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The genus *Pauridia* (Hypoxidaceae) amplified to include *Hypoxis* sect. *Ianthe*, *Saniella* and *Spiloxene*, with revised nomenclature and typification

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Abstract

Recent phylogenetic analyses show that the species of the southern African genera *Pauridia*, *Saniella* and *Spiloxene* and the Australian, Tasmanian and New Zealand *Hypoxis* sect. *Ianthe* form a highly supported, monophyletic clade. In keeping with earlier suggestions that these taxa doubtfully warrant separate status, and to avoid the recognition of *Hypoxis* and *Spiloxene* as paraphyletic, we expand the circumscription of *Pauridia* to include *Saniella*, *Spiloxene* and *Hypoxis* sect. *Ianthe*. As a result 33 new combinations at specific and infraspecific level are proposed and one epitype, two neotypes and 30 lectotypes are newly designated. Three basionyms, of which Linnaeus, Linnaeus filius and Lamarck are the authors, are also typified (*Amaryllis capensis*, *Hypoxis aquatica*, and *Hypoxis pumila*).

Key words: Hypoxidaceae, *Hypoxis*, new combination, *Pauridia*, *Saniella*, *Spiloxene*, taxonomy, typification

Introduction

For many years the circumscription of the genera included in the Hypoxidaceae R.Br. has posed major challenges to taxonomists studying the family (Nordal 1998, Burtt 2000). Past difficulties have been largely resolved, however, by the recent phylogenetic study of Kocyan *et al*. (2011), particularly with regard to understanding the relationships amongst the temperate southern hemisphere taxa, *Pauridia* Harvey (1838: 341), *Saniella* Hilliard & Burtt (1978: 70), *Spiloxene* Salisbury (1866: 44), and *Hypoxis* Linnaeus (1759: 986) sect. *Ianthe* (Salisbury 1866: 44) Bentham & Hooker (1883: 717).

Based on sequence data from four plastid DNA regions, Kocyan *et al*. (2011) confirmed the paraphyly of *Spiloxene*, as traditionally circumscribed by Nel (1914) and Garside (1936), and showed that *Spiloxene* is monophyletic only with the inclusion of *Pauridia*, *Saniella* and the Australian, Tasmanian and New Zealand species of *Hypoxis* belonging to sect. *Ianthe*, as given by Geerinck (1969) and Henderson (1987) (Fig. 1). Synapomorphies supporting this cladistically robust monophyletic group, referred to as the *Pauridia* clade by Kocyan *et al*. (2011), are the mucilage canals above the vascular bundles of the leaves (Rudall *et al*. 1998, Thompson 1976) and disulcate, micro-echinate pollen grains, with the exception of the secondarily derived trisulcate state in one of the Australian species (Simpson 1983, Rudall *et al*. 1998, Kocyan *et al*. unpubl. data).

According to Nel (1914: as *Ianthe*) and Garside (1936), *Spiloxene* is remarkably uniform, comprising species that differ little from each other, often by a few, subtle features. According to the later, alternative classification of Geerinck (1969), *Spiloxene* was placed under *Hypoxis*, within sect. *Ianthe*, adding to the several species from Australia, Tasmania and New Zealand previously placed here. This change was not favoured by South African botanists, who retained Nel's classification for the African taxa (Garside 1950,

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Thompson 1976, Thompson 1978, Manning *et al*. 2002), a decision which has been upheld since by the molecular-based phylogenetic study of Kocyan *et al*. (2011). The Australian, Tasmanian and New Zealand representatives of *Hypoxis* sect. *Ianthe* (Fig. 2E, F) are remarkably like the southern African species in *Spiloxene* (Fig. 2A–D, G, H). All are cormous, characteristically glabrous herbs, apart from a few, short teeth on the leaf margins in some species. The star-shaped flowers have six, rarely four, exposed stamens, a three-lobed stigma, and tepals which are mostly free from each other and inserted directly above the ovary. An often overlooked exception to this floral form is that of *Spiloxene alba* (Thunberg 1779: 26) Fourcade (1932: 76), which has tepals inserted on an elongated ovary beak (Fig. 2B). Burtt's (Burtt 2000) final treatment of *Saniella* relied only on the presence of an ovary beak and a bowl-shaped perigone tube to distinguish *Saniella* (Fig. 2J) from *Spiloxene*, so the continued separation of these genera remained doubtful.

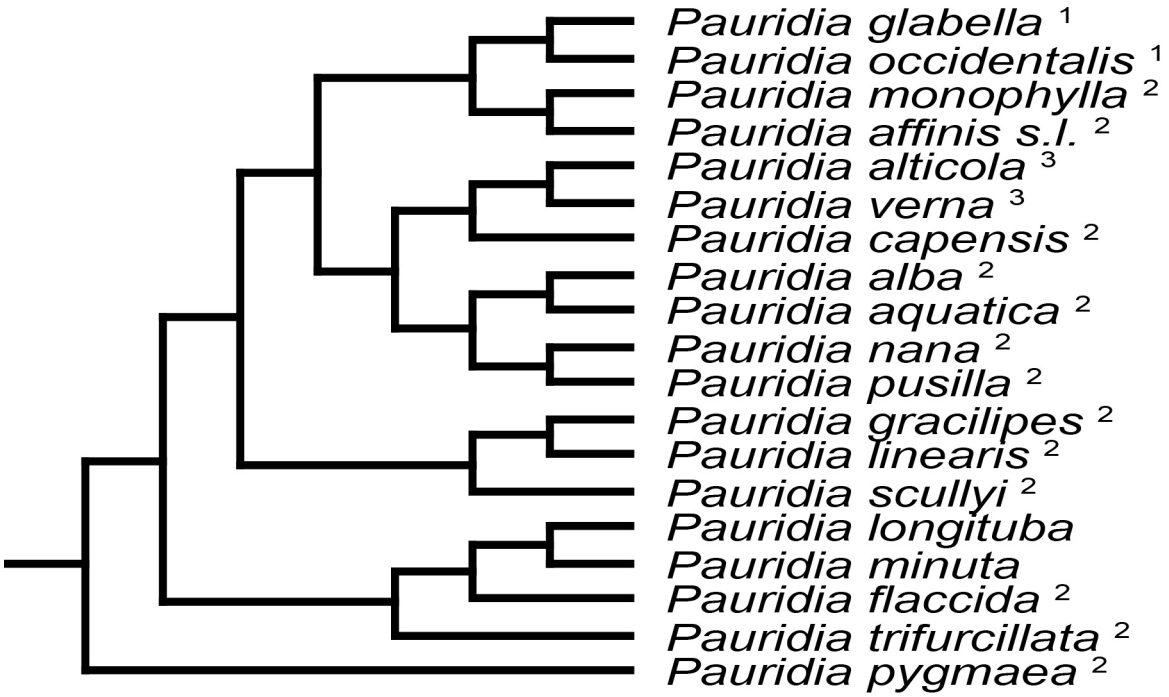

FIGURE 1. Cladogram illustrating the phylogenetic relationships of the 19 *Pauridia* species treated by molecular systematic means so far (redrawn after Kocyan *et al*. 2011). [1]Formerly in *Hypoxis* sect. *Ianthe*; [2]formerly in *Spiloxene*; [3]formerly in *Saniella*. Maximum likelihood heuristic bootstrap analysis = 100 for the clade.

Like *Saniella*, the flowers of *Pauridia* also have a cup-shaped perigone tube (Fig. 2I). *Pauridia*, however, is unusual within Hypoxidaceae in having only three fertile stamens and three short, hooked processes on the style, although the flowers do have the same vascular supply as normal six-stamened Hypoxidaceae flowers. This apart, its other characters are common to both *Spiloxene* and *Saniella*. In contrast, plants of *Hypoxis sensu stricto* differ from those in all the above taxa by having a vertical rhizome and a pubescent covering, at least on the outside of the flowers.

When *Spiloxene* was last revised, the species were divided among seven unranked groups, based primarily on small structural differences of the corm tunics (Nel 1914). None of these groups is supported in the study by Kocyan *et al*. (2011) and any attempts to divide the *Pauridia* clade into monophyletic subgroups would have to invoke various combinations of non-synapomorphic characters, making any formal reclassification unworkable. Consequently, we favour the recognition of one expanded genus, based on the known synapomorphies of leaf anatomy and pollen micromorphology. In so doing, we put into effect Burtt's (Burtt 2000) earlier suggestion that these taxa could warrant treatment as one genus. Since *Pauridia* has nomenclatural priority over *Spiloxene* and *Saniella*, the amplification of the genus necessitates several new combinations. In effect 33 more taxa are added to the two species, *P. minuta* (Linnaeus f. 1782: 92) Durand & Schinz (1894: 142) and *P. longituba* Thompson (1972: 163), already recognized within *Pauridia* by Thompson (1979).

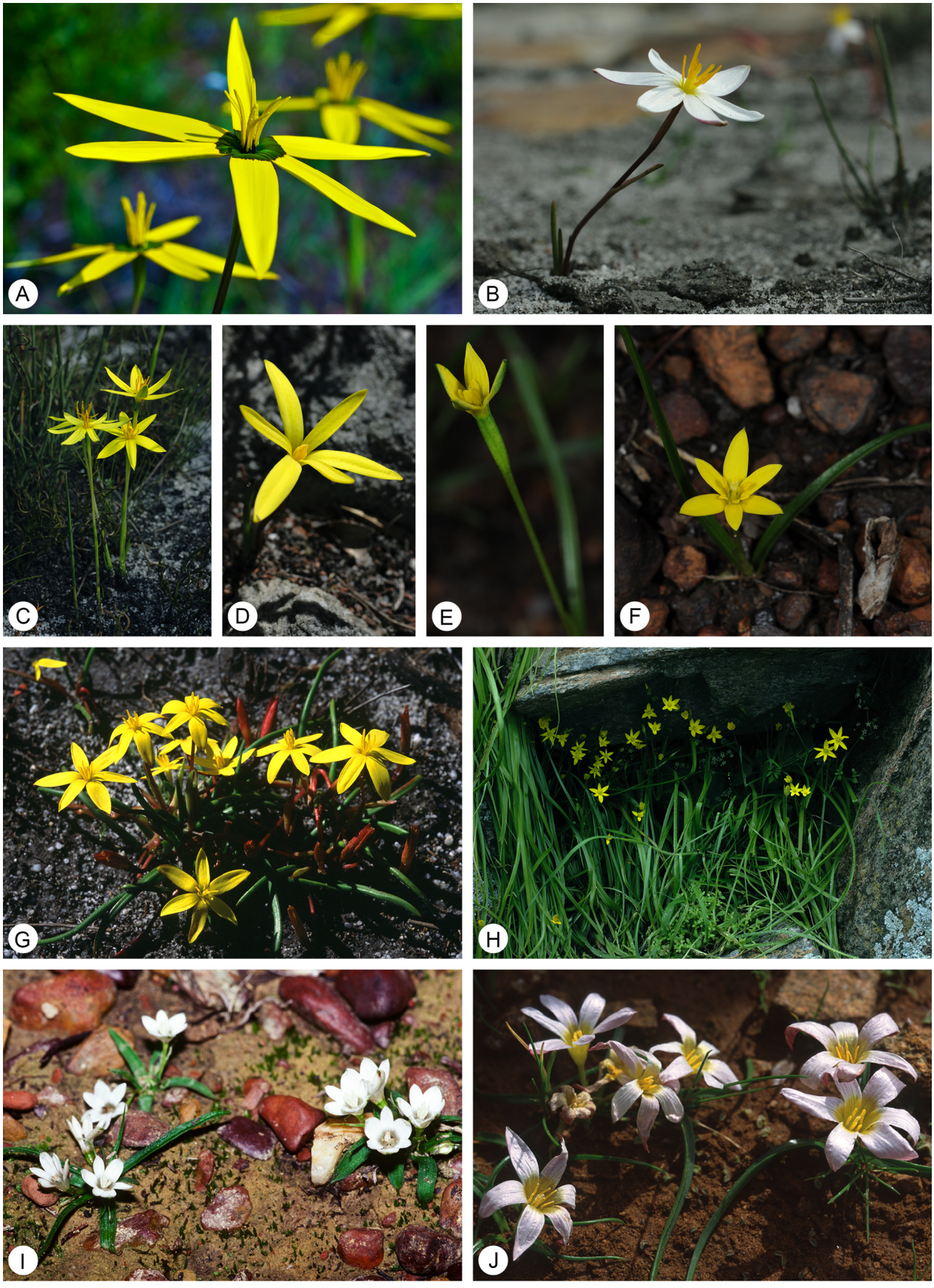

FIGURE 2. Flower diversity in *Pauridia*. A, *P. capensis*; B, *P. alba*; C, *P. curculigoides*; D, *P. monophylla*; E, *P. occidentalis* var. *quadriloba;* F, *P. gardneri;* G, *P. affinis*; H, *P. scullyi*; I, *P. minuta*; J, *P. alticola*. Species formerly in: *Spiloxene* (A–D, G, H); *Hypoxis* sect. *Ianthe* (E, F); *Saniella* (J). Photographs by J.C. Paterson-Jones (A–D, G–J) and A. Kocyan (E, F).

The name *Pauridia*, dating from 1838, has been consistently applied in all floristic treatments from that of Baker (1896) to the present day (Manning & Goldblatt 2012). The name *Spiloxene* only came into usage in 1932 (Fourcade 1932), having formerly been known by the illegitimate name *Ianthe* Nel (1914). Since then it has slowly gained acceptance in the floristic literature of southern Africa, but has always been given together with the closely allied genus *Pauridia*. This change in usage was applied only to the southern African taxa. After 1932, reference to *Ianthe*, rather than *Spiloxene*, can still be traced to Markötter (1936) and de Vos (1948). In Melchior (1964) and Hutchinson (1959) *Ianthe* was treated as a synonym of *Hypoxis*, whereas Geerinck (1969) and Henderson (1987) retained the name *Ianthe* as *Hypoxis* section *Ianthe*.

With the publication in recent years of several popular books on Cape plants, the name *Spiloxene* has gained modest usage amongst specialist bulb growers, mainly through *Spiloxene capensis* (Linnaeus 1760: 10) Garside (1936: 74) which has large, star-shaped flowers, often with brilliant peacock-coloured centres. The name *Pauridia*, in contrast, has been consistently used in literature for a much longer period than *Spiloxene* and although none of the species is in cultivation it is known to a growing number of non-taxonomists through images of the species in popular books (Manning *et al*. 2002), articles (Thompson 1980, Snijman 2008) and websites for citizen science [www.ispot.org.za/species_dictionary/Pauridia].

Since the nomenclatural changes proposed here are as a result of a changed taxonomic concept and since the possible advantages of proposing to use the name *Spiloxene*, which has never been consistently applied, do not outweigh the use of the taxonomically well-established name *Pauridia*, we resort to the rule of nomenclatural priority as given in the ICN (McNeill *et al*. 2012).

We make new combinations for all the Australian, Tasmanian and New Zealand taxa currently recognized within *Hypoxis* sect. *Ianthe*, but in other respects follow the previous taxonomic conclusions for the Flora of Australia (Henderson 1987). Since the typification of many of the southern African species has remained unresolved to date, we designate, where necessary, types for all the currently recognized taxa as given by Govaerts (2012) and discuss the particular problems associated with the names attributed to Linnaeus, Linnaeus filius and Lamarck. New names have been assigned to two species and the rank of one infraspecific taxon has been raised from variety to subspecies. Invalid names excluded from *Pauridia* sensu lato have been discussed by Nordenstam (1972: as *Spiloxene*).

Materials and methods

The names in bold, arranged alphabetically, are those in current use at the rank accepted by us. We cite or designate types for the accepted name of each taxon, but those for all the known corresponding synonyms, as given by Govaerts (2012), will be designated in a revision of *Pauridia* currently in preparation. A holotype, as interpreted below, is the single numbered specimen, as designated by the original author, who also stipulated the herbarium in which it is lodged. We have chosen lectotypes, epitypes and neotypes according to the relevant articles of the ICN (McNeill *et al*. 2012) and have examined all the relevant taxonomic literature. Herbarium material for the group has been studied in South Africa's major herbaria (BOL, GRA, NBG, NH, PRE, SAM) and on JSTOR Plant Science [http://plants.jstor.org/] for European herbaria. Images of important specimens were also obtained from B, G, K, LINN, M, P, PR and UPS (codes according to Thiers 2012).

Taxonomic treatment

Pauridia Harvey (1838: 341). Type (holotype):—*Pauridia hypoxidioides* Harvey (1838: 342), *nom. illeg.*, *superfl. pro Ixia minuta* Linnaeus f. (1782: 92) (McNeil *et al*. 2012: Art. 11.4). (= *Pauridia minuta* (L.f.) Durand & Schinz). *P. hypoxidioides* (= *Ixia minuta*) is the only species given in the protologue.

= *Ianthe* Salisbury (1866: 44), *nom. illeg.*, orthographical variant for *Janthe*, non *Janthe* Grisebach (1844: 40) (McNeil *et al*. 2012: Art. 53.1) ≡ *Hypoxis* subg. *Ianthe* (Salisb.) Baker (1878: 99) ≡ *Hypoxis* sect. *Ianthe* (Salisb.) Benth. in

Bentham & Hooker f. (1883: 717), *syn. nov.* Type (lectotype designated by Geerinck 1969: 76):—*Ianthe ovata* (L.f.) Salisb. ex Williams (= *Pauridia ovata* (L.f.) Snijman & Kocyan)

= *Ianthe* [unranked] *Aquaticae* Nel (1914: 290), *syn. nov.* Type (lectotype designated here):—*Ianthe aquatica* (L.f.) Williams (= *Pauridia aquatica* (L.f.) Snijman & Kocyan). The epithet of Nel's unranked taxon is based on this binomial and the description in the protologue is a good match for this species.

= *Ianthe* [unranked] *Flaccidae* Nel (1914: 296), *syn. nov.* Type (lectotype designated here):—*Ianthe flaccida* Nel (= *Pauridia flaccida* (L.f.) Snijman & Kocyan). The epithet of Nel's unranked taxon is based on this binomial and the description in the protologue is a good match for this species.

= *Ianthe* [unranked] *Minutae* Nel (1914: 299), *syn. nov.* Type (lectotype designated here):—*Ianthe minuta* (L.) Williams (= *Pauridia pygmaea* Snijman & Kocyan). This species is the only one mentioned in the protologue.

= *Ianthe* [unranked] *Ovatae* Nel (1914: 293), *syn. nov.* Type (lectotype designated here):—*Ianthe ovata* (L.f.) Salisb. ex Williams (= *Pauridia ovata* (L.f.) Snijman & Kocyan). The epithet of Nel's unranked taxon is based on this binomial and the description in the protologue is a good match for this species.

= *Ianthe* [unranked] *Pectinatae* Nel (1914: 299), *syn. nov.* Type (lectotype designated here):—*Ianthe schlechteri* (Bolus) Williams (= *Pauridia affinis* (Schult. & Schult.f.) Snijman & Kocyan). This species is the only one mentioned in the protologue.

= *Ianthe* [unranked] *Serratae* Nel (1914: 292), *syn. nov.* Type (lectotype designated here):—*Ianthe serrata* (Thunb.) Salisb. ex Williams (= *Pauridia serrata* (Thunb.) Snijman & Kocyan). This species is the only one mentioned in the protologue.

= *Ianthe* [unranked] *Stellatae* Nel (1914: 295), *syn. nov.* Type (lectotype designated here):—*Ianthe stellata* (Thunb.) Williams (= *Pauridia capensis* (L.) Snijman & Kocyan). The epithet of Nel's unranked taxon is based on this binomial and the description in the protologue is a good match for this species.

= *Spiloxene* Salisbury (1866: 44), *syn. nov.* Type (lectotype designated by Fourcade 1932: 76):—*Spiloxene stellata* (Thunb.) Salisb. ex Fourc. (= *Pauridia capensis* (L.) Snijman & Kocyan)

= *Saniella* Hilliard & Burtt (1978: 70), *syn. nov.* Type (holotype):—*Saniella verna* Hilliard & Burtt. This species is the only one mentioned in the protologue.

Note:—The genus *Ianthe* Salisb. was established in order to segregate the species with glabrous leaves and flowers occurring in southern Africa, Australia, Tasmania and New Zealand from those in the cosmopolitan genus *Hypoxis*, in which the plants characteristically have hairs at least on the flowers. Fourcade (1932) correctly argued against the generic name *Ianthe*, which is a later homonym and orthographical variant of *Janthe* Griseb. (McNeil *et al*. 2012: Art. 53.1), in favour of *Spiloxene*.

Pauridia acida (Nel) Snijman & Kocyan, *comb. nov*.

≡ *Spiloxene acida* (Nel) Garside (1936: 268)

Bas.:—*Ianthe acida* Nel (1914: 291). Type (holotype):—SOUTH AFRICA. [Western Cape], Langebergen, prope Zuurbraak, 3900 ft [1189 m], 23 January 1893, *R. Schlechter 2164* (B! No. 100089227 [image])

Pauridia aemulans (Nel) Snijman & Kocyan, *comb. nov*.

≡ *Spiloxene aemulans* (Nel) Garside (1936: 269)

Bas.:—*Ianthe aemulans* Nel (1914: 295). Type (holotype):—SOUTH AFRICA. [Western Cape], Prom. bon. sp., *Bergius s.n.* (B! No. 100088699 [image])

= *Ianthe pusilla* Brown (1933: 24), *nom illeg.*, *non Ianthe pusilla* (Hooker 1858: 36) Williams (1901: 292) (McNeil *et al*. 2012: Art. 53.1) ≡ *Hypoxis brownii* Geerinck (1969: 77). Type (lectotype designated here):—SOUTH AFRICA. [Western Cape], Riversdale Division; near Riversdale, June 20, 1933, Dr *J. Muir* (K! No. K000098835 [image]). The protologue for *Ianthe pusilla* N.E.Br. cites only one specimen, an un-numbered collection of *J. Muir*. The specimen in K, which has been annotated as *Ianthe pusilla* by N.E.Brown himself, is designated as lectotype.

Pauridia affinis (Schult. & Schult.f.) Snijman & Kocyan, *comb. nov*.

Bas.:—*Hypoxis affinis* Schultes & Schultes (1830: 774). Type (lectotype designated here):—SOUTH AFRICA. [Cape], Caput bonae spei, 1820, *Brehm s.n.* (M! [image]). *Brehm s.n*. (M) is annotated in Schultes' hand as '*Hypoxis affinis* Syst. Veg' and the specimen clearly matches the protologue.

= *Hypoxis pusilla* Presl (1845: 546), *nom. illeg*., *non* Kunth (1816: 286), *non* Hooker (1858: 36. t. 130B) (McNeil *et al*. 2012: Art. 53.1). Type (lectotype designated here):—SOUTH AFRICA. [Cape], Caput bona spei, *Sieber* Fl. capensis. No. 126 (PR! 290808/1709 [image]). Sieber's collection, labeled 'Fl capensis. No. 126' is the only specimen mentioned in the protologue. No mention is made of where it is lodged.

= *Hypoxis schlechteri* Bolus (1893: 2259) ≡ *Ianthe schlechteri* (Bolus) Williams (1901: 292) ≡ *Hypoxis curculigoides* var. *β schlechteri* (Bolus) Baker (1896: 176) ≡ *Spiloxene schlechteri* (Bolus) Garside (1936: 269), *syn. nov.* Type (lectotype designated here):—SOUTH AFRICA. [Western Cape], prope Kenilworth, 1892, *R. Schlechter 628* (K! No. K000255983 [image]). The protologue mentions just one specimen, *R. Schlechter 628*, but Bolus (1893) does not refer to any particular herbarium where it is housed.

Note:—Until now *Hypoxis affinis* has been treated as a synonym of *Spiloxene alba*, possibly explaining why the name was overlooked by Bolus (1893), who later described matching plants as *H. schlechteri*. Like *H. affinis*, the early collections of *H. schlechteri* have also often been misidentified as *S. alba*, likely due to the apparent similarities in their succulent, terete leaves, which are often immature at the outset of flowering, and the flowers which are pink or reddish below. The southwestern Cape *S. schlechteri* has small, blackish brown corms covered by hard, fibrous ribs, which are simple and pectinate below and reticulate above, and the flowers, although yellow when fresh, characteristically dry reddish brown on the back, often fading to white ventrally, all features mentioned in the protologue of *H. affinis*. In contrast, *S. alba* has large, mostly naked corms with fine, brown fibres confined to a loose tuft above.

Pauridia alba (Thunb.) Snijman & Kocyan, *comb. nov.*

≡ *Spiloxene alba* (Thunb.) Fourcade (1932: 76)

Bas.:—*Fabricia alba* Thunberg (1779: 26) (excluding var. *1* Thunberg 1779: 27) ≡ *Hypoxis alba* (Thunb.) Linnaeus f. (1782: 198). Type (lectotype designated here):—SOUTH AFRICA. [Western Cape], Promontorii Bonae Spei, *Thunberg s.n.* (UPS-THUNB! No. 8248 [image]). Included amongst Thunberg's collections in UPS are three sheets annotated as '*Hypoxis alba*'. Sheet 8248 is the one that most clearly shows the diagnostic, oblong ovary (fruit) mentioned in the protologue.

= *Hypoxis pumila* Lamarck (1789: 184), *syn. nov.* Type (lectotype designated here):—SOUTH AFRICA. Cap de Bonne-espérance, *Lamarck s.n.* (P! No. P00562768 [image], solitary-flowered specimen on right hand side of sheet). To date *Hypoxis pumila* has been treated as a synonym of *Spiloxene minuta* (L.) Fourcade (1932: 76), most recently by Govaerts (2012: record number 279164). The protologue of *H. pumila* states: "*scapis foliosis unifloris*" which is at variance with that of *Helonias minuta* Linnaeus (1771: 225), the basionym of *S. minuta*, which has "*scapis ramosis*". Lamarck's collection (P) includes one sheet that bears the name *Hypoxis pumila*. The plant on the left hand side of the sheet bears two inflorescences and the scape in each bears two flowers. This is taken to match Linnaeus' description of "*scapis ramosis*" for *S. minuta*, on the assumption that the "divided scape" refers to the scape 'dividing' apically into a two-flowered inflorescence. The plant on the right hand side of the sheet, in contrast, bears a single-flowered inflorescence which is in accordance with Lamarck's description, hence its choice as lectotype of *H. pumila*. It matches some of the smallest representatives of *Pauridia alba*.

Note:—According to Bullock (1962), *Fabricia* Thunberg (1779: 23) is a synonym of the legitimately named *Empodium* Salisbury (1866: 43). Plants belonging to *Fabricia alba*, the basionym of *Pauridia alba*, have none of the diagnostic features of *Empodium*, namely a unilocular ovary with three parietal placentas and an inflorescence which consists of a single flower without bracts.

Pauridia alticola Snijman & Kocyan, *nom. nov.*

Bas.:—*Forbesia occidentalis* Nel (1914: 289) ≡ *Saniella occidentalis* (Nel) Burtt (2000: 69). Type (lectotype designated here):—SOUTH AFRICA. [Northern Cape], Hantam Geb[ied], 1869, *Meyer s.n.* (B! No. 100089229 [image]) (McNeil *et al*. 2012: Art. 7.4). In B only one sheet collected by Meyer has been annotated by Nel as '*Forbesia occidentalis'*. Nel's protologue; fails to indicate the number of the exsiccatum in B, thus this sheet is designated a lectotype.

Note:—Bullock (1962) correctly treated *Forbesia* Ecklon ex Nel (1914: 243), a later homonym for *Forbesia* Johnson (1912: 177), as a synonym of *Empodium* Salisb. Due to several important morphological differences from the other species of *Forbesia*, namely white (not yellow) flowers and V-shaped (not plicate) leaves, *Forbesia occidentalis* was subsequently transferred into *Saniella* (Burtt 2000). Since the epithet 'occidentalis' is taken up in the Australian species with the basionym *Hypoxis occidentalis* Bentham (1873: 451), we assign a new name to this previously much misunderstood species from Northern Cape, South Africa.

Pauridia aquatica (L.f.) Snijman & Kocyan, *comb. nov.*

≡ *Spiloxene aquatica* (L.f.) Salisb. ex Fourcade (1932: 76)

Bas.:—*Hypoxis aquatica* Linnaeus f. (1782: 197) ≡ *Ianthe aquatica* (L.f.) Williams (1901: 292). Type (lectotype designated here):—SOUTH AFRICA. in humidis argillosus, *Sp[arrman] 124* (LINN! No. 1238.3, [under *Chrysitrix* Linnaeus (1771: 165), with a note by J.E.Smith 'found in *Restio'*], umbellate plant without flowers on right hand side of sheet [image]). Type (epitype designated here):—SOUTH AFRICA. [Western Cape], ad rivulos tum in stagnis prope Cape Town, Julio 1877, *H. Bolus 2814* (BOL!)

Typification:—Because the lectotype of *Hypoxis aquatica* is inadequate for critical study we designate an epitype to support the lectotypification (McNeil *et al*. 2012: Art. 9.8). *H. Bolus 2814* shows the characteristic inflorescence and slender leaves, as recognized in recent accounts of the species (Garside 1950, Manning *et al*. 2002).

Note:**—***Pauridia aquatica*, well known as *Spiloxene aquatica*, is widespread in the Greater Cape Floristic Region, South Africa. The protologue of *Hypoxis aquatica* indicates that the younger Linnaeus (1782) was unable to find the type specimen of this species in his father's herbarium: "*Hanc ego non vidi, mirror itaque unde descriptio facta fuit, cum nondum in Herbario eam reperire potui*." A study of manuscript material in possession of the Linnean Society, London (Barnard 1970), has revealed that the type specimen of *Hypoxis aquatica* is *Sparrman 124* (LINN 1238.3), filed under *Chrysitrix*. The original details of Sparrman's collection 'Sp. 124' appear in the list compiled by Linnaeus which is referred to by Savage (1945) as the 'Sparrmanni Capenses Ms. list ca. 1772'. Sparrman's number 124 appears in the third part of this list against the words 'Dioecia hexandria', the Class to which the plant might belong, following Sparrman's opinion that the plants' solitary flowers are hermaphrodite but the umbellate flowers (on the right hand side of the sheet and now missing) were male. Thus in this list, Linnaeus placed No. 124 between *Viscum* Linnaeus (1753: 1023) (Dioecia tetrandria) and *Arctopus* Linnaeus (1753: 1058) (Polygamia dioecia). He also gave the plant a new name, *Hydrophylax* (Linnaeus f. 1782: 126), for which the flowers are described as '*in aliis solitarii hermaphroditi in aliis umbellate mares*'. The original generic and specific descriptions are given on two slips in the Slip Index in the Linnean Society's Library. These descriptions were later transcribed into the Amannensis Draft for Mantissa 3: the generic description of *Hydrophylax* on page 16 and the species description, still without a specific name, on page 124. Only later did Linnaeus add, in his own hand, the specific epithet '*natans*'. Among the many alterations that Linnaeus subsequently made to the Draft, two relate to *Hydrophylax*. The two entries for *Hydrophylax* and *natans* were crossed out and inserted on the interleaf opposite *Hypoxis* (page 49). Here Linnaeus has rewritten the description of *Hydrophylax natans* under the name *Hypoxis aquatica*, but in so doing he omitted the reference to Sparrman as the collector. Having used the Amannensis Draft of Mantissa 3 as the basis of his own work, this is the entry that the younger Linnaeus would have found and published in the Supplementum (Linnaeus f. 1782) as *Hypoxis aquatica*.

James Edward Smith, who was in possession of Linnaeus's collections for several years, may have been responsible for having placed the type sheet, which is devoid of a name, under *Chrysitrix*. His handwriting on a note attached to the specimen suggests that he found it incorrectly placed, having been 'found in *Restio*'. It is likely that he then checked Sparrman's number with the Sparrmanni Capenses list. Finding it cited next to *Arctopus* (Polygamia dioecia), it is probable that he assigned the sheet to *Chrysitrix*, the only genus in that class to which it could possibly belong.

Since no flowers remain in the four-pedicellate umbel of the plant on the right hand side of the sheet, it can never be known why Sparrman and Linnaeus thought these flowers were male. Field studies have shown, however, that the flowers of this and other species of *Pauridia* are frequently visited by beetles which feed on the floral parts (Kocyan *et al*. 2011: as *Spiloxene*). Hence it is probable that Sparrman's 'male flowers' in *Pauridia aquatica* were beetle-induced.

The fruiting plant on the left hand side of the sheet of Sparrman's collection is typical of *Spiloxene capensis* (Linnaeus 1760: 10) Garside (1936: 74) or *Spiloxene canaliculata* Garside (1942: 249) in having a long, solitary sheathing bract inserted at the articulation between the scape and pedicel. The identity of the detached flower mounted on the top left hand corner of the sheet, however, remains uncertain.

Pauridia canaliculata (Garside) Snijman & Kocyan, *comb. nov.*

Bas.:—*Spiloxene canaliculata* Garside (1942: 249). Type (holotype):—SOUTH AFRICA. [Western Cape], roadside near stream between Darling and Yzerfontein, 18 September 1932, *Garside 4211* (BOL!)

Pauridia capensis (L.) Snijman & Kocyan, *comb. nov.*

≡ *Spiloxene capensis* (L.) Garside (1936: 74)

Bas.:—*Amaryllis capensis* Linnaeus (1760: 10), *non* Miller (1768: 12). Type (neotype designated here):—SOUTH AFRICA. [Cape], Caput bonae spei, *Oldenland s.n.* (G! in Collection Burman [image], named *Sisyrinchium aethiopicum foliis gramineis* [?] *nivei anthos Sisyrinchium Cornuti Hist Canad. 168*)

Concerted efforts to trace any original material annotated in Linnaeus' hand of *Amaryllis capensis*, the basionym of *Pauridia capensis*, have proved to be problematic (Jarvis 2007). The only reference to original material in Linnaeus' (1760) protologue is to *Sisyrrhinchium* (sic) in Cornut (1635), but with no reference to a page or figure number. Cornut's work includes an illustration (Cornut 1635: 165 t. Xiij) of *Sisynrichium indicum* (sic), which is later explicitly referred to by Linnaeus (1762) as a synonym of *Amaryllis capensis*. The figure depicts a plant in which the flowers have five tepals, none with a dark base, a solitary, capitate stigma and a scape which lacks a persistent spathe. None of these features match the protologue: '*Scapus infra medium vaginatus. Petala lanceolata, basi interiore atra. Stigmata tria*', and consequently, it cannot be eligible as the lectotype of *Amaryllis capensis*. The reference to Cornut's publication does, however, provide a link to a sheet in Burman's herbarium (G), the source for Linnaeus' *Plantae Rariores Africanae* (Jarvis 2007), which was based largely on the plants collected by Oldenland circa 1695. This sheet has two plants mounted on paper cut from some other source and it is annotated in writing that matches Oldenland's hand, with the phrase name *Sisyrinchium aethiopicum foliis gramineis* [?] *nivei anthos*, with reference to *Sisyrinchium Cornuti Hist Canad. 168*. We presume that the page number 168 is a typographic error for 165, since the description on page 168 of this work is of a plant referred to as *Solidago maxima*. The dried plants are numbered two and three respectively above each corm and they appear to be part of a set comprising at least an additional specimen, numbered four in the same hand, mounted on paper characterized by an irregularly cut top right edge and annotated '*Amaryllis capensis*', thought to be in the hand of Burman. The unevenly cut corner suggests that this sheet is also one of Oldenland's collections (see Jarvis 2007: 224), probably removed from an original volume believed to have held his Cape collections (Nordenstam 1968: 92). Although the plants on both sheets of this set correspond well with Linnaeus' protologue of *Amaryllis capensis*, the sheet referring to Cornut's publication in Oldenland's hand shows the characteristics most clearly. The scape is sheathed below the middle by a persistent spathe and although the stigma is concealed in the left hand specimen, it is exposed and clearly 3-branched in the adjacent plant. The dark spots at the base of the tepals, which were explicitly described by Linnaeus (1760), can be seen clearly in the left hand plant. To maintain what has become established usage of the epithet in *Spiloxene* from 1936 onwards (Garside 1936, Arnold & De Wet 1993, Goldblatt & Manning 2000, Manning *et al*. 2002, Germishuizen & Meyer 2003, Klopper *et al*. 2006), we designate a neotype of *Amaryllis capensis*, namely *Oldenland s.n.* (G!, the sheet with the phrase name, *Sisyrinchium aethiopicum foliis gramineis* [?] *nivei anthos Sisyrinchium Cornuti Hist Canad. 168*) in Burman's herbarium.

= *Fabricia stellata* Thunberg (1779: 27) ≡ *Hypoxis stellata* (Thunb.) Linnaeus f. (1782: 197) ≡ *Spiloxene stellata* (Thunb.) Salisbury (1866: 44) ≡ *Ianthe stellata* (Thunb.) Williams (1901: 292). Type (lectotype designated here):—SOUTH AFRICA. [Cape], Cap. b. Spei, *Thunberg s.n.* (UPS-THUNB! No. 8266 [image]). Three sheets amongst Thunberg's collections in UPS are annotated '*Hypoxis stellata*'. Sheet 8266 is chosen as lectotype since it clearly shows the contrasting colour at the base of each tepal as mentioned in Thunberg's protologue.

= *Hypoxis stellata* var. *1 albiflora* Baker (1878: 101), *syn. nov.* [*Hypoxis stellata* var. α Thunberg (1823: 304)]. Type (lectotype designated here):—SOUTH AFRICA. [Cape], Caput bonae spei, *Thunberg s.n.* (UPS-THUNB! 8264 [image]). We choose sheet 8264 from Thunberg's collection in UPS which is marked '*Hypoxis stellata* α' to apply the concept of "*Hypoxis stellata α* Thunb." which is referred to in Baker's protologue (Baker 1878).

Note:—*Fabricia stellata* was mistakenly allied with *Fabricia plicata* Thunberg (1779: 29), designated by Bullock (1962) as the type of *Fabricia* Thunb., a synonym of *Empodium* Salisb.

Pauridia curculigoides (Bolus) Snijman & Kocyan, *comb. nov.*

≡ *Spiloxene curculigoides* (Bolus) Garside (1936: 269)

Bas.:—*Hypoxis curculigoides* Bolus (1893: 2259) ≡ *Ianthe curculigoides* (Bolus) Williams (1901: 292). Type (lectotype designated here):—SOUTH AFRICA. [Western Cape], prope Kenilworth, 80 ft [24 m], May, *R. Schlechter 627* (K! No. K000255993 [image], isolectotypes B! No. 100088700 [image], ZT!)

Typification:—Bolus (1893) specifies only one collection in his protologue: *R. Schlechter* (No. 627). Since none of the exsiccata bears Bolus' handwriting, we designate the specimen in K as lectotype since it best matches the description and illustration in the protologue.

Pauridia etesionamibensis (Müll.-Doblies *et al*.) Snijman & Kocyan, *comb. nov.*

Bas.:—*Spiloxene etesionamibensis* Müller-Doblies *et al*. (2011: 320). Type (holotype):—NAMIBIA. Farm Spitskop (LUS 111), 25 September 1977, *Merxmüller & Giess 32268* (M! [image], isotype WIND!)

Pauridia flaccida (Nel) Snijman & Kocyan, *comb. nov.*

≡ *Spiloxene flaccida* (Nel) Garside (1936: 74)

Bas.:—*Ianthe flaccida* Nel (1914: 298). Type (lectotype designated here):—SOUTH AFRICA. [Western Cape], Sir Lowry's Pass, 400 ft [122 m], 16 July 1892, *R. Schlechter 1141* (B! No. 100088697 [image], isolectotype ZT!)

Typification:—Of the eight different collections listed in Nel's protologue (Nel 1914), we select as lectotype the numbered *Schlechter* specimen in B, which is the only one inscribed by Nel.

Pauridia gardneri (R.J.F.Hend.) Snijman & Kocyan, *comb. nov.*

Bas.:—*Hypoxis gardneri* Henderson (1987: 487). Type (holotype):—AUSTRALIA. Western Australia, Mundaring Weir, E of Perth, 12 July 1920, *C.A. Gardner 542* (PERTH)

Pauridia glabella (R.Br.) Snijman & Kocyan, *comb. nov.*

Bas.:—*Hypoxis glabella* Brown (1810: 289). Type (lectotype designated by Henderson 1987: 487):—AUSTRALIA. Victoria, Arthurs Seat, Port Phillip, May 1802, *R. Brown Iter Australiense 5634* (BM [portion of sheet with Brown's original tag, annotated 'Hypoxis glabella prod. 289'])

Pauridia glabella var. ***leptantha*** (Benth.) Snijman & Kocyan, *comb. nov.*

≡ *Hypoxis glabella* var. *leptantha* (Benth.) Henderson (1987: 488)

Bas.:—*Hypoxis leptantha* Bentham (1873: 451) ≡ *Ianthe leptantha* (Benth.) Williams (1901: 292). Type (lectotype designated by Henderson 1987: 488):—AUSTRALIA. Western Australia, Swan River, 1843, *J. Drummond s.n.* (K [single plant on extreme right of top row of plants])

Pauridia gracilipes (Schltr.) Snijman & Kocyan, *comb. nov.*

≡ *Spiloxene gracilipes* (Schltr.) Garside (1936: 268)

Bas.:—*Hypoxis gracilipes* Schlechter (1900: 88) ≡ *Ianthe gracilipes* (Schltr.) Williams (1901: 292). Type (lectotype designated here):—SOUTH AFRICA. [Western Cape], Piqueniers Kloof, 2000 ft [610 m], 29 June 1896, *R. Schlechter 7957* (BOL!, isolectotypes E, K! No. K000255996 [image], COI! [image], GRA!, LISC! [image], PRE!, S! [image]). *R. Schlechter 7957*, the only collection given in the protologue, is not associated with any particular herbarium. As lectotype we designate the numbered specimen in K since it shows the characteristic inflorescence described in the protologue, namely the slender scape that is devoid of all but the most minute bract.

= *Ianthe cuspidata* Nel (1914: 294) ≡ *Spiloxene cuspidata* (Nel) Garside (1936: 268) ≡ *Hypoxis cuspidata* (Nel) Geerinck (1969: 78), *syn. nov.* Type (holotype):—SOUTH AFRICA, [Western Cape], Brakfontein, *Ecklon & Zeyher [Hypoxid 19]* (B! No. 100089225 [image], isotype W). Nel's protologue mentions a single pair of numbered specimens, one in B and the other in W (Nel 1914). The holotype, which is annotated by Nel as the "original", is in B.

Note:—*Spiloxene gracilipes* was informally treated as part of the *S. ovata* (Linnaeus f. 1782: 197) Garside (1936: 268) complex in Goldblatt & Manning (2000: 110). Further studies have resolved several differences between the two species (D. Snijman in prep.). The yellow-flowered *Pauridia gracilipes* is widespread in the western part of the Greater Cape Floristic Region, unlike *P. ovata* (L.f.) Snijman & Kocyan, which has white flowers and is restricted to the Overberg in the southern part of the Cape Region.

Plants of *Pauridia gracilipes* vary considerably in size and the most diminutive forms of the species, found in the Olifants River Valley, Western Cape, resemble the type of *S. cuspidata*. As did Hilliard & Burtt (1978), we disagree with some of the statements made by Nel (1914), who regarded *S. cuspidata* as having two filiform bracts on the scape, whereas only one is evident on the type specimen.

Pauridia linearis (Andrews) Snijman & Kocyan, *comb. nov.*

≡ *Spiloxene linearis* (Andrews) Garside (1936: 268)

Bas.:—*Hypoxis linearis* Andrews (1801: t. 171) ≡ *Hypoxis stellata* var. *linearis* (Andrews) Baker (1878: 101) ≡ *Ianthe linearis* (Andrews) Salisb. ex Williams (1901: 292). Type (lectotype designated here):—(illustration in) Andrews (1801: t.171)

Typification:—The colour plate, painted from a plant grown in Hibbert's living collection at Clapham, is designated as the lectotype since it clearly shows the flower's colour, an important character given in the protologue. A dried voucher specimen of this plant is not known.

Note:—Although *Spiloxene linearis* was regarded as part of the *S. serrata* (Thunberg 1779: 29) Garside (1936: 268) complex in Goldblatt & Manning (2000: 110), the name has never been formally placed into synonymy with *S. serrata*. Currently it is recognized as a highly localized, Vulnerable species in the Red List of South African plants (Raimondo *et al*. 2009: 125).

Pauridia maximiliani (Schltr.) Snijman & Kocyan, *comb. nov.*

≡ *Spiloxene maximiliani* (Schltr.) Garside (1936: 268)

Bas.:—*Hypoxis maximiliani* Schlechter (1900: 89) ≡ *Ianthe maximiliani* (Schltr.) Williams (1901: 292). Type (lectotype designated here):—SOUTH AFRICA. [Western Cape], Olifantsrivier, 300 ft [91 m], 2 July 1896, *R. Schlechter 7994* (BOL!, isolectotypes E, GRA!, K! No. K000256006 [image], NH!, PRE!, ZT!)

Typification:—Schlechter (1900) mentions only one of his numbered collections in the protologue, without any reference to where it was seen. The specimen in BOL is of two whole plants which show clearly the submembranous bracts described in the protologue.

Note:—*Spiloxene maximiliani* was incorrectly listed as a synonym of *S. umbraticola* (Schlechter 1900: 89) Garside (1936: 269) in Germishuizen & Meyer (2003) and Klopper *et al*. (2006). Although superficially resembling each other in leaf, *S. maximiliani* is distinguished by a unilocular ovary, unlike the fully three-locular *S. umbraticola*.

Pauridia monophylla (Schltr. ex Baker) Snijman & Kocyan, *comb. nov.*

≡ *Spiloxene monophylla* (Schltr. ex Baker) Garside (1936: 269)

Bas.:—*Hypoxis monophylla* Schltr. ex Baker (1897: 531) ≡ *Ianthe monophylla* (Schltr. ex Baker) Williams (1901: 292). Type (lectotype designated here):—SOUTH AFRICA. [Western Cape], Elim, 500 ft [152 m], 18 April 1896, *R. Schlechter 7615* (K! No. K000255995 [image], isolectotypes B! No. 100165530 [image], BOL!, E, GRA!, LISC! [image], PRE!, S! [image], SAM!, WAG! [image])

Typification:—In his protologue Baker (1897) cited just one collection, *Schlechter 7615*. This collection consists of several sheets, one of which is housed at K, where J.G. Baker was in a position to have examined the specimen.

Pauridia nana (Snijman) Snijman & Kocyan, *comb. nov.*

Bas.:—*Spiloxene nana* Snijman (2006: 133). Type (holotype):—SOUTH AFRICA. Northern Cape, Nieuwoudtville, Oorlogskloof Nature Reserve, 773 m, 11 October 2000, *W.A.J. Pretorius 589* (NBG!, isotypes K!, MO!, PRE!)

Pauridia occidentalis (Benth.) Snijman & Kocyan, *comb. nov.*

Bas.:—*Hypoxis occidentalis* Bentham (1873: 451). Type (lectotype designated by Henderson 1987: 489):—AUSTRALIA. Western Australia, Upper Hay River, 1870, *Warburton s.n.* (K [plant on extreme left hand side of sheet], isolectotype MEL)

Pauridia occidentalis var. ***quadriloba*** (F.Muell.) Snijman & Kocyan, *comb. nov.*

≡ *Hypoxis occidentalis* var. *quadriloba* (F.Muell.) Henderson (1987: 489)

Bas.:—*Hypoxis glabella* var. *quadriloba* Mueller (1867: 96). Type (lectotype designated by Henderson 1987: 489):—AUSTRALIA. Western Australia, Upper Kalgan River, October 1867, *F. Mueller s.n.* (MEL No. 107298)

Pauridia ovata (L.f.) Snijman & Kocyan, *comb. nov.*

≡ *Spiloxene ovata* (L.f.) Garside (1936: 268)

Bas.:—*Hypoxis ovata* Linnaeus f. (1782: 197) ≡ *Ianthe ovata* (L.f.) Salisb. ex Williams (1901: 292). Type (lectotype designated here):—SOUTH AFRICA. [Cape], *Thunberg s.n.* (UPS-THUNB! No. 8260 [image])

Typification:—In his protologue, Linnaeus f. (1782) mentions material collected by *Thunberg*. Amongst Thunberg's collections at UPS there are three sheets labeled *Hypoxis ovata*. Sheet number 8260 matches the protologue most closely in having white flowers. These flowers characteristically have dark undersides, which are clearly visible in this specimen.

Pauridia pusilla (Snijman) Snijman & Kocyan, *comb. nov.*

Bas.:—*Spiloxene pusilla* Snijman (2006: 135). Type (holotype):—SOUTH AFRICA. Western Cape, Vanrhynsdorp District, Driekoppen Peak, Gifberg Mountains, 2000 ft [610 m], 6 September 1964, *Esterhuysen 30747* (NBG!, isotypes B!, BOL!, K!, MO!, PRE!, Z!)

Pauridia pygmaea Snijman & Kocyan, *nom. nov.*

Bas.:—*Helonias minuta* Linnaeus (1771: 225) ≡ *Fabricia minuta* (L.) Thunberg (1779: 25) ≡ *Hypoxis minuta* (L.) Linnaeus f. (1782: 197) ≡ *Ianthe minuta* (L.) Williams (1901: 292) ≡ *Spiloxene minuta* (L.) Fourcade (1932: 76). Type (neotype designated here):—SOUTH AFRICA. [Cape], (LINN! No. 427.12 [image]) (McNeil *et al*. 2012: Art. 7.4)

Typification:—In the protologue of *Helonias minuta*, Linnaeus (1771) referred to a collection by Koenig [König], but no original material has been traced (Jarvis 2007). The neotype designated here, (LINN No. 427.12), which bears the name *Hypoxis minuta* in Linnaeus filius' hand, clearly matches Linnaeus' (1771) protologue of *Helonias minuta*. The plant on sheet 427.12 has been mounted with the base of the corm facing upwards to reveal its truncate base and distinct, broad basal rim, above which the fibrous tunics converge towards the narrow neck. This distinctively shaped corm, which matches the description in the protologue, is unique to the species. Given that the epithet is occupied in *Pauridia minuta* Durand & Schinz (1894: 142), the species is newly named *Pauridia pygmaea*.

Note:—We agree with Thompson (1979) that *Fabricia minuta* does not constitute a synonym of *Pauridia minuta*, as given by Geerinck (1969), since the plant under this name has six stamens, unlike the three-stamened *P. minuta*. Hence the name *F. minuta* is treated here as a synonym of *Pauridia pygmaea*. *Fabricia minuta* was incorrectly assigned to the genus *Fabricia* Thunb. which, following the typification of the genus by Bullock (1962), is a synonym of *Empodium* Salisb. Linnaeus (1771) incorrectly included *Helonias minuta* in his genus *Helonias* (1753: 342), the type of which is *Helonias bullata* Linnaeus (1753: 342) that falls within the family Melanthiaceae Batsch.

Pauridia salina (M.Lyons & Keighery) Snijman & Kocyan, *comb. nov.*

Bas.:—*Hypoxis salina* Lyons & Keighery (2007: 318). Type (holotype):—AUSTRALIA. Western Australia, Chinocup Nature Reserve, 27 October 2006, *M.N. Lyons & S.D. Lyons 4890* (PERTH 07575793, isotypes CANB, MEL)

Pauridia scullyi (Baker) Snijman & Kocyan, *comb. nov.*

≡ *Spiloxene scullyi* (Baker) Garside (1936: 268)

Bas.:—*Hypoxis scullyi* Baker (1889: 2). Type (lectotype designated here):—SOUTH AFRICA. [Northern Cape], Namaqualand, *Scully s.n.* (com. G. Scott-Elliott) (K! No. K000256008 [image])

Typification:—The protologue mentions just one un-numbered collection, *Scully*, which was described as having been "received very lately from Mr. Scott Elliott". The *Scully* collection in K, designated as lectotype, is the only one annotated "Com. G. Scott-Elliot 11. 1888".

Pauridia serrata (Thunb.) Snijman & Kocyan, *comb. nov.*

≡ *Spiloxene serrata* (Thunb.) Garside (1936: 268)

Bas.:—*Fabricia serrata* Thunberg (1779: 29) ≡ *Hypoxis serrata* (Thunb.) Linnaeus f. (1782: 197) ≡ *Ianthe serrata* (Thunb.) Salisbury (1866: 44). Type (lectotype designated here):—SOUTH AFRICA. [Cape] Cap. b. Spei, *Thunberg s.n.* (UPS-THUNB! No. 8262 [image]). Two sheets included amongst Thunberg's collection at UPS are annotated '*Hypoxis serrata*'. All the plants mounted on sheet 8262 most consistently represent the characteristics given in Thunberg's protologue.

= *Ianthe dielsiana* Nel (1914: 293) ≡ *Spiloxene dielsiana* (Nel) Garside (1936: 268) ≡ *Hypoxis dielsiana* (Nel) Geerinck (1969: 78), *syn. nov.* Type (holotype):—SOUTH AFRICA, [Northern Cape], Karroofläche südostlich Calvinia, 800–900 m, 15 September 1900, *Diels 696* (B! No. 100089226 [image])

= *Spiloxene namaquana* Müller-Doblies *et al*. (2011: 326), *syn. nov.* Type (holotype):—SOUTH AFRICA. Northern Cape, Grootvlei, ca. 3.5 km W of N7 (from the T-junction 5 km S of Kamieskroon), ca. 750 m, 19 August 1988, *Müller-Doblies 88110c* (PRE, isotypes B, BTU, G, K, KMG, LD, M, NBG, WIND, Z)

Note:—*Spiloxene serrata* exhibits a wide range of variation over its geographic distribution, especially with regard to corm covering and leaf width. Nel (1914) originally described *Ianthe dielsiana*, as differing from *S. serrata* by the root-entangled corms and the narrower, apparently terete leaves. These characteristics recur in randomly scattered populations throughout the widespread geographic range of *S. serrata*, hence both *S. dielsiana* and the recently described *S. namaquana* are treated here as conspecific with *S. serrata*, now known as *Pauridia serrata*. *Fabricia serrata* was incorrectly assigned to the genus *Fabricia* Thunb. which, based on the typification of the genus by Bullock (1962), is a synonym of *Empodium* Salisb.

Pauridia serrata subsp. ***albiflora*** (Nel) Snijman & Kocyan, *comb.* & *stat. nov.*

≡ *Spiloxene serrata* var. *albiflora* (Nel) Garside (1936: 268)

Bas.:—*Ianthe serrata* var. *albiflora* Nel (1914: 293). Type (lectotype designated here):—SOUTH AFRICA. [Northern Cape], Onder-Bokkeveld, Oorlogskloof, 2400 ft [732 m], *R. Schlechter 10945* (B! No. 100165526 [image], isolectotypes BOL!, K! No. K000255997 [image], PRE!, S! [image], WAG! [image], ZT!). Two collections are mentioned in the protologue. Of these, *Schlechter 10945* is the most well represented in herbaria. The specimen in K, which is inscribed as *Ianthe serrata* var. *albiflora* by Nel, is designated as lectotype.

= *Hypoxis alba* var. *gracilis* Baker (1878: 102), *syn. nov.* Type (lectotype designated here):—(illustration in) Loddiges (1825: t. 1074). Apart from the illustration in Loddiges (1825), none of the other original material given in the protologue indicates that the flowers of this taxon are white. Since the presence of white flowers is diagnostic, Loddiges' illustration is designated as the lectotype.

Note:—Baker (1878) described *Hypoxis alba* var. *gracilis* as having solitary flowers which, from his reference to Loddiges (1825: t. 1074), he infers as having white tepals. Only rarely does *Pauridia alba* have solitary flowers and if so, the inflorescence is longer than the leaves. In contrast, Loddiges' illustration of *Hypoxis alba* var. *gracilis* shows the inflorescence as long as the leaves, a characteristic feature of *P. serrata* subsp. *albiflora*. The two taxa also differ in the size and shape of the inflorescence bracts. These are conspicuously large on *P. alba* and inconspicuous in *P. serrata* subsp. *albiflora*, as suggested in the illustration.

The white-flowered populations of *S. serrata*, previously treated as var. *albiflora* are recognized here as *P. serrata* subsp. *albiflora*, being morphologically and ecologically distinct from the yellow-flowered and widespread populations constituting subsp. *serrata*.

Pauridia trifurcillata (Nel) Snijman & Kocyan, *comb. nov.*

≡ *Spiloxene trifurcillata* (Nel) Fourcade (1932)

Bas.:—*Ianthe trifurcillata* Nel (1914: 297). Type (lectotype designated here):—SOUTH AFRICA. Uitenhage, 350 ft [107 m], 14 April 1893, *R. Schlechter 2490* (BOL!, isolectotypes WU! [image], Z)

Typification:—Several numbered collections are given in the protologue, many of which are poorly pressed specimens. Of the cited collections, *R. Schlechter 2490* in BOL is designated as lectotype as it shows the unique downturned branches at the base of the style, which are clearly described in the protologue.

Pauridia umbraticola (Schltr.) Snijman & Kocyan, *comb. nov.*

≡ *Spiloxene umbraticola* (Schltr.) Garside (1936: 269)

Bas.:—*Hypoxis umbraticola* Schlechter (1900: 89) ≡ *Ianthe umbraticola* (Schltr.) Williams (1901: 292). Type (lectotype designated here):—SOUTH AFRICA. [Western Cape], Brackfontein, 100 ft [30 m], 1 July 1896, *Schlechter 7982* (BOL!, isolectotypes B! No. 100165522 [image], K! No. K000255992 [image], PRE!, S! [image], ZT!)

Typification:—Only one numbered collection is given in the protologue, *Schlechter 7982*. The specimen in BOL is designated as lectotype as it clearly shows the long, subcylindrical ovary mentioned in the original description.

Pauridia vaginata (Schltdl.) Snijman & Kocyan, *comb. nov.*

Bas.:—*Hypoxis vaginata* Schlechtendal (1847: 568). Typical collection:—AUSTRALIA. South Australia, Oncaparinga River, near Kowimanilla, ca. 1844, *H.H. Behr* [not found by Henderson (1987: 187)]

Pauridia vaginata var. ***brevistigmata*** (R.J.F.Hend.) Snijman & Kocyan, *comb. nov.*

Bas.:—*Hypoxis vaginata* var. *brevistigmata* Henderson (1987: 490). Type (holotype):—AUSTRALIA. Victoria, 1 km N of Eastern Moorabooi River crossing on Ballan–Mt Egerton road, 25 October 1978, *T.B. Muir 6246* (MEL)

Pauridia verna (Hilliard & B.L.Burtt) Snijman & Kocyan, *comb. nov.*

Bas.:—*Saniella verna* Hilliard & Burtt (1978: 71). Type (holotype):—LESOTHO. Black Mountains, between Sani and Mokhotlong, ca. 3050 m, 5 November 1973, *Hilliard & Burtt 7076* (E! [image], isotype NU)

Uncertain species

Hypoxis andrewsii Baker (1878: 104). Type (lectotype designated here):—(illustration in) Andrews (1801: t. 195)

Note:—Baker (1878) cited *Hypoxis obliqua* Andrews (1801: t. 195) [*nom. illeg.*, *non Hypoxis obliqua* Jacquin (1797: 54) (McNeil *et al*. 2012: Art. 53.1)] in his protologue of *Hypoxis andrewsii*. Baker noted, however, that there was conflict between Andrews' iconography and Andrews' diagnosis of *H. obliqua* (the stem is hairy in the diagnosis but it is glabrous in the illustration), thus he gave it a new name and placed it within *Hypoxis* subgenus *Ianthe*, which only includes plants that are entirely glabrous. Baker's protologue also cites a plant referred to as "C. B. Spei, Hort. Hibberd [Hibbert], anno 1801" which he never saw. In the absence of a preserved specimen and because the identity of the plant in Andrews' illustration remains doubtful, *Hypoxis andrewsii* is treated here as an uncertain species.

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