



## New species and taxonomic notes in *Ixia* (Iridaceae: Crocoideae) from western South Africa



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### ABSTRACT

New collections of the southern African genus *Ixia* ( $\pm 98$  species) ostensibly belonging to the Western Cape species *Ixia cedarmontana* prompted a review of the species. *I. cedarmontana* is reserved for plants from marshy, sandy habitats with white or pale pink flowers and long cylindrical tube up to 25 mm long. Cherry pink-flowered plants from shale band habitats are removed to the new *Ixia seracina* whereas plants with a shorter, funnel-shaped tube and a pink perianth with yellow cup are described as *Ixia arenosa*. *I. seracina* is known from two montane sites in the Cold Bokkeveld and Grootwinterhoek Mtns, south of the range of *I. cedarmontana*. The range of *I. arenosa* overlaps that of *I. cedarmontana* but extends southwards into the Cold Bokkeveld. We also describe the new *Ixia macrocarpa* from Loeriesfontein in Northern Cape, an acaulescent species with a filiform perianth tube, the filaments inserted at the mouth of the tube and united in a column enclosing the style. We infer an immediate relationship with *Ixia acaulis*, the only other acaulescent species in the genus. We include distribution maps and illustrations for all new species as well as comments on the conservation status for each species. In addition we report important range extensions for *Ixia collina* and *Ixia robusta*, until now known from one or very few localities.

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### 1. Introduction

*Ixia* L. (Iridaceae: Crocoideae), now with an estimated 98 species, extends from northern Namaqualand southwards to the Cape Peninsula and eastwards to the Nuweveld Mountains and to Grahamstown in Eastern Cape but is centred in the western half of the Western Cape, with significant representation in the Western Karoo of Northern Cape (De Vos, 1999). The taxonomy of the genus is relatively well studied, with recent revisions for three of the four sections currently recognised (Goldblatt and Manning, 2008, 2011, 2012).

New records in *Ixia* sect. *Hyalis* (Baker) Diels and sect. *Morphixia* (Ker Gawl.) Pax in the form of herbarium specimens and photographs have accumulated since our revision of the sections (Goldblatt and Manning, 2011), leading us to review our interpretation of the montane Western Cape species, *Ixia cedarmontana*

Goldblatt & J.C.Manning (sect. *Morphixia*). We conclude that *I. cedarmontana* should be reserved for populations from the Cedarberg with long-tubed, white or pale pink flowers that remain open at night and are then scented. We now recognise the long-tubed, deep pink-flowered populations on clay soils as *Ixia seracina* Goldblatt & J.C.Manning, and plants with a shorter, funnel-shaped tube and white to pink perianth with a yellow cup as *Ixia arenosa* Goldblatt & J.C.Manning. We provide a revised key to series *Paucifoliae*, to which *I. cedarmontana* is assigned. We also describe the new *Ixia macrocarpa* Goldblatt & J.C.Manning, known from a single population near Loeriesfontein, Northern Cape. This remarkable taxon is one of only two acaulescent species in the genus. It has yellow flowers marked dark brown at the base of the tepals, a narrowly cylindrical perianth tube, and filaments inserted at the apex of the tube. Its affinities are uncertain but we provisionally assign it to sect. *Hyalis* with the other acaulescent species, *Ixia acaulis* Goldblatt & J.C.Manning. In addition, we report small but significant range extensions for *Ixia collina* Goldblatt & Snijman, until now known only from the type locality south of Worcester, and for *Ixia robusta* (G.J.Lewis) Goldblatt & J.C. Manning.

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Fig. 1. *Ixia seracina*, Helme 6635 (NBG). Photographer: Nick Helme.

## 2. Materials and methods

The new species were described either from living plants collected in the field or from herbarium collections. We consulted the herbaria containing significant holdings of southern African flora (MO, NBG,

PRE—abbreviations following Holmgren et al., 1990) for additional collections.

## 3. Taxonomy

### 3.1. The *I. cedarmontana* complex

3.1.1. Supplement to key to species of *Ixia* series *Paucifoliae* [adapted with original numbering from Goldblatt and Manning (2011)]

- 1a Foliage leaves 2, with third leaf sheathing stem, sometimes free distally and blades  $\pm$  plane with slightly to prominently thickened (but not winged) margins and main vein  $\pm$  in centre of blade:
  - 10a Perianth tube broadly or narrowly funnel-shaped; tepals usually as long as or longer than tube . . . *I. arenosa*
  - 10b Perianth tube cylindrical or subcylindrical; tepals shorter than tube:
    - 11a Perianth tube 15–18 mm long; flowers pale lilac to white flushed lilac . . . *Ixia dolichosiphon*
    - 11b Perianth tube (18–)22–34 mm long; flowers pink or pale beige (also described as pale yellow) to white, usually flushed mauve to pink outside:
      - 12a Corm tunics of coarse, woody fibres; flowers pale beige; tepals oblong, 11–15  $\times$  3.0–4.5 mm . . . *I. paucifolia* G.J.Lewis
      - 12b Corm tunics of fine, pale fibres:
        - 13a Flowers white, sometimes flushed mauve to pink outside, or pale pink; perianth tube 20–24 mm long; basal leaf 2–4(5) mm wide,  $\pm$  as wide as second foliage leaf . . . *I. cedarmontana*
        - 13a Flowers deep pink; perianth tube 23–26 mm long; basal leaf 4–6 mm wide, much wider the second foliage leaf . . . *I. seracina*.

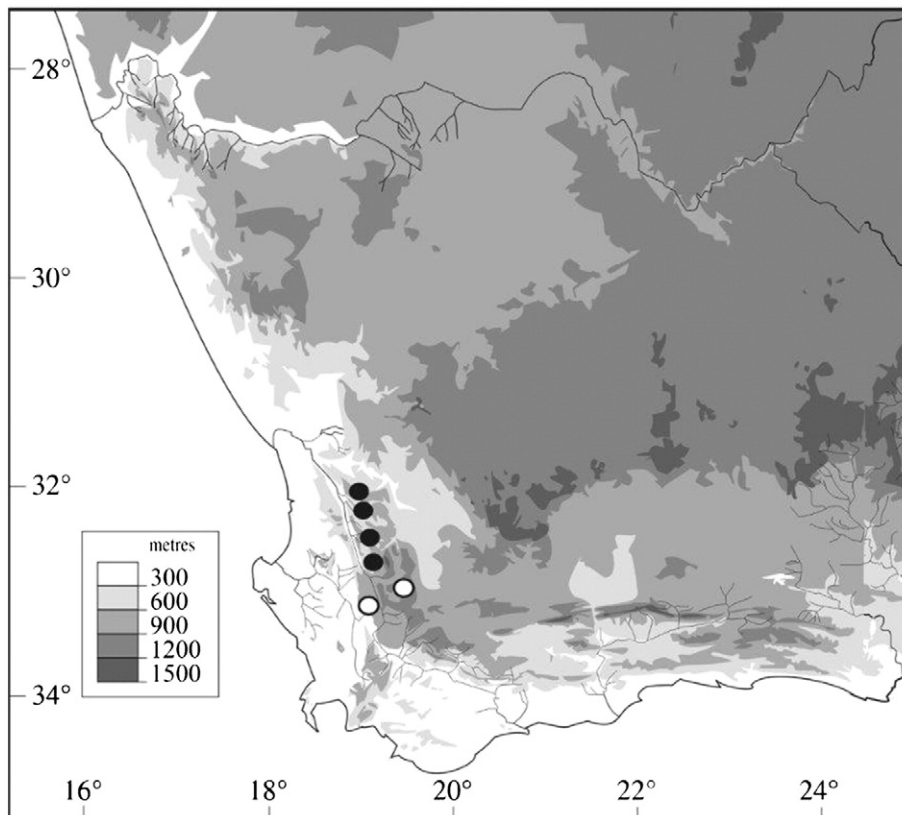


Fig. 2. Distribution of *Ixia seracina* (○) and *I. cedarmontana* (●).

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