

THE ORCHIDS OF PROTEA HILL FARM

Observations over 30 years

Part 3 – The shrubland species

You may not find 'shrubland' in any ecology textbook, but I have introduced the term here to signify a habitat that is neither grassland nor woodland, but something in between. It is an ecotone, where two adjacent vegetation types overlap. Ecotones frequently have more species than the two component types combined.

The shrubland orchids at Protea Hill comprise:

Eulophia cucullata
E. clitellifera
Habenaria cirrhata
Liparis nervosa
Nervilia adolphii

All photographs taken at Protea Hill Farm.

Eulophia cucullata (Afzel. ex Sw.) Steud.



Figure 1 – *Eulophia cucullata*, 29 Nov 2000

This common species is the most familiar ground orchid in Zambia, with its conspicuous pink or mauve flowers appearing in November at the start of the rains, often on bare ground after fire. Flowering is over by the end of December, when other orchids are just beginning. While most other terrestrial orchids have root tubers to store nutrients, the *Eulophias* have pseudobulbs, which are the swollen stem bases. When the plant dies back at the end of the growing season, the tops of the pseudobulbs usually protrude slightly from the soil surface, enabling the new shoot to break through the dry soil crust before the first rain showers have softened the soil. The leaves appear after the flowers on a new shoot arising from the base of the newest pseudobulb.

E. cucullata has appeared every year at Protea Hill, even in Dec 1995 at the end of a severe drought.

***Eulophia clitellifera* (Rchb. f.) Bolus**



Figure 2 – *Eulophia clitellifera*, 22 Sep 2009

The flowering stem arises from the apex of the most recent of the chain of subterranean pseudobulbs, bearing the purple and yellow flowers, before the first rains in October. The leaves appear later, with the first rains, atop the new pseudobulb, which grows from the base of the previous one.

I first recorded a plant in October 2001, in a slight depression near an old aardvark burrow, exactly where I remembered first seeing it before I started keeping records in 1985-'86. I searched for it every year, and on 16 Oct 2001, two flowering stems emerged (Fig. 2). By 19 Nov the capsules were maturing. On 6th December I photographed an emerging leafy shoot (Fig. 3), assuming it to belong to the plant, but the broad leaves don't match the description of the linear leaves of *E. clitellifera*.

On 24 Sep 2009 the plant, or its replacement, was found again, in the same situation in the slight depression, now barely recognizable. It is surely no coincidence that on both occasions the grass had been burned. In most years the grass is slashed.

These are the only records I have of the species growing naturally at Protea Hill. I have, however, grown



it in the nursery from pseudobulbs collected from the wild.

Figure 2 – A leafy shoot assumed to belong to the plant which had flowered earlier, in September. 6 December 2009

Habenaria cirrhata (Lindl.) Rchb. f.



Figure 3 (left) – *Habenaria cirrhata*, 1 Feb 2014

Occasionally a new orchid arrives at Protea Hill, much to our delight. Our surprise this past season was a giant 1.3 m tall, not one but two. Although separated by 300 m, and in quite different environments, the two plants kept precisely in step through their development.

Figure 4 (bottom left) – Broad leaves clasp the stem.



Figure 5 (bottom right) – The upper lobes of petals are swept back like the horns of a sable antelope. The nectar bearing tip of the 22 cm-long spur remains enclosed in the sheath, presumably for protection against raiders.

