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Fig. 34.

Taxonomic reassessment and typification
of species names in *Arctotis* L. (Asteraceae)
proposed by Jean Louis Marie Poiret

Robert J. MCKENZIE
& Chiara NEPI

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Lectotype of *Calendula graminifolia* L. (Commelin 1701: 67, f. 34).

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diff.pub@mnhn.fr / <http://sciencepress.mnhn.fr>

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ISSN (imprimé / *print*) : 1280-8571/ ISSN (électronique / *electronic*) : 1639-4798

Taxonomic reassessment and typification of species names in *Arctotis* L. (Asteraceae) proposed by Jean Louis Marie Poirét

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Submitted on 5 February 2019 | accepted on 24 June 2019 | published on 21 November 2019

McKenzie R. J. & Nepi C. 2019. — Taxonomic reassessment and typification of species names in *Arctotis* L. (Asteraceae) proposed by Jean Louis Marie Poirét. *Adansonia*, sér. 3, 41 (14): 183-192. <https://doi.org/10.5252/adansonia2019v41a14>. <http://adansonia.com/41/14>

ABSTRACT

The names *Arctotis staticifolia* Poir. and *Arctotis tenuifolia* Poir. were validly published by Jean Louis Marie Poirét based on material collected from “Cap de Bonne-Espérance” and stated to be lodged in the Herbar Desfontaines. No original material for *Arctotis staticifolia* has been traced. The protologue is inconsistent with any known *Arctotis* L. species and previous treatment of *A. staticifolia* as a synonym of *Gazania linearis* (Thunb.) Druce var. *linearis* is not supported. The protologue for *Arctotis staticifolia* is most consistent with a narrow-leaved taxon of *Dimorphotheca* Vaill. ex Moench and specifically *D. nudicaulis* (L.) DC. var. *graminifolia* (L.) Harv. A neotype for *Arctotis staticifolia* is designated consistent with our interpretation and the name is formally placed in the synonymy of *Dimorphotheca nudicaulis* var. *graminifolia*. *Arctotis tenuifolia* Poir. has previously been treated as a synonym of *Dimorphotheca nudicaulis* var. *graminifolia*. Original material was located and the name *Arctotis tenuifolia* Poir. is here lectotypified and is placed in the synonymy of *Ursinia tenuifolia* (L.) Poir. subsp. *tenuifolia*. *Arctotis tenuifolia* Poir. is a later heterotypic homonym of *Arctotis tenuifolia* L. and is therefore nomenclaturally illegitimate. A lectotype is designated for *Sphenogyne tenuifolia* (L.) DC. var. *heterochroma* Harv., a synonym of *Ursinia tenuifolia* subsp. *tenuifolia*.

KEY WORDS

South Africa,
Anthemideae,
Arctotis,
Calenduleae,
Poirét,
new lectotypes,
new neotype,
new synonym.

RÉSUMÉ

Réévaluation taxonomique et typification des noms d'espèces chez Arctotis L. (Asteraceae) proposés par Jean Louis Marie Poirét.

Les noms *Arctotis staticifolia* Poir. et *Arctotis tenuifolia* Poir. ont été publiés validement par Jean Louis Marie Poirét, à partir de matériaux rassemblés au «Cap de Bonne-Espérance» et déclarés être présents dans l'Herbier Desfontaines. Aucun matériel original n'a cependant été retrouvé pour *Arctotis staticifolia*. Le protologue est incompatible avec toute espèce connue d'*Arctotis* L. et le traitement antérieur de *A. staticifolia* comme synonyme de *Gazania linearis* (Thunb.) Druce var. *linearis* n'est pas valide. Le protologue de *Arctotis staticifolia* est plutôt compatible avec un taxon à feuilles étroites tel que *Dimorphotheca* Vaill. ex Moench et plus spécifiquement *D. nudicaulis* (L.) DC. var. *graminifolia* (L.) Harv. Un néotype pour *Arctotis staticifolia* est désigné, conformément à notre interprétation, et le nom est officiellement placé en synonymie avec *Dimorphotheca nudicaulis* var. *graminifolia*. *Arctotis tenuifolia* Poir. était auparavant considéré comme un synonyme de *Dimorphotheca nudicaulis* var. *graminifolia*. Le matériel original a été trouvé, le nom *Arctotis tenuifolia* Poir. est ici lectotypifié et considéré comme un synonyme de *Ursinia tenuifolia* (L.) Poir. subsp. *tenuifolia*. *Arctotis tenuifolia* Poir. est un homonyme hétérotypique ultérieur de *Arctotis tenuifolia* L. et est donc illégitime nomenclaturalement. Un lectotype est désigné pour *Sphenogyne tenuifolia* (L.) DC. var. *heterochroma* Harv., synonyme d'*Ursinia tenuifolia* subsp. *tenuifolia*.

MOTS CLÉS

Afrique du Sud,
Anthemideae,
Arctotis,
Calenduleae,
Poirét,
lectotypes nouveaux,
néotype nouveau,
synonyme nouveau.

INTRODUCTION

The genus *Arctotis* L. was established by Linnaeus (1753). In subsequent generic treatments by Linnaeus and other authors, diverse species were described as members of *Arctotis*. With refinement of the genus concept and description of additional genera, numerous names in *Arctotis* were subsequently determined to apply to elements of other genera, including *Arctotheca* J.C.Wendl., *Cymbonotus* Cass. and *Haplocarpha* Less. (members of the tribe *Arctotideae*, subtribe *Arctotidinae* as for *Arctotis*), and also *Dimorphotheca* Vaill. ex Moench (tribe *Calenduleae*), *Gazania* Gaertn. (tribe *Arctotideae*, subtribe *Gorteriinae*), and *Ursinia* Gaertn. (tribe *Anthemideae*). For a number of these taxa, the epithet of the name in *Arctotis* is the earliest legitimate epithet for the taxon at species rank.

As part of an ongoing taxonomic and nomenclatural revision of the subtribe *Arctotidinae*, the identity of all validly published names applicable to taxa within the subtribe requires reassessment. Considerable progress has been made in resolving the species taxonomy of *Arctotidinae* (e.g., McKenzie *et al.* 2008a, b, 2011; McKenzie & Barker 2010, 2013; McKenzie 2018, 2019; McKenzie & Bergh 2018). Reappraisal of *Arctotis* names known to apply to taxa now classified in *Dimorphotheca*, *Gazania* and *Ursinia* is not a primary focus of the current revision of *Arctotidinae*, as the latter three genera have been thoroughly revised previously (Norlindh 1943; Roessler 1959; Prassler 1967). However, during the course of the present revision, a number of validly published names in *Arctotis* of previously uncertain application have been determined to apply to taxa classified outside the *Arctotidinae*. In the present study, the identity and taxonomic status of the names *Arctotis staticifolia* Poir. and *Arctotis tenuifolia* Poir. validly published by Poirét (1810) were assessed.

Arctotis staticifolia and *A. tenuifolia* Poir. were based on material stated to have been collected from “Cap de Bonne-

Espérance” [Cape of Good Hope] and lodged in the Herbier Desfontaines (Poirét 1810). *Arctotis tenuifolia* Poir. was included in the synonymy of *Castalis nudicaulis* var. *graminifolia* (L.) Harv. by Norlindh (1943), but the name has not been lectotypified. Norlindh stated that he did not examine original material for the name and his treatment of *Arctotis tenuifolia* Poir. followed that of Candolle (1838). The name *Arctotis staticifolia* was listed under *Gazania* ‘Species dubia’ by Roessler (1959), and remains unresolved and untypified, but is often listed as a synonym of *Gazania linearis* (Thunb.) Druce var. *linearis* in online nomenclator databases. Typification and clarification of the application of validly published names is essential for the treatment of *Asteraceae* in the *e-Flora of South Africa* project (Le Roux *et al.* 2017). Therefore, the objective of the present study was to locate and examine original material and reassess application of the names *Arctotis staticifolia* and *A. tenuifolia* Poir.

MATERIAL AND METHODS

Original material for *Arctotis tenuifolia* Poir. lodged in FI was located and examined. High-resolution digital images of the lectotype for *Arctotis tenuifolia* L. in LINN and specimens of *Dimorphotheca nudicaulis* var. *graminifolia* in P were examined. Relevant material lodged in NBG was examined. Herbarium acronyms follow Thiers (2019). All relevant literature was consulted.

RESULTS AND DISCUSSION

ARCTOTIS STATICIFOLIA POIR.

Poirét (1810) published the name ‘*Arctotis staticifolia*’. The word ‘statice’, a genus name published by Linnaeus (1753) but now in use only as a vernacular name for species of *Li-*



FIG. 1. — Lectotype of *Calendula graminifolia* L. (Commelin 1701: 67, f. 34). Image from the Biodiversity Heritage Library. Digitized by Missouri Botanical Garden, Peter H. Raven Library (<https://www.biodiversitylibrary.org>).

monium Mill. (Plumbaginaceae), is derived from the Greek *statikē*, feminine of *στατικός* (*statikós*), meaning 'static, causing to stand still, astringent'. Under the International Code of Nomenclature for algae, fungi, and plants (ICN; Turland *et al.* 2018) Art. 60.10, correct compounding of the elements 'statice' and 'folia' requires removal of the case ending of the transcribed Greek *-ós* and addition of the connecting vowel *-i-*. Under the provisions of ICN Arts. 60.10 and 61.4, the epithet '*staticefolia*' is correctable to '*staticifolia*' without a change in the attributed authorship of the name.

Poiret (1810) stated that the species was described from material in the Herbarium Desfontaines collected from Cap de Bonne-Espérance. No specimen formerly in the general herbarium of Desfontaines, nor material that can be linked to Desfontaines in other herbaria, and annotated with the name "*Arctotis staticefolia*" has been traced in BM, B-W, C, FI, LIV, MPU or P (based on the herbaria holding specimens linked to Desfontaines listed by Stafleu & Cowan 1976). Furthermore, no sheet of any origin annotated with the name has been traced in any herbarium. In the absence of original material, the affinities of *Arctotis staticifolia* must be determined from the protologue for the species.

Poiret (1810) provided the diagnosis "*Arctotis acaulis, foliis caespitosis, angustissimis, subintegrifolia, glabris; foliolis calicinis lineari-lanceolatis; flore solitario*" accompanied by a description of the growth habit, leaf morphology, involucre and floret colouration for *A. staticifolia*. A diagnostic character for *Arctotis* is that the cypselae bear two or three (rarely five) dorsal wings that are fused at the distal and proximal ends to create two or three distinct 'cavities' or furrows on the dorsal side of the cypselae. Unfortunately, Poiret was unable to examine cypselae of *Arctotis staticifolia*, but from the description of the involucre *A. staticifolia* can be discounted as a species of *Arctotis*. The involucre of *Arctotis* is multiseriate and the individual bracts strongly differ in length from the shortest outermost bracts to the longest inner bracts, and in shape from triangular-ovate outer bracts to oblong-obovate inner bracts. The outer involucre bracts often have a short linear or obovate apical appendage and the inner bracts have a papery, translucent or red-pigmented apex. The bracts may be glabrous, glandular or sparsely to densely tomentose. Poiret's description of the involucre of *Arctotis staticifolia* ("Cette plante est remarquable par son calice, composé d'un grand nombre de folioles étroites, oblongues, linéaires-lancéolées, aiguës, légèrement pileuses") refers to the involucre bracts as many in number, narrow, oblong, and linear-lanceolate in shape, with an acute apex, and slightly hairy. This description is incompatible with the involucre of an *Arctotis* species.

Application of the name *Arctotis staticifolia* by previous authors has varied. Candolle (1838) listed the name *Arctotis staticifolia* as a synonym of *Gazania subulata* R.Br. without commenting on the reason for the decision. In the most recent revision of *Gazania*, Roessler (1959) listed the name under *Gazania* 'Species dubiae'. Roessler noted Candolle's treatment of *Arctotis staticifolia* and stated that he was un-

able to examine the type and therefore could not assess the affinities of the species. Roessler classified *Gazania subulata* as a synonym of *G. linearis* var. *linearis*. *Arctotis staticifolia* was not mentioned in treatments of the Asteraceae by Lessing (1832) or Harvey (1865), nor in the most recent monographs of *Arctotis* (Beauverd 1915; Lewin 1922). Online plant taxonomic databases (e.g., Catalogue of Life, <http://www.catalogueoflife.org/>; Global Biodiversity Information Facility [GBIF], <https://www.gbif.org/>; Global Compositae Checklist, <https://compositae.landcareresearch.co.nz/>; The Plant List, <http://www.theplantlist.org/>) presently list *Arctotis staticifolia* as a synonym of *Gazania linearis* var. *linearis*.

Poiret's description of the growth habit and the leaf morphology and arrangement are not inconsistent with those of *Gazania linearis* var. *linearis*. The leaves of *A. staticifolia* were described as numerous, gathered at the turf and all radical, very narrow, 5-7.5 cm or more long, scarcely broadened along the longitudinal axis, obtuse, entire, glabrous, entire but sometimes the margin was furnished with a few small distant teeth. However, Poiret described the floret colouration as "Les fleurons du centre sont d'un jaune-pâle, de couleur brune à leur sommet; les demi-fleurons lancéolés, obtus, à trois dents, blancs en dehors, avec une teinte purpurine vers leur base, d'un jaune-clair en dessous" [The disc florets of the centre are of a pale yellow, the colour brown at their summit; the ray florets lanceolate, obtuse, with three teeth, white on exterior, with a purplish hue towards their base, light yellow underneath]. In *Gazania linearis* the disc-floret corolla and upper surface of the ray-floret limb are uniformly and consistently bright yellow. Among other *Gazania* species, in *G. jurineifolia* DC. the ray-floret limb is white above but streaked blackish brown below, and the disc floret corolla is yellow but with or without white apices to the lobes. In addition, the leaves of *Gazania jurineifolia* do not conform to Poiret's description of the leaves of *Arctotis staticifolia*. If Poiret was describing a specimen of a *Gazania* species, it is remarkable that he would not note and comment on the fusion of the base of the involucre bracts to form a connate 'cup' or 'cylinder', which is such a distinctive and conspicuous characteristic of *Gazania*. Notably, in a subsequent brief discussion of the genus *Gazania*, Poiret (1811: 712) described the involucre of that genus as "Un calice d'une seule pièce, ventru à sa base, environné d'écaillés imbriquées, aiguës". Therefore, Poiret's description of *Arctotis staticifolia* is incompatible with a *Gazania* species and consideration of the name as a synonym of *G. linearis* is not supported. Similarly, all other recognised genera in the tribe Arctotideae can be discounted owing to incompatibility of the involucre, floret colouration and vegetative characters with the description of *Arctotis staticifolia*.

Numerous Asteraceae species indigenous to the Cape region of South Africa produce capitula with white ray-floret limbs, but the majority are inconsistent with the growth habit, leaf morphology and arrangement, and other floret colouration characters described for *Arctotis staticifolia*. Such taxa include *Cotula* L. spp., *Felicia reflexa*

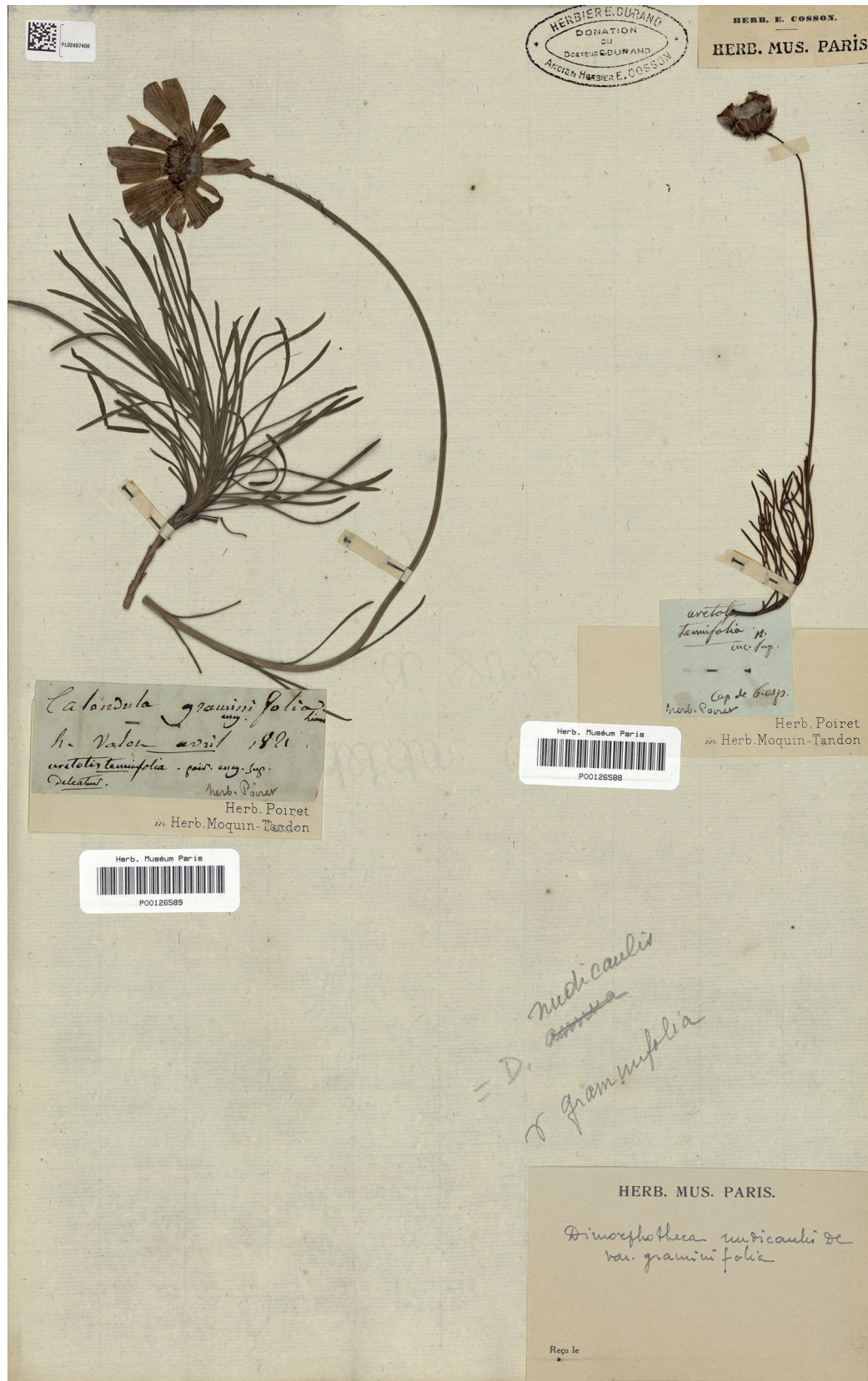


FIG. 2. — Neotype of *Arctotis staticifolia* Poir. (P00126589; left specimen). Reproduced under the terms of the Creative Commons Attribution License [CC BY 4.0] (<https://creativecommons.org/licenses/by/4.0>), © Muséum national d'Histoire naturelle, Paris.

DC., *Gerbera* L. spp., *Lasiospermum bipinnatum* (Thunb.) Druce, *Mairia crenata* (Thunb.) Nees, *Osmitopsis asterisoides* (P.J.Bergius) Less., *Othonna* L. and *Senecio* L. spp. with white-radiate capitula, *Poecilolepis* Grau spp. and *Ursinia pilifera* (P.J.Bergius) Poir. A form of *Felicia elongata* O.Hoffm. ex Zahlbr. produces white rays marked purplish maroon at the base, but the species is a shrubby perennial with leaves not concentrated at the base of the plant, and the plant is coarsely hairy not glabrous.

Several *Dimorphotheca* species indigenous to the Cape region have capitula with white rays, including *D. pluvialis* (L.) Moench and *D. nudicaulis* with rays marked purple at the base, and the abaxial surface of the ray limb may be white, purple or copper. The involucral bracts of *Dimorphotheca* taxa are consistent with Poiret's description for *A. staticifolia*. Particularly in the taxon *Dimorphotheca nudicaulis* var. *graminifolia*, the leaves are linear-lanceolate and crowded in a basal tuft. This taxon is well-illustrated in a number of publications (e.g. Edwards 1818; Loddiges & Sons 1818; Hooker 1861; Marloth 1908). *Dimorphotheca tragus* is similar in vegetative characteristics to those described for *Arctotis staticifolia* but the ray florets are orange or yellow above and the disc floret corolla is blackish purple. The dimorphic cypselae of the disc and ray florets of *Dimorphotheca nudicaulis* var. *graminifolia* are depicted in the lower righthand corner of the *Calendula graminifolia* lectotype illustration (Fig. 1).

Of coincidental interest, Candolle (1838) listed "*D. staticifolia* Vaill. act. par. 1720 (nomen opt.!) in the synonymy of *Dimorphotheca graminifolia*, which was consistent with Linnaeus's (1753) synonymy for *Calendula graminifolia*. There is no evidence to link Poiret's concept of *Arctotis staticifolia* with the plant that Vaillant (1720) named "*Dimorphotheca Statices folio*". However, Poiret's (1810) diagnosis for *Arctotis staticifolia* is similar, but contains additional details, to Linnaeus's (1753) diagnosis for *Calendula graminifolia* of "*Calendula foliis linearibus subintegerrimis, caule subnudo*". Norlindh (1943) designated as the lectotype for *Calendula graminifolia* an illustration in Commelin (1701: t. 34) labelled with the polynomial *Bellis Africana florum pediculis foliosis foliis angustis et integris*. The same illustration and polynomial were cited by Vaillant (1720: 280) following the polynomial *Dimorphotheca Statices folio*, together with the polynomial *Calendula Africana surrecta Roris marini foliis* that was listed and illustrated by Plukenet (1700: 35, tab. 376, fig. 7). To our knowledge, the binomial "*Dimorphotheca staticifolia*" has not been validly published.

We conclude that Poiret's description of *Arctotis staticifolia* is not compatible with any member of the tribe Arctotideae and is consistent with a *Dimorphotheca* taxon, specifically *Dimorphotheca nudicaulis* var. *graminifolia*, based on the characters specified in the protologue. The search for original material of *Arctotis staticifolia* should continue so as to clarify Poiret's intended application of the name. In the absence of original material, under ICN Arts 9.8 and 9.13 (Turland *et al.* 2018) we here designate a neotype for *Arctotis staticifolia* consistent with our interpretation of the protologue. The selected neotype (P barcode P00126589;

Fig. 2) was formerly in the Herbar Poir. The specimen fits well with Poiret's description for *Arctotis staticifolia* and shows many of the salient characters described, namely leaves narrow, linear, glabrous, entire or distantly dentate, the leaves inserted only in the proximal portion of the stem, capitulum solitary on a long naked, shortly glandular-hairy peduncle, and involucre of acute, lanceolate bracts with ±hyaline margins. The specimen was originally identified as *Calendula graminifolia* L. and subsequently was annotated "*arctotis tenuifolia* . poir. ency. sup.", likely in Poiret's handwriting. The gathering is unmistakably a specimen of *Dimorphotheca nudicaulis* var. *graminifolia*, therefore *Arctotis staticifolia* is here placed in the synonymy of *D. nudicaulis* var. *graminifolia*. Under ICN Art. 9.19(a), if original material for *Arctotis staticifolia* is located at a future date, the choice of the neotype will be superseded by the original material.

ARCTOTIS TENUIFOLIA POIR.

Linnaeus (1771) published the name *Arctotis tenuifolia* L. with the diagnosis "*Arctotis flosculis radiantibus sterilibus ? foliis linearibus indivisis glabris*." The provenance of the species was stated to be "*Habitat in Cap. b. spei [Caput bonae spei] littore maritimo*." No specimens or previously published descriptions or illustrations were cited in the protologue. The name is the basionym for the species currently known as *Ursinia tenuifolia* (L.) Poir. and was lectotypified to a specimen in the Linnaean Herbarium (*Herb. Linn. No. 1036.24*; LINN) by Prassler (1967). *Arctotis tenuifolia* L. was transferred to *Ursinia* by Poiret (1808), who repeated the above-mentioned diagnosis but with '*Arctotis*' substituted with '*Ursinia*'. When publishing the combination, Poiret cited the basionym *Arctotis tenuifolia* L. (citing the treatments of that species by Linnaeus 1771: 288; Linnaeus 1781: 385; Lamarck 1783: 238; Willdenow 1803: 2361).

Poiret (1810: 439) listed *Arctotis tenuifolia* with a very different diagnosis to that used by Linnaeus (1771), namely '*Arctotis caule fruticoso, glabro; foliis subfiliformibus, glabris, apice trifidis; pedunculis longissimis, unifloris*', and notably specified '(N.)'. Poiret did not cite a previous publication in which the name *Arctotis tenuifolia* was used, as he did for other previously named *Arctotis* species, and specifically did not cite *A. tenuifolia* L. nor *Ursinia tenuifolia* (L.) Poir. In addition, Poiret cited only unspecified material in the Herbar Desfontaines and thus gave no indication of having examined Linnaean specimens. Given that Poiret (1808) had previously transferred *Arctotis tenuifolia* L. to *Ursinia*, and thus was clearly familiar with the Linnaean name, it is reasonable to interpret that Poiret (1810) intended to publish a new name for what he considered to be an *Arctotis* species based on material different to that of *A. tenuifolia* L. Poiret's work long preceded the establishment of a code of rules for botanical nomenclature and, with the transfer of *Arctotis tenuifolia* L. to *Ursinia*, Poiret might have considered that the name "*Arctotis tenuifolia*" was available for use again. Regardless, it is concluded that Poiret (1810) validly published a new name, *Arctotis tenuifolia* Poir., which is a heterotypic homonym of *A. tenuifolia* L. and thus is nomenclaturally illegitimate under ICN Art. 53.1 (Turland *et al.* 2018).



FIG. 3. — Lectotype of *Arctotis tenuifolia* Poir. (F1053597). © Sezione di Botanica, Museo di Storia Naturale-Botanica, Università di Firenze, Firenze.

René Louiche Desfontaines (1750-1833) acquired herbarium specimens from many contemporary botanical sources. The former general herbarium of Desfontaines was acquired by Philip Barker Webb (1793-1854) in 1834 (Steinberg 1977) and is now held at the Herbarium Universitatis Florentinae (FI). A specimen in FI formerly in the *Herbier Desfontaines* (FI053597; Fig. 3) was originally annotated with “*Arctotis tenuifolia* L. f. suppl.” and “Cap de B. Esp.”, possibly in Desfontaine’s handwriting. Subsequently, separate labels annotated with “*arctotis? tenuifolia*poir. enc. suppl.”, likely in Poiret’s handwriting, and “*ursinia gaertner*” in an unknown hand were attached to the sheet. The specimen on the sheet is consistent in morphology with *Ursinia tenuifolia*. Prassler (1967) recognised two subspecies of *U. tenuifolia* – subsp. *tenuifolia* and *ciliaris* (DC.) Prassler – with the latter distinguished by the minutely dentate to ciliate leaf base. The leaf morphology of the specimen FI053597 is consistent with subsp. *tenuifolia*. The linear leaves are up to about 9 cm long, entire or rarely tri-lobed at the apex, and are not dentate or ciliate on the proximal margin. The solitary radiate capitulum is borne on a slender, glabrous peduncle. The involucre bracts are multiseriate, plurimorphic, and the outer and inner bracts greatly differ in length. The base of the involucre bracts is glabrous, the outer and median bracts are lanceolate-ovate to ovate, appressed, the median bracts bear a short appressed, semi-translucent, chevron-shaped apical appendage, and the innermost bracts have a conspicuous obtuse-rounded, semi-translucent, papery apex. Unfortunately, it is impossible to access receptacle and floret characters without the risk of damaging the solitary capitulum on the specimen. In the characters described the specimen FI053597 is consistent with the lectotype of *Arctotis tenuifolia* L., LINN 1036.24, and with the description of *Ursinia tenuifolia* subsp. *tenuifolia* by Prassler (1967). The specimen FI053597 can be confidently identified as *Ursinia tenuifolia* subsp. *tenuifolia* and is readily distinguishable from similar *Ursinia* species on account of the predominantly simple linear leaves (rarely tri-lobed at the apex), long (to c. 9 cm), narrow (c. 2 mm wide) and glabrous lamina, and concentration of the leaves in the proximal portion of the shoot. *Ursinia tenuifolia* subsp. *tenuifolia* is a creeping perennial species that grows on coastal sandy flats from the Cape Peninsula to Hermanus in South Africa.

The *Ursinia* involucre is deceptively similar to that of *Arctotis* species in which the outer involucre bracts lack an apical appendage. It is therefore not surprising that a number of *Ursinia* species were named as *Arctotis* species (see Prassler 1967 for other *Arctotis* names known to apply to *Ursinia* species), before the fundamental morphological differences (e.g. in *Ursinia* paleate receptacle, non-alate cypselae, non-thickened style branches, ring of longer sweeping hairs on style absent, and stigmatic surface in two marginal bands; in *Arctotis* non-paleate receptacle, cypselae with 2-5 wings, style thickened in upper portion, ring of longer sweeping hairs at base of style thickening, and uniform stigmatic surface on style branches) were recognised. *Ursinia* is indisputably a member of the tribe Anthemideae (Oberprieler *et al.* 2007).

Candolle (1838) cited the name *Arctotis tenuifolia* Poir. as a synonym of *Dimorphotheca nudicaulis* (L.) DC. var. *graminifolia* (L.) Harv. but without comment on the reason for his decision. Norlindh (1943) stated that he followed Candolle in placing *Arctotis tenuifolia* Poir. as a synonym of *Castalis nudicaulis* (L.) Norl. var. *graminifolia* (L.) Norl. and that he had not examined original material on which the name was based. Online nomenclator databases (e.g., African Plant Database, <https://www.ville-ge.ch/musinfo/bd/cjb/africa/recherche.php>; Catalogue of Life; GBIF; Global Compositae Checklist; The Plant List) also list *Arctotis tenuifolia* Poir. as a synonym of *Dimorphotheca nudicaulis* var. *graminifolia*. However, *Dimorphotheca nudicaulis* var. *graminifolia* differs considerably in morphology from the specimen FI053597. The specimen FI053597 has a long woody stem, naked at the base, consistent with the rhizomatous habit of *Ursinia tenuifolia*, but inconsistent with the tufted growth habit of *Dimorphotheca nudicaulis* var. *graminifolia* (Fig. 1). In *Dimorphotheca nudicaulis* var. *graminifolia* the stems branch near the base and the leaves are concentrated in the lower portion of the stems. The leaves are simple, linear-lanceolate, up to c. 10 cm long, the lamina margin is often distantly dentate, and the lamina is somewhat scabrid and hispid. The involucre bracts (c. 15-20 per capitulum) are $\pm$ uniseriate, $\pm$ equal in length, monomorphic, lanceolate-linear, c. 10-18 mm long, and the apex is acute and not semi-translucent and papery. As in *Ursinia tenuifolia* the ray florets are reportedly sterile and the ray achenes vestigial (Norlindh 1943; Manning & Goldblatt 2012). However, the fertile disc florets form laterally flattened, obcordate or suborbiculate achenes with thickened margins and lack a pappus. Therefore, *Arctotis tenuifolia* Poir. is not conspecific with *Dimorphotheca nudicaulis* var. *graminifolia*. The name *Arctotis tenuifolia* Poir. is here placed in the synonymy of *Ursinia tenuifolia* subsp. *tenuifolia* (see Taxonomic Treatment).

The name *Sphenogyne tenuifolia* (L.) DC. var. *heterochroma* Harv. is a synonym of *Ursinia tenuifolia* subsp. *tenuifolia*, in agreement with Prassler (1967), differing primarily in the colour of the abaxial surface of the ray floret limb. Harvey (1865) stated that he examined material of *Sphenogyne tenuifolia* (including the autonym and var. *heterochroma*) lodged in TCD and the former Sonder herbarium (the latter specimens now predominantly in MEL and S; Nordenstam 1980). Harvey specified only one gathering explicitly identified as var. *heterochroma*, namely that of C. Wright 372 collected from “near Simonstown”. In her revision of *Ursinia* Prassler (1967) did not cite this gathering nor specify the type for *Sphenogyne tenuifolia* var. *heterochroma*. Specimens collected by Wright from the Cape in 1853 are lodged in GH, K and TCD (Glen & Germishuizen 2010). At present, material unequivocally from the Wright 372 gathering from “Simon’s Bay” has been traced only in TCD (barcode TCD0003031). Unnumbered collections by Wright from “Simon’s Bay” are lodged in K (barcode K000374031), GH (barcode GH00936440) and P (barcode P00135645). On the basis of this information, we here designate the speci-

men Wright 372 in TCD as the lectotype of *Sphenogyne tenuifolia* var. *heterochroma*. The unnumbered collections of *Ursinia tenuifolia* subsp. *tenuifolia* by Wright from “Simon’s Bay” can be considered to be isosyntypes.

TAXONOMIC TREATMENT

Dimorphotheca nudicaulis (L.) DC.
var. *graminifolia* (L.) Harv.
(Figs 1, 2)

In *Flora Capensis*, vol. 3: 419 (1865). — *Dimorphotheca graminifolia* (L.) DC., *Prodromus systematis naturalis regni vegetabilis*, vol. 6: 71 (1838). — *Castalis nudicaulis* (L.) Norl. var. *graminifolia* (L.) Norl., *Studies in Calenduleae* 1: 89 (1943). — Basionym: *Calendula graminifolia* L., *Species Plantarum*: 922 (1753). — Lectotype (designated by Norlindh 1943: 94): [icon] “*Bellis Africana florum pediculis foliosis foliis angustis et integris*” in Commelin, *Horti medici amstelodamensis rariorum tam Orientalis: quàm Occidentalis Indiae*,... 2: 67, f. 34 (1701).

Arctotis staticifolia Poir., *Encyclopédie méthodique. Botanique. Supplément* 1: 459 (1810), as ‘*staticifolia*’, **syn. nov.** — Neotype (designated here). — S.loc. as the lectotype, s.coll., IV.1821?, ex Herb. Poiret (neo-, P[P00126589, digital image!]).

Ursinia tenuifolia (L.) Poir. subsp. *tenuifolia*
(Fig. 3)

In *Encyclopédie méthodique, Botanique* 8: 259 (1808). — *Sphenogyne tenuifolia* (L.) DC., *Prodromus systematis naturalis regni vegetabilis*, vol. 5: 687 (1836). — Basionym: *Arctotis tenuifolia* L., *Mantissa Plantarum Altera*: 288 (1771). — Lectotype (designated by Prassler 1967: 409): Habitat in Cap. b. spei [Caput bonae spei] littore maritimo, s.coll., s.d., Herb. Linn. No. 1036.24 (LINN [digital image!]).

Arctotis tenuifolia Poir., *Encyclopédie méthodique, Botanique. Supplément* 1: 459 (1810), nom. illeg. (Art. 53.1), **syn. nov.** — Lectotype (designated here): South Africa, Cap de Bonne-Espérance, s.coll., s.d., ex Herb. Desfontaines (FI[FI053597!]).

Sphenogyne tenuifolia (L.) DC. var. *heterochroma* Harv. in Sond. & Harv., *Flora Capensis*, vol. 3: 148 (1865). — Lectotype (designated here): South Africa, Simon’s Bay, s.d., C. Wright 372 (TCD[TCD0003031, digital image!]).

Acknowledgements

Wendy Atkinson (LIV), Cécile Aupic (P), Nicholas Hind (K), Walter Kittredge (GH), Caroline Loup (MPU), Raneé Prakash (BM) and Olof Ryding (C) are gratefully thanked for searching holdings in their respective herbaria for potential type material. The curators of NBG and P are thanked for allowing access to specimens and making high-resolution images of specimens accessible, respectively. Anna Donatelli is gratefully thanked for providing a high-resolution image of type material in FI. Gigi Laidler (South African National Biodiversity Institute, Cape Town) is thanked for collection of material. An anonymous reviewer is also thanked for remarks on a previous version of the manuscript.

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Submitted on 5 February 2019;
accepted on 24 June 2019;
published on 21 November 2019.