BULBINE TRIEBNERI, AN EARLIER NAME FOR *BULBINE ALBA*, AS WELL AS ADDITIONAL AND NEW LOCALITIES IN EASTERN AND NORTHERN CAPE, SOUTH AFRICA

The genus *Bulbine* Wolf comprises ± 73 species occurring in Africa and Australia. While only six species are found in Australia (Watson 1987; Keighery 2004), 67 occur in southern Africa, with only five of these also extending into tropical Africa (Williamson 2003; Klopper *et al.* 2006). The genus is therefore essentially a southern African entity. *Bulbine* is characterized by miniature to low succulent plants with lax or dense racemes (sometimes somewhat corymbose) of mostly yellow (rarely white, orange or pink) flowers with bearded filaments (Smith & Meyer 2000). *Bulbine triebneri* Dinter is the only known member of the genus with white flowers.

Following an earlier treatment of the genus *Bulbine* (Baijnath 1977), three white-flowered species with other distinguishing features were segregated into a new genus, *Jodrellia* Baijnath (Baijnath 1978). Although *B. triebneri* shares the character of white flowers with *Jodrellia*, it is a true *Bulbine*, sharing a close affinity with the other frutescent species. It is distinguished from its nearest

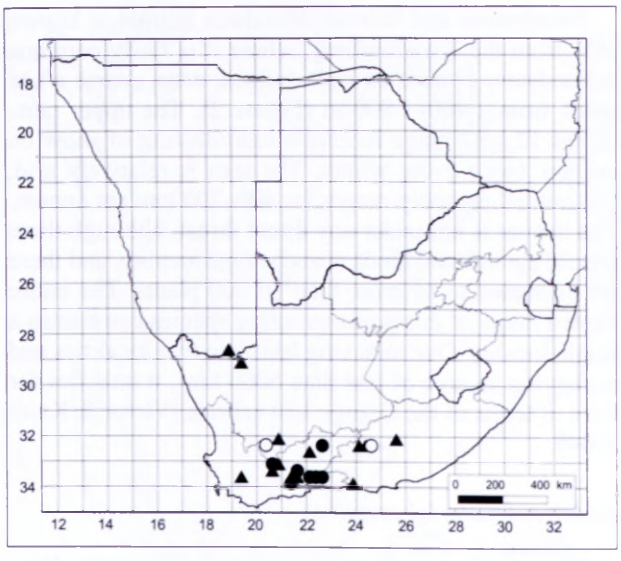

FIGURE 3.—Distribution of *Bulbine triebneri*, based on specimens at PRE, NBG and BOL, ●; specimens listed in Baijnath (1977), ▲; new localities in the Eastern and Northern Cape, ○.

relative *B. frutescens* (L.) Willd. by its soft-textured and glaucous, subterete leaves (Van Jaarsveld 2001).

Recently, Van Jaarsveld (2001) described a new species, *Bulbine alba* Van Jaarsv. from the Western Cape. Examination of the type material of *B. triebneri* and *B. alba* showed them to be conspecific, therefore *B. alba* becomes a synonym of *B. triebneri*. *B. triebneri* was based on *Dinter 7899* (B, holo! –K, photo.!), material that was collected by Von Triebner at Eendoorn, east of Warmbad in Namibia and cultivated in Windhoek (Von Poellnitz 1943).

Bulbine triebneri is said to be widely distributed in the Little Karoo and southern Great Karoo (Van Jaarsveld 2001). The current known distribution, based on that of the synonym *B. alba*, is restricted to the Western Cape, from Laingsburg in the west to Oudtshoorn and Beaufort West in the east (Figure 3). It is locally abundant and grows on shale ridges and scree in the Succulent Karoo and along the southern border of the Nama-Karoo (Van Jaarsveld 2001). Baijnath (1977) has shown this taxon to have a much wider distribution in the Western and Eastern Cape and that it also extends into the Northern Cape Province.

A healthy population of *Bulbine triebneri* was recently found in natural vegetation in the Urquhart Caravan Park, Graaff-Reinet, Eastern Cape. At this locality, the plants grow in full sun on a south-facing scree slope next to the road leading to the bottom of the wall of the Van Ryneveld's Pass Dam. According to the management of the park, this area has never been under cultivation and it is therefore a natural occurrence of the species. The area falls in the Southern Karoo Riviere vegetation type (Mucina & Rutherford 2006). The plants, with their pale bluish green leaves, were well camouflaged among the grass and other vegetation of the slope while their flowers were closed early in the day, and only a few plants right next to the road were initially noticed. Upon returning to the site in the late afternoon, it was found that the flowers had opened and that the entire slope was in fact covered with plants of this species.

The species was also observed in the Willowmore area of the Eastern Cape (S.P. Bester pers. comm.) in North Kammanassie Sandstone Fynbos (Mucina & Rutherford 2006). Unfortunately, the observer was not able to collect material for herbarium specimens at this locality at the time and was unable to relocate the population on a subsequent visit, probably because the plants were not flowering. Another flowering population was observed in October 2001, ± 5 km north of Pofadder on the Onseepkans road, Northern Cape (G. Williamson pers. comm.). The plants were growing on the western aspect of a low quartzitic outcrop. Regrettably, no specimens could be made, but an illustration was made from field notes by G. Williamson (Figure 4). Barker collected the species in the same area in August 1954 and a specimen is housed at NBG (Baijnath 1977).

Bulbine triebneri was also recently collected on the Ouberg Pass, Northern Cape. Plants were found in full sun on a lower west-facing rocky scree slope, in Tanqua Escarpment Shrubland (Mucina & Rutherford 2006).

A few seeds were collected from the Graaff-Reinet population. They germinated rapidly in Pretoria and the seedlings flowered within their first season. The plants, although growing somewhat more robustly in cultivation than in the field, retained their distinguishing characters. The most interesting feature of this species is that the flowers seemingly open only in the very late afternoon for two to three hours at most, a pattern similar to some grassland species of *Trachyandra* Kunth. The only other *Bulbine* species where past midday flowering has been reported thus far is *Bulbine torsiva* G.Will. (Williamson 1996). By the time the flowers of *B. triebneri* open, those of the other yellow-flowered *Bulbine* species have already closed or are in the process of closing. Flowers of the genus are devoid of nectar and are visited mainly by bees for pollen. The specific time of day when the flowers are open and their white colour, suggest that *B. triebneri* might have undergone an evolutionary adaptation to a pollinator that differs from those of most other species of *Bulbine*. It would be useful to investigate the plant-pollinator relationships of the genus as a whole.

Additional material examined

EASTERN CAPE.—3224 (Graaff-Reinet): Graaff-Reinet, Urquhart Park, on slope next to road leading to dam wall (Van Ryneveld's Pass Dam), (–BA), *R.R. Klopper & A.W. Klopper 214* (PRE).

NORTHERN CAPE.—3220 (Sutherland): Ouberg Pass, near lower end of pass (–AD), *H.M. Steyn 810* (PRE).

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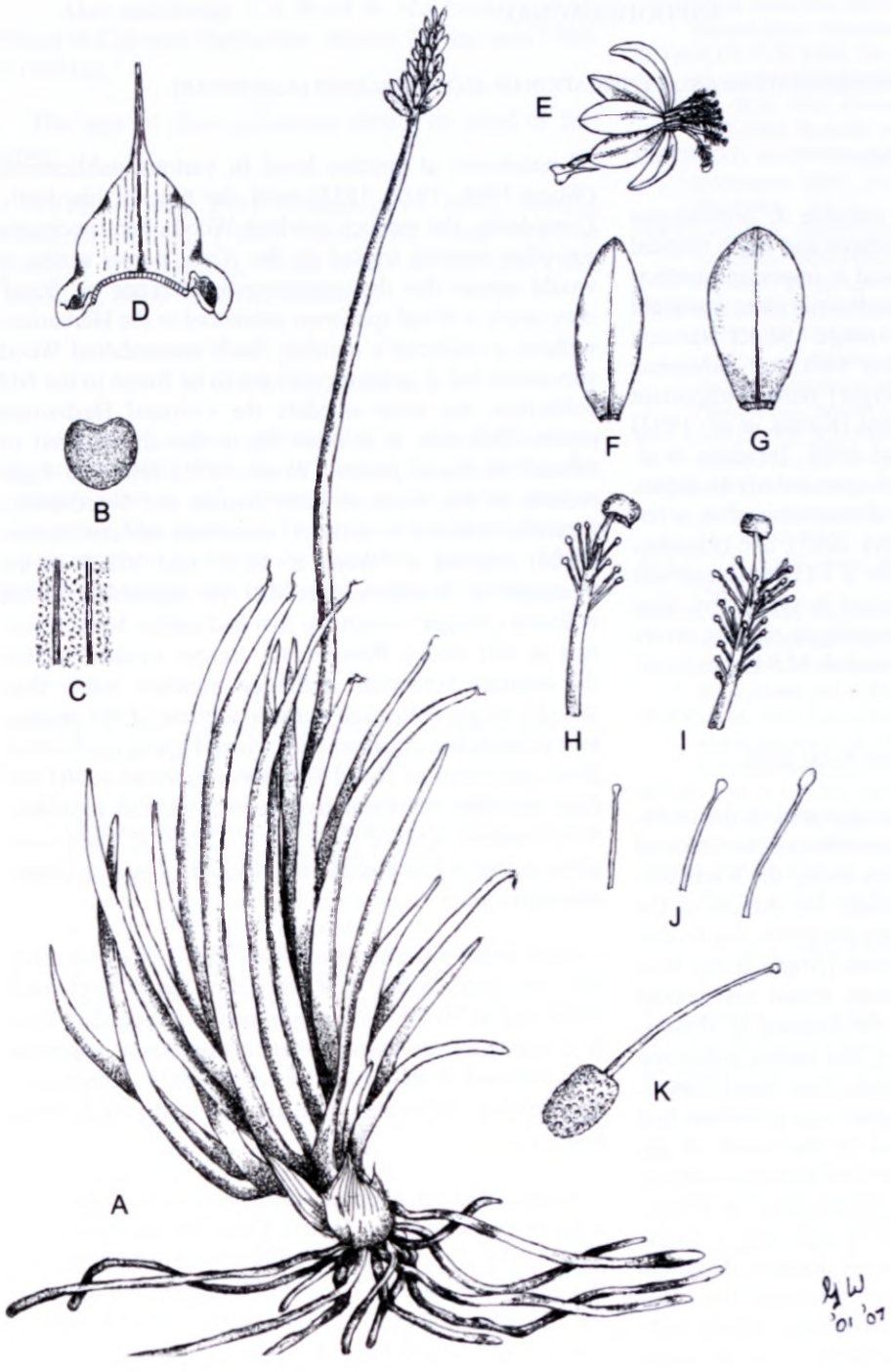

FIGURE 4.—*Bulbine triebneri*, *G. & F. Williamson 5984*. A, whole plant, longest leaf 248 × 3 mm; B, sectioned leaf, 3 × 2.5 mm; C, leaf surface with dark green veins; D, pedicel bract flattened, 1.8 mm wide at base, 2.5 mm long; E, flower, side view, pedicel ± 4.3 × 0.5 mm; F, outer tepal 6 × 1.8 mm; G, inner tepal 6 × 2.8 mm; H, outer stamen 3.7 mm long with anther 1 mm long; I, inner stamen 3.7 mm long with anther 0.6 mm long; J, glandular trichomes, longest 1.2 mm; K, ovary, style and stigma, overall 3.6 mm long. Artist: G. Williamson.

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