

**Colours:** Face usually fairly uniform pale greyish white, pearl grey, pale milky bluish, yellowish or pinkish; sometimes suffused or smudged with buff, beige or pinkish brown, especially around the margins and along the edges of the markings in the valleys; margins sometimes slightly lighter in colour than the rest of the face. Markings in the valleys dark grey-green, light brown or reddish. Shoulders as for the face, but may be slightly lighter or darker.

**Size:** Medium to very large, up to 50 x 38 mm, mostly about 35 x 25 mm. Number of heads up to 5 or more, but seldom more than 1.

**FLOWERS** yellow, medium to large, up to 45 mm Ø, mostly 25-35 mm Ø. **Seed capsules** 6-merous (51%) or 7-merous (31%), otherwise (18%) mostly 8- to 10-merous. Profile rotund to boat-shaped, top rather variable, ± flat to slightly concave or convex, quite often peaked; face round to broadly elliptic, up to 11,5 x 10,5 mm, mostly about 9,0 x 8,0 mm.

**10.2 *Lithops gracilidelineata* var. *waldroniae*** De Boer (1963) (Y). **Plate 5/4.**

**COLLECTED** by Mrs Molly M. Waldron of Walvis Bay in 1960, and named for her.

**DISTRIBUTION:** SWA/Namibia, at the southwestern end of the range of the species, i.e. to the E and SE of Swakopmund, and within about 80 km of the town. Type locality SE of Swakopmund, in the "Vogelfederberg".

**DESCRIPTION:** Essentially as for the type, but the valleys deeper, the reticulation of fine lines more deeply impressed and more extensively and more finely branched, the surface therefore more rugose.

**Colours:** Face greyish white, pinkish white or beige, the impressed lines brownish to reddish.

**Size:** Medium to large, up to 40 x 30 mm, mostly about 30 x 25 mm. Number of heads up to 4 or more, mostly 1-2.

**FLOWERS** yellow, very small to small, up to 20 mm Ø, mostly 12-16 mm Ø. **Seed capsules** mostly 6-merous (71%) or 7-merous (20%), the remainder (9%) mostly 8-merous. Profile boat-shaped, top usually flat, sometimes slightly convex; face broadly elliptic, up to 7,0 x 6,0 mm, mostly about 6,5 x 6,0 mm.

**GENERAL NOTE:** The distinction between var. *waldroniae* and the type is rather tenuous, being based essentially on the depth of the valleys and therefore on the degree of rugosity. However, the significantly smaller flowers and seed capsules do constitute a consistently discernible difference. On the other hand, there are colonies (e.g. C243) in the south-western part of the range, plants from which resemble var. *waldroniae* in appearance, but consistently produce intermediate-sized flowers and seed capsules.

**10.3 *Lithops gracilidelineata* var. *waldroniae*** De Boer cv. **Fritz's White Lady** (W).

This cultivar differs from the variety *waldroniae* only in having white flowers instead of yellow. It has appeared among plants raised from seed by E.E. Fritz.

**11 *Lithops herrei*** L. Bol. (1932) (Ywc).

Two varieties of this species have been classified, var. *herrei* and var. *geyeri* (Nel) De Boer & Boom. The latter occurs only to the south of the Orange River, in the Richtersveld (RSA), and until relatively recently it was believed that this was true of var. *herrei* also. However, in September 1978 it was collected by Ernst E. Fritz about 60 km SSW of Witputs.

**11.1 *Lithops herrei*** L. Bol. var. *herrei* (Ywc). **Plate 5/5-6.**

**COLLECTED** by Dr Hans Herre, Curator of the Botanical Garden, University of Stellenbosch, in October 1930, and named for him.

**DISTRIBUTION:** RSA, CP, in a narrow strip about 70 km long and no more than 10 km wide, along the Orange River from Alexander Bay to Sendelingsdrif; and in SWA/Namibia, so far known at only one locality some 25 km to the W of Sendelingsdrif. Type locality Swartwater, Richtersveld, CP.

**DESCRIPTION:** As in *Lithops optica* (Marl.) N.E. Br., there are two forms of this species, (a) the non-maculate, which occurs relatively near to the coast (within 30-40 km) and at low altitudes, and (b) the more opaque form, which occurs further inland and at somewhat higher altitudes. In intermediate localities (including the type locality), both forms are represented, so it would be inappropriate to treat them as varieties. The locality in SWA/Namibia is the furthest inland, and the highest, and the plants occurring there are the most opaque. **Profile** truncate to cordate, usually distinctly convex and often keeled; fissure 7-13 mm deep, lobes conjunct to divergent. **Face** flush to slightly elevated; slightly reniform; lobes unequal; translucent to opaque; smooth to very slightly rugose. **Margins** in the (a) form usually distinct but somewhat lacinated; in the (b) form, not clearly defined, very irregular, sometimes absent. **Windows** sometimes completely open with very few small islands, sometimes occluded by numerous small islands and peninsulas, sometimes absent, the face being almost completely opaque. **Channels** only in the (b) form, usually narrow and forming a very irregular fine lacework, often reduced to unconnected narrow strips or even further, to a number of isolated dots (miniature windows) in an opaque face. **Islands** in the (a) form, small and sparse, sometimes rather indistinct; in the (b) form, mostly fairly small, extremely irregular, so that the overall effect is rather lacy or cobwebby. **Markings** absent. **Pellucid dots** absent in the (a) form; occasionally

discernible in the (b) form, but usually sparse and difficult to distinguish from the miniature windows.

**Colours:** Face, margins, islands, various shades of opaque pale milky grey, tinted with green, blue, yellow, pink or buff, the margins sometimes faintly edged in a slightly paler tint. Windows, channels, miniature windows, various shades of translucent bluish, greenish, yellowish or pinkish grey. Pellucid dots dull bluish grey-green. Shoulders as for the margins, or a little paler.

**Size:** Small to medium, up to 30 x 20 mm, mostly about 22 x 16 mm. Number of heads up to 20 or more, mostly 2-7.

**FLOWERS** yellow, occasionally bronze-yellow, with white centre, very small to small, up to 23 mm Ø, mostly 15-20 mm Ø. **Seed capsules** usually 5-merous (94%), the remainder (6%) mostly 6-merous. Profile boat-shaped, top ± flat, usually with a dark line about 1,0 mm wide, just below the edge; face broadly elliptic, up to 9,0 x 7,0 mm, mostly 7,0 x 6,0 mm.

**12 *Lithops julii*** (Dint. & Schwant.) N.E. Br. (1925) (W). **Plate 6/1-6.**

**COLLECTED** by Professor Kurt Dinter in February 1924, and named for his friend, Dr Julius Derenberg of Hamburg.

**DISTRIBUTION:** SWA/Namibia, in a triangular area including Karasburg in the north, and in the south, points on the Orange River some 70 km SW and SE of Warmbad. Type locality SE of Warmbad, roughly halfway between Vahldorn and Warmbad.

**DESCRIPTION:** Extremely variable, some specimens being opaque and almost uniform in colour, others strongly reticulated with fine impressed markings, yet others with largely open obscurely translucent windows. At least three main forms have been recognized and were even given varietal status — pallid, reticulated and fuscous — but although most colonies tend to have a majority of one or other of these, all have at least two and many have all three of them. A distinctive feature of the species is the “lip-smear”, though this is not always present. **Profile** truncate, flat to slightly convex, occasionally slightly concave; fissure 5-10 mm deep, lobes conjunct. **Face** flush; mostly ± reniform; lobes ± unequal; mostly opaque; smooth to slightly rugose. **Margins** usually distinct but irregular, with numerous indentations and peninsular projections into the window area, but sometimes rather obscure. **Windows** rarely ± open, usually occluded by a number of islands and peninsulas, therefore reduced to a system of **channels**, sometimes broad and distinct, often rather obscure, and frequently further reduced to a network of narrow slightly impressed furrows which barely accommodate the markings. **Islands** usually large, sometimes small, mostly well-defined and distinct but often obscure and indistinct against the background of opaque channels. **Markings** some-

times absent; usually a network of lines in the channels, sometimes bold and prominent, but often reduced to a number of isolated and obscure short lines, hooks and/or dots; such a line or row of dots may also occur in the lip-smear or may replace it sometimes when the latter is absent; along the inner margins, usually a fuscous lip-smear, sometimes entire and prominent, sometimes broken and obscure, occasionally absent; the fuscous suffusion of the lip-smear occurs rarely as a narrow edging all along the outer margins.

**Colours:** Margins and islands, opaque pale whitish grey, sometimes with a faint tint of blue, mauve, pink, buff or green. Windows/channels usually opaque grey-white, with tints of blue, mauve, pink, beige or brown, sometimes very obscurely translucent greenish grey, greenish or yellowish brown, or pinkish grey. Markings dark red, sometimes very obscure and visible only under a lens. Lip-smear dark greenish or brownish grey or beige. Shoulders as for margins and islands, or a little paler.

**Size:** Small to medium, up to 38 x 25 mm, mostly about 25 x 20 mm. Number of heads up to 8 or more, mostly 2-4.

**FLOWERS** white, medium to large, up to 43 mm Ø, mostly 25-35 mm Ø. **Seed capsules** usually 5-merous (90%), otherwise (10%) mostly 6-merous. Profile boat-shaped, top ± flat; face elliptic to narrow elliptic, up to 11,0 x 7,5 mm, mostly about 8,5 x 6,0 mm.

**13 *Lithops karasmontana*** (Dint. & Schwant.) N.E. Br. (1920) (W).

We recognize four varieties within this very variable species, namely var. *karasmontana*, var. *aiasisensis* (De Boer) Cole, var. *lericheana* (Dint. & Schwant.) Cole, and var. *tischeri* Cole.

**13.1 *Lithops karasmontana*** (Dint. & Schwant.) N.E. Br. var. *karasmontana* (W). **Plate 8/1-3.**

**COLLECTED** by Professor Kurt Dinter and his wife, Mrs Jutta Dinter, who discovered it in the Karas Mountains.

**DISTRIBUTION:** SWA/Namibia, to the W and SW of the Great Karasburg, mainly in the areas around and between Klein Karas, Grunau and northwards, and Ai-Ais. Type locality Karas Mountains, without further detail, but apparently near Klein Karas.

**DESCRIPTION:** Extremely variable, some specimens being opaque and uniformly coloured, others with an extensive network of narrow channels and markings, and yet others with obscurely translucent open windows; there is also a great deal of variation in the colours. In some colonies the plants tend to represent predominantly one colour or pattern form or another, but all colonies are “mixed” in some degree, and in