



Albany's rarest buchu

Agathosma bicornuta re-discovered and assessed

by **Tony Dold**, Selmar Schonland Herbarium, Rhodes University, Grahamstown and **Terry Trinder-Smith**, Bolus Herbarium, University of Cape Town

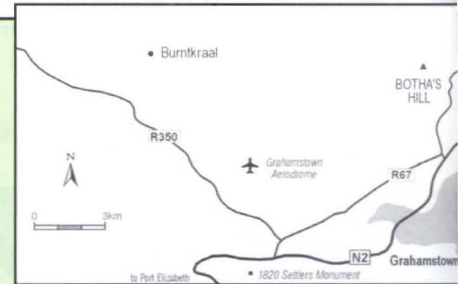
The genus *Agathosma*, or buchus as they are commonly known, comprises about 150 species, mostly found in the fynbos of the Western Cape. About twenty-one species are found in the Eastern Cape, associated with Grassy Fynbos, and are well known for their medicinal properties. One species extends as far as KwaZulu-Natal and Lesotho. The name buchu, of Khoe or San origin, is pronounced Ibhucu in Xhosa (the c being a soft click produced by the tongue against the upper front teeth). Not surprisingly for such a large genus many species are localized and rare (of the twenty-odd species occurring in the Eastern Cape, eight are range restricted), the current Southern African Red Data List presents forty-five species in the threatened category and two are listed as extinct. One endemic species from the Albany Centre, *Agathosma stenopetala*, is listed as vulnerable. We have recently re-discovered another rare Albany Centre endemic, *Agathosma bicornuta*, which appears to have been overlooked by the Red Listing process and suggest that it may warrant a conservation status.

Albany buchu *Agathosma bicornuta*

Agathosma bicornuta was, until recently, only known from four herbarium specimens, all from within a 60 km



TOP: Flowers of the Albany buchu *Agathosma bicornuta*. Photo Tony Dold.
MAP: The Albany Centre of Endemism, the locality of *Agathosma bicornuta*. Map by Sally Adam, Technodraft.



radius of Grahamstown. The first specimen was collected by William Burchell at Kommadagga in 1813, followed by Peter MacOwan's specimen from Botha's Hill in 1865 and Ernest Galpin's specimen from the farm Hounslow in 1888. More recently, in 1993, Anne Bean from the Bolus Herbarium visited Hounslow in search of the species and was fortunate to collect a single specimen in a severely degraded habitat. Her specimen bears a single fruit and some old flowers but is unmistakably *A. bicornuta*. Anne Bean noted that the plant had been heavily cropped by goats.

Despite 'readily distinguishable characters' the species was only recognized and described by Robert Allen Dyer (Curator of the Albany Museum Herbarium, now the Selmar Schonland

Herbarium) in 1934. In his description he notes that MacOwan sent a duplicate specimen to Sonder at Hamburg who considered it to be *Agathosma thymifolia*, a species found only at Saldanha Bay. Pillans however, in his revision of the genus in 1950, notes that *A. bicornuta* is closely related to *A. cerefolium* and suggests that the two species may be variable forms of a single species. The fundamental difference between *A. bicornuta* and these species however is that *Agathosma thymifolia* has a four- to five-chambered fruit and *A. cerefolium* a three-chambered fruit. In the case of *A. bicornuta*, the species name refers specifically to the paired horns of the fruit, this being an unusual character as only about 20% of species have one or two horns. (The term 'horn' refers to the outgrowth at the tip of each carpel, and each carpel forms a chamber of the fruit). One of the authors, Terry Trinder-Smith, is now using DNA analysis to obtain a better understanding of the relationships.

Having searched unsuccessfully for *A. bicornuta* at Hounslow, we followed MacOwan's footsteps to Botha's Hill. Although *Agathosma ovata* occurs in abundance amongst the dense swathes of *Bobartia orientalis* our dwarf *A. bicornuta* was not seen despite several thorough searches. We have not been able to look for the Kommadagga population because the area is now a 'Big Five' reserve. In a final desperate attempt we visited Burntkraal, the farm between Hounslow and Botha's Hill, and are happy to report a previously unknown population protected in the SANDF Military Nature Reserve.

In 1823 Burntkraal was granted to Piet Retief who owned it for about thirty years. Interestingly the name comes from an incident on the farm in the early 1800s when the accumulated kraal manure caught alight and burnt underground for over ten years! The military incorporated much of the farm in 1964 when it was bought from the Berrington family and it is now a nature reserve and training ground. The last forty years have seen the veld littered with mortar shells (some still unexploded!) but fortunately free of goats.

A prominent quartz ridge forms the northern boundary of the reserve and extends to the west as far as Hounslow and to the east to Botha's Hill, only 18 km apart. *A. bicornuta* is found on, and appears to be restricted to, the south side of the ridge where Grassy Fynbos (on Ecca quartz) meets Nama-

Karoo (on Dwyka formation). Only metres up the slope, in Grassy Fynbos, are *A. ovata* and *A. puberula*, all flowering at the same time. *A. bicornuta* is smaller and less gregarious than the other two species. Plants are scattered, occasional and appear to be restricted to the ecotone.

Red Data status

In our efforts to find this species, for taxonomic research and to document the flora of the region, we have searched both Hounslow and Botha's Hill unsuccessfully many times. We believe that

the Hounslow population has been decimated by goats and that the Botha's Hill population has succumbed to the pioneer *Bobartia*. This new population at Burntkraal remains protected, as does the Kommadagga population if it still exists. Nevertheless the decline of two known populations of a highly localized, habitat specific and presumably browse-sensitive species certainly warrants an assessment regarding its conservation status. Based on the current IUCN Red List assessment criteria we suggest that a category of vulnerable is applicable. 🌿



LEFT: Grassy Fynbos meets Nama Karoo, the habitat of the rare Albany buchu *Agathosma bicornuta* near Grahamstown.
 ABOVE: The two-horned fruit of *Agathosma bicornuta*, the Albany buchu.
 BELOW: Albany's rarest buchu, *Agathosma bicornuta*.
 Photos: Tony Dold.



Acknowledgement

Thanks to Sergeant Major Ocks of 6SAI, Grahamstown, for permission to visit the Military Reserve.