AMARYLLIDACEAE

A New Species of Crinum

Crinum foetidum *Verdoorn*, sp. nov., foliis latis et humifusis *C. graminicola* Verdoorn atque *C. delagoensi* Verdoorn simile, sed ab ambobus foliis hebetato-turcoisinis non nitidoviridis, perianthii segmentis acuminatis, carneis non rubicundis vel purpureis carinatis, praecipue differt; ab aliis speciebus Africae australis plantis foetidis et seminibus papillosis coloribus sepiaceis differt.

Plantae obtritae foetidae. *Bulbus* globosus, 15–18 cm diam., abrupte in collum brevem vel longum productus. *Folia* 10–16, hebetato-turcoisina, subhumifusa, distincte ciliata; exteriores circiter 70 cm longa, 12 cm lata. *Pedunculus* subpatens, 14–22 cm longus, leviter compressus, 2·5 × 1·5 cm crassus. *Bracteae* involucrates acuminatae, circiter 10 cm longae, base 3 cm latae. *Umbella* circiter 11-flora. *Pedicelli* 0–1·5 cm longi. *Perianthium* infundibuliforme; tubus flavovirescens, circiter 10 cm longus; lobi albidi, carneocarinati, circiter 10 cm longi, acuminati, apiculati, in dimidio superiore, revoluti. *Capsula* subglobosa, rostrata. *Semina* papillosa-rugosa, coloribus sepiaceis. Plate 1.

Type: Transvaal, Waterberg, 70 miles north of Vaalwater, *Louw* 3460 (PRE, holo.).

Most parts of the plant emit a foetid odour when crushed or broken. *Bulb* globose, 15–18 cm diam., abruptly narrowed into a long or short neck; tunics membranous. *Leaves* few, 10 to 16, spreading along the ground, a dull (matt) turquoise-green colour, about 70 cm long, 12 cm broad, margin cartilaginous, obscurely dentate, distinctly ciliate with hairs mostly over 1 mm long. *Inflorescence* with a rather short, 14–22 cm long, peduncle which is subspreading, somewhat compressed, usually 2·5 × 1·5 cm thick. *Spathe-valves* acuminate from a broad base, about 10 cm long, 3 cm broad at the base. *Umbel* about 11-flowered. *Pedicels* 0–1·5 cm long. *Perianth* more or less funnel-shaped; tube green to pale yellowy-green, about 10 cm long; segments white with a delicate pink dorsal band, about 10 cm long, outer about 2 cm broad, inner about 2·5 cm broad, all acuminate and recurved in the upper half, apiculate (apicule often dark rose coloured and up to 1 cm long on the outer segments, shorter on the inner). *Stamens* declinate, filaments white; style red in upper portion. *Capsule* subglobose, with the perianth base persisting like a beak. *Seeds* sepia coloured, rough with raised papillose ridges.

Found in deep coarse sand in the hot, dry western and north-western Transvaal, and northern South West Africa. Probably occurs in the northern Cape, Botswana and Rhodesia, but not yet confirmed.

Transvaal.—Rustenburg: farm Albion near Vaalpenskraal, *Verdoorn* 2495. Waterberg: 70 miles north of Vaalwater, *Louw* 3460 (type); west of Vaalwater near Sterkstroom, *Verdoorn* 2497. Potgietersrus; Steilloop, on Magalakwin, *Verdoorn* 2498.

South West Africa.—Okavango: 8 miles east of Runtu, *De Winter* 3777. Gobabis: *Tölken* 1003.

In November, 1964, Dr. W. J. Louw of Potchefstroom University, brought material of this *Crinum* to the Botanical Research Institute. He had collected it on sandy flats in the north-western Transvaal about 70 miles north of Vaalwater. It was obvious that it did not match any of the known South African species. The material was complete with bulbs, leaves, flowers and fruits represented. Features noted were the broad, matt, bluey-green leaves with rather long ciliae, the distinctly acuminate perianth segments which were predominantly white with a delicate pink keel, and the beaked fruits. Two years later, that is in November, 1966, a search was made for this species in the wild. It was seen in three places in the western and north-western Transvaal. The first group was found about 37 miles west of Thabazimbi in coarse, deep sand

(see Plate 1). Interesting points noticed, in addition to those recorded about Dr. Louw's specimens, were the slightly zygomorphic flowers with revolute segments and the watery leaves which, when torn, emit a foetid odour. Next the species was seen about 9 miles north-west of Vaalwater and lastly at Steilloop on the Magalakwin River. At the last-mentioned site the seeds were seen. They differ from all other South African species in that they are a sepia colour and are rough with raised papillae. The broken or fading capsules had the same unpleasant smell as the leaves have.

Because of the ciliate leaves, the descriptions and types of two tropical species so far unknown in South Africa were investigated, namely *C. harmsii* Bak. and *C. crassicaule* Bak. *C. harmsii* was ruled out after seeing the type specimen and because it is described as having only 3 flowers in an umbel, the leaves only 5 cm broad and Baker puts it in the subgenus Platyaster which means that the flowers are erect and hypocrateriform, whereas ours are trumpet- or funnel-shaped and nodding. The photo on page 348 in Baum's Kunene–Zambesi Expedition (1903) may illustrate *C. harmsii*, the type of which was collected on that expedition, although the illustration is published without a name.

C. crassicaule was described from a specimen which Baines painted and which consisted merely of an inflorescence. In this connection Baines writes in his Explorations in South West Africa, page 188: " Monday 21st (Oct. 1861) . . . I sketched a very beautiful umbel of white and pale purple flowers brought home last night by Chapman, apparently a kind of amaryllis. The main stem (peduncle) was flattened, an inch and a quarter wide and a quarter thick, the bracts had fallen down and whithered . . . . The flower had been too long gathered to restore itself to form when placed in water ". It was solely on this specimen, which was sent to Kew by Baines, that Baker based the species *C. crassicaule* (see Amaryllidaceae, page 85).

Several weeks after painting this inflorescence, while still at Koobis, Baines painted another *Crinum*, on the 13th November (see page 220 of his Explorations). Coloured photographs of the painting done in October as well as the one done in November, were kindly supplied to me by our Liaison Officer at Kew, Mr. E. G. H. Oliver, and, in my opinion, the latter painting represents a species distinct from the one painted in October, but is very definitely conspecific with the species here described, *C. foetidum*.

The October painting of the half-faded inflorescence, the type of *C. crassicaule*, seems to represent a species with erect perianth-tubes and stamens arranged as in the subgenus Stenaster. This interpretarion is supported by the fact that at least two species in the Stenaster or Pachyaster groups occur in the same area.

It would seem from Dr. N. E. Brown's notes, many years later, written on the type specimen of *C. crassicaule* and on the painting done by Baines in November, that he thought they represented the same species. On the type he has written that it was collected at Koobis, Ngamiland, November 13, 1861, whereas it was collected and painted in October, and on the November painting he has written " *Crinum crassicaule* Baker, Handb. Amaryll. p. 83, 1888 ", which it is not. Dr. Brown evidently examined these when he was naming the Lugards' collection of plants from Ngamiland. In the Kew Bulletin 1909, where the list of names is published, N. E. Brown, on page 142, lists Mrs. Lugards' No. 45 as *Crinum crassicaule* and he there describes his concept of the species which, judging from his notes mentioned above, probably includes more than one element. Mrs. Lugards' painting of No. 45 shows an erect perianth-tube and straight, erect filaments suggestive of the Stenaster or Platyaster groups. For this reason it may be *C. crassicaule*, but from her painting the species is not recognizable.

In addition to the November painting by Baines, the photograph published in the Guide to the Victoria Falls by H. Wild, page 135, illustrates a *Crinum*, which is apparently conspecific with *Crinum foetidum*.

I. C. VERDOORN

PLATE 1.—**Crinum foetidum.** 1, in flower; 2, in fruit, from Thabazimbi District (*Verdoorn* 2495). Photos: D. Edwards.