

Notes on African plants

VARIOUS AUTHORS

AMARYLLIDACEAE

THE IDENTITY OF *NERINE FLEXUOSA*

CURRENT APPLICATION OF THE NAME *NERINE FLEXUOSA*

The epithet *flexuosa* was first applied to a nerine by Jacquin in his *Hort. Schoenbr.* 1:35, t.67 in 1797 under the title *Amaryllis flexuosa*. Jacquin's type specimen is no longer extant so that the interpretation of *Nerine flexuosa* (Jacq.) Herb. must rest on Plate 67 and Jacquin's description of it. These refer to a cultivated plant with the following characteristics: obtuse-ended leaves which are short and immature at flowering and develop fully only some considerable time after flowering, a large umbel (up to 15 cm diam.), open in form and 6-flowered; and perianth segments about 3.8 cm long, smooth-margined in the lower half, slightly undulate in the upper half, clearly centrally veined with deeper pink, not widened at the base nor narrowed above the base. Midseason flowering. Exact locality unknown.

When Baker dealt with *N. flexuosa* in *Flora Capensis* in 1896, he cited various herbarium specimens from the Brintjies Hoogte area of the Somerset East Division of the eastern Cape. Baker's description, supplemented by measurements taken from the herbarium sheets referred to by Baker and by data from living specimens from Brintjies Hoogte, refers to plants with leaves usually well developed (20-50 cm long) at flowering time, tapering gradually to a fairly acute apex; umbels of (6)-10-(16) flowers, compact in form, averaging 9 cm in diameter; and perianth segments 2.1-3.4 cm long, distinctly crisped even in the lower half, mostly widened at the base and narrowed or 'rolled' for a short distance above the base, lacking a distinct central vein of deeper pink. Late flowering.

When Miss W. F. Barker dealt with the nerine from Pluto's Vale, Albany Division, in *Flower. Pl. S. Afr.* 15: t.561 (1935), her measurements showed that this plant was very close to the nerines found in the Somerset East District which were used by Baker for his *Flora Capensis* description. Accordingly, Miss Barker followed Baker and identified the Pluto's Vale plants as *Nerine flexuosa*.

A point by point comparison between Jacquin's plant and the Brintjies Hoogte-Boschberg plants reveals clearly that the latter Eastern Province plants are a very poor match of *Nerine flexuosa* (Jacq.) Herb. However, plants collected in the Clanwilliam-Piketberg-Laingsberg area of the South West Cape (Pocock PRE 30286; Martin & Steytler NBG 66387, and Logan NBG 66397) are good matches of Jacquin's illustration. It seems, therefore, that a new name is needed for the eastern species described by Baker and by Barker, and this aspect will be dealt with in another article.

Before turning to *N. humilis*, two varieties of *Nerine flexuosa* should be mentioned. The first is *Nerine flexuosa* var. *pulchella* (Herb.) Bak., illustrated and described (by Herbert) in *Curtis's bot. Mag.* t.2407 (1823) under the title *Nerine pulchella* Herb. Apparently no specimen of this plant was preserved and the figure and description seem to be inadequate for certain identification with material from the wild, but it does not seem to be misplaced as a very vigorous, glaucous-leaved form of *N. flexuosa* (Jacq.) Herb. Secondly, in *Flora Capensis* (1896), Baker described *Nerine flexuosa* var. *sandersonii*. Fortunately the type specimen of this is at Kew and Mr J. R. Sealy (pers. comm. 1960) stated that, from the measurements taken and from the general appearance of the type material, it was his opinion that this plant 'is not well placed as a variety of *Nerine flexuosa* and would be better associated with *N. falcata* Barker and *N. laticoma* (Ker-Gawler) Dur. & Schinz.' In his 'Review of the genus *Nerine*' in *Plant Life* (1967), Dr H. P. Traub came to the same conclusion as Mr Sealy.

THE RELATIONSHIP BETWEEN *NERINE FLEXUOSA* AND *N. HUMILIS*

The specific epithet *humilis* was first used for a plant referable to *Nerine* by Jacquin in his *Hort. Schoenbr.* 1: 36, t.69 (1797) in the name *Amaryllis humilis*. Once again, Jacquin's type specimen is no longer available so that *Nerine humilis* (Jacq.) Herb. must rest on Jacquin's figure and description. These refer to a small plant with obtuse-ended leaves 5-8 mm wide, produced after the flowering scape, a small open umbel of 3 flowers about half the size of *N. flexuosa* on a 15 cm peduncle with perianth segments up to about 3 cm long with a distinct central vein.

If these details are compared with Baker's account of *N. humilis* in *Flora Capensis* it will be seen that his description has diverged considerably from Jacquin's and seems to refer as much to Jacquin's *N. flexuosa* as to Jacquin's *N. humilis*. Two of the four specimens cited by Baker are also misleading, for Drège's collection from Table Mountain is not *Nerine humilis* but *N. sarniensis*, and Zeyher's Albany collection is usually placed under *N. undulata*. If Jacquin's descriptions and figures of his *N. flexuosa* and *N. humilis* are compared, side by side, it will be seen that there is a very striking similarity in general morphology, and that the chief difference is one of size. Ker-Gawler recognized this when he wrote in the *Bot. Reg.* t.172 (1817) that: 'It is extremely difficult to define any distinctions between this species (*flexuosa*) and *humilis* . . . which do not resolve into differ-

ences of size and its consequences . . . they may be distinct species . . . but we confess ourselves unable to elicit a single stable discriminating mark except size.'

My own studies seem to confirm this conclusion. Because of the very complex topographical conditions and the considerable differences in microclimates experienced in the South West Cape, even in areas lying close together, one would expect a considerable degree of variation within a species. Examination of the material confirms this. Now that we have so many more specimens for study, we know that forms intermediate in size between Jacquin's large *N. flexuosa* and his small *N. humilis* exist. Moreover, *N. tulbaghensis* is regarded as a dwarf form of the *N. flexuosa-humilis* complex. From a visual inspection of the available material, it appears as if there is a fairly gradual variation in size from the smaller to the larger forms without any sharply defined gap or discontinuity. Pending a detailed statistical analysis of all the material, it seems advisable to take a rather broad view of the material under discussion, consequently I propose that Jacquin's *N. flexuosa* and his *N. humilis* be regarded as two forms of one widely distributed rather variable, polymorphic species.

What should this widely circumscribed species be called? The epithets *flexuosa* and *humilis* were both published in the same volume and I propose that the name *humilis* should be used for the following reasons: the name *flexuosa* has been so widely misapplied in the past that it would be wise to sink it; and that, whereas the very large and the really dwarf forms of the complex are comparatively rare, the fairly small forms, which are common and are widely distributed in the South West Cape, have always been known to botanists as *N. humilis* so that the retention of this epithet would cause the minimum of confusion. *N. flexuosa* will then be relegated to synonymy. This is accordingly done below.

Nerine humilis (Jacq.) Herb. in Curtis's bot. Mag. sub t. 2124 (1820); Baker in Fl. Cap. 6, 2: 213 (1896), partly excl. Drège and Zeyher specimens; W.F. Barker in Flower. Pl. S. Afr. 15: t.564 (1935). Type: t.69 in Jacq., Hort. Schoenbr. 1 (1797).

Amaryllis humilis Jacq., Hort. Schoenbr. 1: 36, t.69 (1797); Ker-Gawl. in Curtis's bot. Mag. t.726 (1804).

A. flexuosus Jacq., Hort. Schoenbr. 1: 35, t.67 (1797); Ker-Gawl. in Bot. Reg. t.172 (1817). *Nerine flexuosa* (Jacq.) Herb. in Curtis's bot. Mag. sub t.2124 (1820); Baker in Fl. Cap. 6:211 (1896) partly, excl. var. *sandersonii* Bak. and certain cited specimens; non W. F. Barker in Flower. Pl. S. Afr. 15: t.561 (1935). Type: t.67 in Hort. Schoenbr.

Nerine pulchella Herb. in Bot. Reg. App. 19 (1821); Curtis's bot. Mag. t.2407 (1823).

N. tulbaghensis W. F. Barker in Flower. Pl. S. Afr. 15: t.565 (1935). Type: *Ross-Frames* sub BOL 20369.

Bulb ovoid to ovoid-oblong, from 1,2–3,75 cm diam. Leaves 3–7, mostly sprouting shortly before or during flowering and developing to maturity long after flowering, linear, minutely and inconspicuously punctate, flat to somewhat channelled, suberect or spreading, green to glaucous, apex fairly blunt, mature leaves from (10)–15–25–(30) cm long and from (3)–5–12–(18) mm wide. Inflorescence (1)–3–7–(9)-

flowered, umbel loose and open, 4,5 to 15 cm in diameter; peduncle terete, glabrous, (10)–15–35–(45) cm long by 2–5 mm wide, green sometimes flushed red at base; spathe valves lanceolate, up to 5,7 cm long; pedicels terete, glabrous, firm, 1–5,6 cm (mostly 2,5–3 cm) long, 1,5–2 mm wide. Flowers with a zygomorphic perianth, segments linear, 2,2–3,8–(4,5) cm long, 3–5 mm wide, usually 4 or 5 spreading-ascending and 2 or 1 descending, base not widened, margin with basal half smooth and upper half slightly undulate, variable in colour from very pale pink to deep pink with a clearly defined deeper pink median stripe on the basal half of the upper side and, on the lower side, extending towards the apex. Stamens cream to pink, slightly declinate, 2–4 cm long, slightly shorter than the segments, non-appendiculate; pollen from pale yellow to greyish-white. Style longer than stamens, strongly recurved when mature; Stigma 3-lobed.

Flowering chiefly in April in the Southern Hemisphere. Widely distributed through the winter-rain-fall area of the South West Cape; stretching in an arc from Clanwilliam in the north through Tulbagh, Worcester, Caledon and Swellendam to Riversdale in the east.

Specimens examined:

CAPE. — 3218 (Clanwilliam): Zebra Kop, Piketberg Mtns (-DB), *Esterhuysen* 14471; Kapiteins Kloof Piketberg (-DC), *Pillans s.n.* 3219 (Wuppertal); Boschklouf Cedarberg Mtns (-DC), *Pocock* 30286 (PRE) and 4476; Cedarberg Mtns (-AC) *Martin & Steytler* 66387 (NBG); Olifants River Mtns (-CA/DB), *Esterhuysen* 15272. 3318 (Cape Town): Moorreesburg distr. (-BA), *Herre* 3942. 3319 (Worcester): Saron distr. (-AA), *Andrag s.n.*; Krakadouw Peak (-AA) *Esterhuysen* 15008 (BOL); Hansiesberg (-AB), *Esterhuysen* 25716; Witzzenberg Flats (-AC), *Marloth* 1705; Tulbagh Kloof (-AC), *Ross-Frames* 20369 (BOL); Elands-kloof, Ceres (-BD), *Barker* 4477; Hex River Mtns (-BD), *Botha* 15426; *Esterhuysen* 7795; 7805; Bainskloof (-CA), *Barker* 2056; 4539; Du Toits Kloof (-CA), *Thompson* 1159; Elandsklouf off Du Toits Kloof (-CA), *Van Niekerk & Esterhuysen* 16452; Brandvlei Lake (-CB), *Van Breda* 1577; April Peak, Wemmershoek Mtns (-CC), *Esterhuysen* 16819; Franschoek distr. (-CC), *Ridley* 3897 (NBG); Zachariashoek nr Wemmershoek Dam (-CC), *Taylor* 4777; near De Doorns (-CD) *H. Bolus* 13199; Tweefontein nr De Wet Stn (-DA), *Van Breda* 1207; Langvlei Quarry (-DB), *Winter* 142; Robertson distr. (-DD), *Marloth* 8414. 3320 (Montagu): Hillandale, Matjiesfontein (-BA), *Logan* 37182 (PRE) & 66397 (NBG); Kogmansklouf (-CC), *Hall* 2736; Shale hills nr Bonnievale (-CC), *Marloth* 11995; Anysberg (-DB), *Hall* 308 (NBG); *Wurts* 1532 or 1353; Burghers Pass (-DC), *Goldblatt* 1684; Tradouw Pass (-DC), *Goldblatt* 1696; Montagu distr., *Isaacs* 461; *Salter* 2114. 3321 (Ladismith): S side of Klein Swartberg (-AC/AD), *Wurts* 1341; Seven Weeks Poort (-AD); *Compton* 13220; Swartberg Forest Reserve (-BD), *Taylor* 4720 or 2740. 3419 (Caledon): Happy Valley nr Greyton (-BA), *Barker* 2055; *Esterhuysen* 5070; Riviersonderend Mtns (-BA/BB), *Lewis* 3011 and 3012. 3420 (Bredasdorp): De Hoop Reserve Potberg (-AD), *Burgers* 1940; Duiwelshokrivier between Vermaaklikheid and Fort Beaufort (-BD), *Lewis* 5943; Strawberry Hill Heidelberg (-DD), *Barker* 8953. 3421 (Riversdale): Jan Muller Bridge Gou-rits River (-BA), *Barker* 9242; Zanddrift, *Muir* 889.

ACKNOWLEDGEMENTS

I wish to record my very grateful thanks to Miss W. F. Barker, Dr L. E. Codd, Mrs A. A. Mauve and Mr J. Robert Sealy (Kew) for all their assistance and kindly advice in the preparation of this paper.

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