose, 12–15 mm long, rounded at base, \pm 3 mm across ovary, enlarging to 4 mm towards wide open mouth, cylindrical, tubular-cymbiform; outer segments lorate, free for \pm 4 mm,

free portion centrally green, borders yellow, acute, blunt-tipped, segment margins straight, tips slightly flared open; inner segments \pm same size as outer segments, with yellow border and slightly more obtuse apex, free for \pm 4 mm; *stamens* with cylindrically thread-like, light yellow, basally inserted filaments, 12–15 mm long, all 6 of \pm equal length, prominently exerted for 2–3 mm; *anthers* small, 1–2 mm long, yellow, fading brown, versatile; *ovary* 3–4 mm long, \pm 2 mm in diameter, light yellow; *style* as long as or slightly longer than stamens, minutely capitate, with small stigma, exerted 1–2 mm. *Fruit* not seen. *Seeds* not seen. *Chromosome number* unknown.

Phenology:—The varieties recognised in *A. tenuior* flower at various times of the year, and have also been known to sporadically produce inflorescences out of season. Like *A. tenuior* var. *densiflora*, *A. tenuior* var. *ernstii* flowers during winter, but will also produce inflorescences well into spring. However, *A. tenuior* var. *densiflora* has yellow, not orange, flowers.

Vernacular names:—The large number of vernacular names—12 that we are aware of—recorded for *A. tenuior* attests to its popularity in horticulture and its uses in traditional medicine (Grace *et al.* 2011: 152). The names include: rankaalwyn and heuningaalwyn (Afrikaans); fence aloe (English); ikhalane (Xhosa); and inhlaba empofu (Zulu).

Eponymy:—*Aloiampelos tenuior* var. *ernstii* is named for Dr Ernst Jacobus van Jaarsveld (19 February 1953, Johannesburg, Gauteng province, South Africa–). Ernst matriculated from Linden High School after which he studied for and was awarded a National Diploma in Horticulture in 1975. In 1990 he graduated with an M.Sc. in plant systematics from the University of Natal, now the University of KwaZulu-Natal. In 2012 Ernst was awarded a Ph.D. by the University of Pretoria for his work on cremnophytic plants. Dr Van Jaarsveld was employed by the South African National Biodiversity Institute for more than 40 years, where after he accepted an appointment at Babylonstoren Farm, near Simondium, Western Cape province, where he is inter alia involved in establishing a succulent plant collection. In these positions he has mentored and trained several young horticulturists. Ernst has a longstanding interest in succulents and has contributed significantly to our knowledge of the southern African flora in general.

Cultivation:—Although *A. tenuior* var. *ernstii* was commonly grown in gardens in many parts of South Africa some 40 to 50 years ago, it is now much less often cultivated. This can likely be attributed to this variety in some respects being less vigorous in cultivation, when compared to *A. tenuior* var. *tenuior* and *A. tenuior* var. *rubriflora*. However, this new variety is easy in cultivation. The lower portion of stem cuttings of 20–50 cm long can be placed in the soil directly in the place where they are intended to grow. Plants grow well in full sun as well as in dappled shade.

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