A LARGE-FLOWERED FORM OF *U. BISQUAMATA* FROM NEAR HERMANUS, SOUTH AFRICA

ROBERT GIBSON • PO Box 1330• Dubbo, NSW, 2830• Australia • rgibson@dlwc.nsw.gov.au

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Utricularia bisquamata is a widespread and variable bladderwort from southern Africa. During my travels in South Africa in 1997 and 1998 I observed a number of forms in the wild and from herbarium collections, on which this account is based.

Utricularia bisquamata is a taxon that has been described under several different names, including the more popular and recently rejected *U. capensis* (Taylor, 1989). Following examination of the eighty or so specimens housed at the Compton Herbarium, a noteworthy range in size of the flowering parts became apparent, even though the morphology of the traps and stolons in the specimens are identical (Taylor, 1989). The majority of specimens had yellow and purple flowers less than four mm across, whilst about twenty collections had flowers up to eight mm across, and only eleven collections had larger flowers.

From my observations of this species in the southwestern part of its range, the most widespread form has the smallest flowers. These are commonly purple and yellow, although forms with a yellow lower petal and yellow palate and upper petal are not uncommon (see Kondo & Kondo, 1983: page 157 for illustrations of different colour forms). It grows as a perennial in

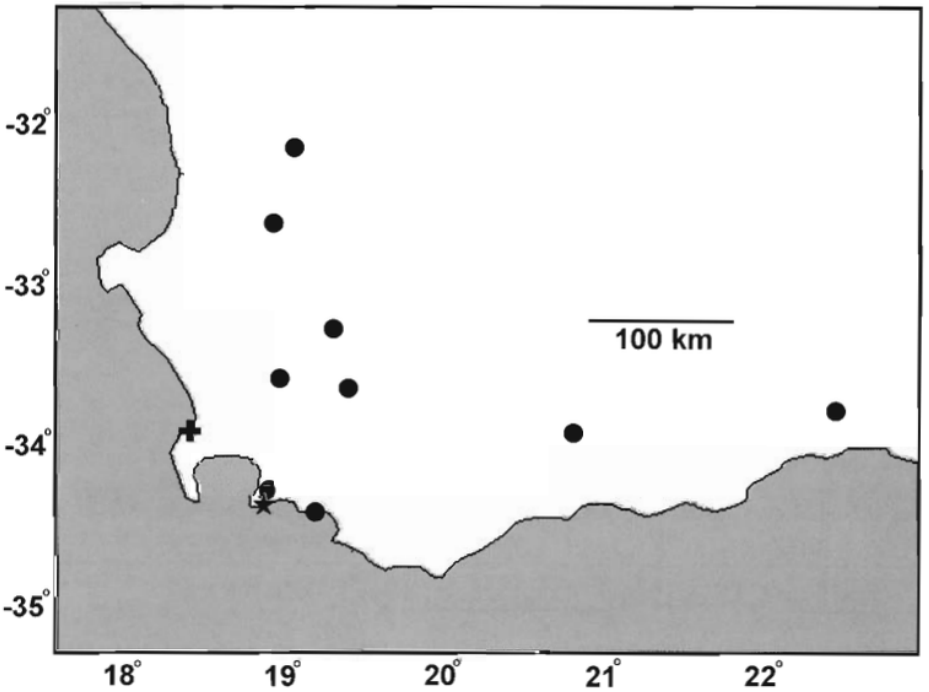

Figure 1: Distribution map of large flowered populations of *Utricularia bisquamata*, based on collections housed at the Compton Herbarium, Cape Town. Note the location of Betty's Bay, shown by the star; the location of probably the best-known large flowered form now in cultivation. The centre of Cape Town is indicated by the solid cross.

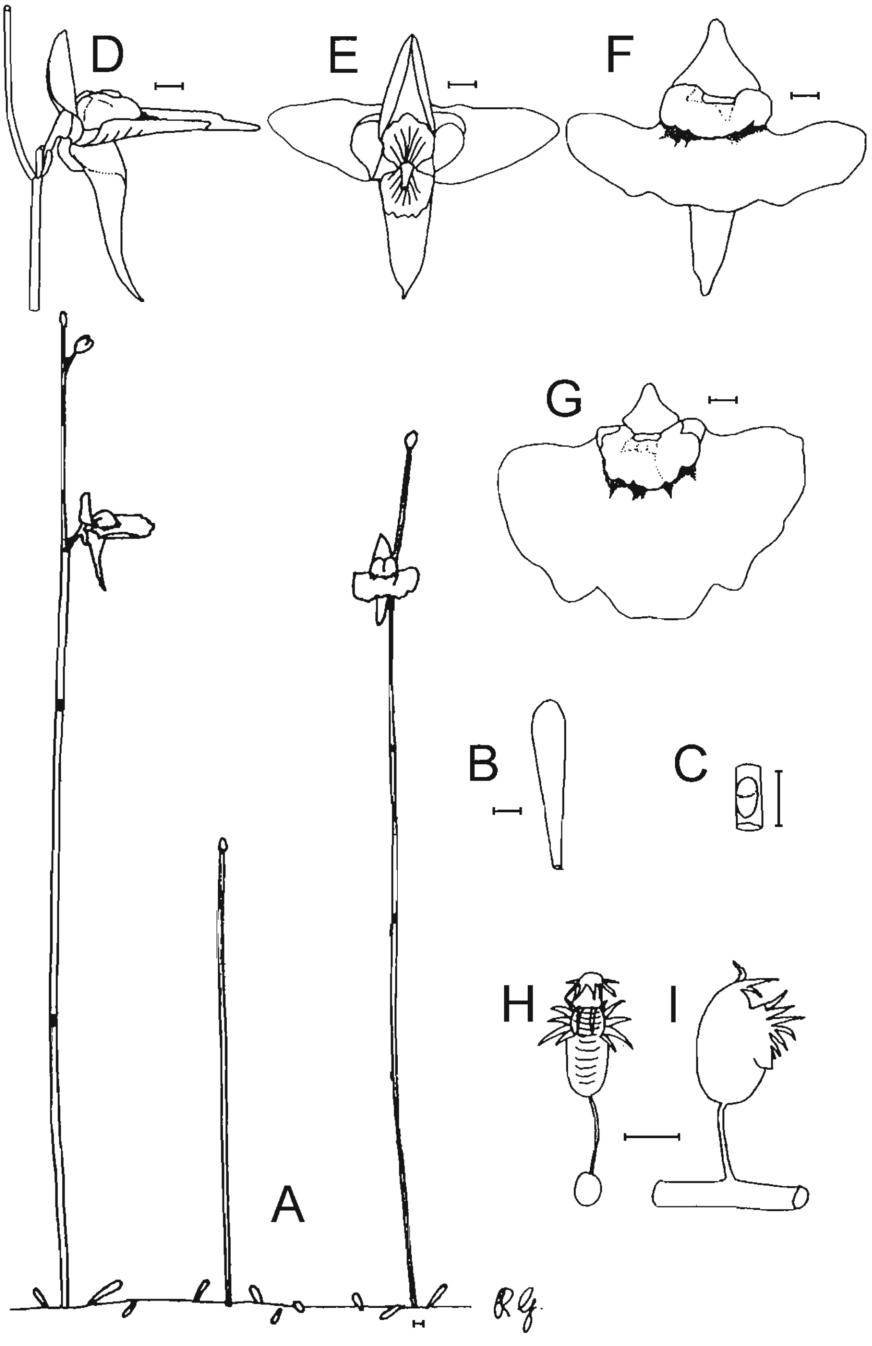

Figure 2: Botanic illustration of the large flowered form of *U. bisquamata* from near Hermanus grown by Eric Green. A: above ground group of plants; B: lamina; C: basi-fixed bracts; D: flower from the side; E: flower from the front; F: flower from above; G: flower from behind; H: trap from the front; I: trap from the side. Note the scale bars equal 1 mm for all plant parts except the traps (H and I) where they are 0.2 mm long. Illustrated by R. Gibson, 15-xii-1997.

permanent seeps and swamps, but appears to grow as an annual in thin, moss-covered soil beside small intermittent streams and on exposed seepage zones in the sandstone ranges in and around Cape Town. The annual form sets seed easily and appears to be able to self-pollinate its flowers. Forms with flowers of intermediate and large size are scattered throughout the range, but do not necessarily occur side by side. For example, the large flowered form of this species occurs in one swamp near Hermanus whilst plants of typical size occur in adjacent swamps.

Although I have not seen plants of intermediate flower size in the wild, there is a form becoming common in cultivation in Australia, which horticulturists have been calling *Utricularia* sp. "Bainskloof". This has flowers of similar colour to the typical form of the species, but has a lower petal of irregular semi-circular outline to about eight mm across, and thus appears to belong to the intermediate sized form. From the lack of seed set in cultivation, it appears to lack autogamous self-pollination.

The large flower form occurs in a number of locations in the southwestern Cape, as shown in Figure 1. Taylor (1989) reports similarly robust flower forms of this species from Angola and Madagascar. I had the pleasure of studying one population of this form from the Kleinriviersberge, near Hermanus, approximately 100 km south east of Cape Town. Plants in this population were in flower in December 1997 (see Figure 2, and Back Cover). Each scape grew up to 20 cm tall. The flowers had a transversely elliptic horizontal lower petal 7 mm long by 11 mm wide with a shallowly lobed free edge. The palate of the lower petal consists of a raised dome approximately two mm long by four mm wide which was yellow in colour and edged irregularly by dark yellow markings. The rest of the flower, including the small vertical upper petal, with reflexed margins, and sub-horizontal nectary spur, was lilac in colour. Overall this form of the species superficially resembled *U. dichotoma* more than the more typical form of this taxon.

This form of the species appears to have limited ability to self-pollinate its flowers and has more exacting cultivation needs than the typical, somewhat weedy form. In the wild at the study site this form grows in the company of *Drosera*, including *D. admirabilis, D. aliciae, D. capensis, D.* × *corinthiaca* (=*D. aliciae* × *D. glabripes*) and *D. slackii* (see Gibson, 2000, page 108), and would likely grow best in a peaty medium that is kept permanently wet and placed in a partially sunny position.

In conclusion, the large flowered forms of *U. bisquamata* offer novel and attractive forms for collectors. They may also provide a model for the study of different pollination and breeding systems for a variable species. and also provides an opportunity to study pollination and breeding systems of forms in a variable species.

Acknowledgements

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References:

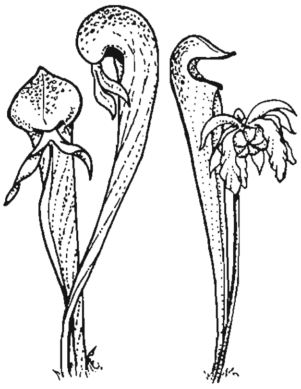
Gibson, R. 2000, *Drosera slackii*—a living jewel from South Africa. *Carnivorous Plant Newsletter* 29.107-109.

Kondo, K. and Kondo, M. 1983, Carnivorous Plants of the World in Colour. Ienohikari Association, Tokyo, pp. 230.

Taylor, P. 1989, Kew Bulletin Additional Series XIV: The Genus *Utricularia*—a taxonomic monograph. Her Majesty's Stationery Office. London. pp. 724.

Looking Back: CPN 25 years ago

Alain Godbout provided text from several letters Charles Darwin had sent to his companions. In a very interesting missive to Asa Gray (October 22, 1872), Darwin described a kind of acupuncture method he used on Venus flytraps: "The point which has interested me most is tracing the nerves which follow the vascular bundles. By a prick with a sharp lancet at a certain point, I can paralyse one half the leaf, so that a stimulus to the other half causes no movement. It is just like dividing the spinal marrow of a frog; no stimulus can be sent from the brain or anterior part of the spine to the hind legs: but if these latter are stimulated, they move by reflex action."



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Front Cover: Anthocyanin-free *Sarracenia alata*. Photograph by Carl Mazur. See article on page 76.

Back Cover: A large flowered form of *U. bisquamata* in the wild near Hermanus. Photograph by Robert Gibson. Article on page 77.

Carnivorous Plant Newsletter is dedicated to spreading knowledge and news related to carnivorous plants. Reader contributions are essential for this mission to be successful. Do not hesitate to contact the editors with information about your plants, conservation projects, field trips, or noteworthy events. Contributors should review the "Instructions to Authors" printed in the March issue of each year. Advertisers should contact the editors. Views expressed in this publication are those of the authors, not the editorial staff.

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ICPS, Inc.
PMB 322
1564-A Fitzgerald Drive
Pinole, CA 94564-2229, USA
icps@carnivorousplants.org

President	Carl Mazur, email: carl@carnivorousplants.org
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Editors:
Barry A. Rice, P.O. Box 72741, Davis, CA 95617, USA, email: barry@carnivorousplants.org
Jan Schlauer, Zwischenstr. 11, D-60594 Frankfurt, Germany, email: jan@carnivorousplants.org
Page Layout: Steve Baker, email: steve@carnivorousplants.org

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