

## STUDIES IN THE FLORA OF ARABIA: XVI

### Two new species of *Ceropegia* from Saudi Arabia

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ABSTRACT. Two new species of *Ceropegia* (Asclepiadaceae) are described and their relationships are discussed.

*Ceropegia* L. is well represented in Arabia with c.10 species: the first species to be described was *C. variegata* (Forssk.) Dcne., which was published as *Stapelia variegata* Forssk. (1775) (*non* L.); Deflers (1889, 1895, 1896a, 1896b) added four more species of which one, *C. tubulifera*, is conspecific with *C. variegata*; Schweinfurth collected *C. devechii* in what is now the Yemen Arab Republic and Huber (1957) described *C. arabica*.

Recent field work by Chaudhary, Mrs I. S. Collenette, Dr A. Nasher, (Abha), J.R.I. Wood, Lavranos, Newton and others has brought to light an astonishing diversity of *Ceropegia* material from Y.A.R. and, even more so, from Saudi Arabia.

There are four types of rootstock in *Ceropegia* and they are often of importance taxonomically speaking, in particular where specific relationships are concerned. These types are: fibrous roots; fascicles of thick, fusiform roots; globose, more or less flattened tubers, and finally, elongated tubers growing at right angles to the surface. The tubers of the last two types bear more or less fleshy, though not fusiform roots. The last type appears to be the least common one within the genus.

All four types of rootstock have been observed in Arabia. Forms with fusiform roots appear to be the most abundant, followed in frequency by those with fibrous roots. Lavranos has collected plants with globose, flattened tubers in the Y.A.R., N of Ibb and at Hamman 'Ali but, unfortunately, they were sterile in both cases and did not survive in cultivation. The two species here described belong to the group with elongated tubers.

Both our species seem to be related very closely indeed to three relatively little known taxa from Somalia, namely *C. subaphylla* K. Schum., *C. botrys* K. Schum. (1903) and *C. nuda* Hutch. & Bruce (1941) with which they have in common the type of rootstock and the elongated, swollen base of the corolla. D. V. Field (1982) has presented an excellent discussion of the three species from Somalia and has drawn our attention to the possibility that the Arabian plants might eventually prove to be conspecific with one or other of their Somali relatives. While this may be so, we agree with Field that, in view of the rather inadequate material available in the case of the Somali plants, a definitive review of relationships will only be possible once more material of the latter has been collected.

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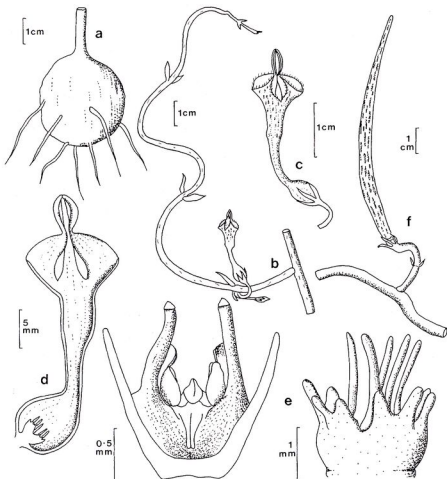


FIG. 1. *Ceropegia tihamana*: a, bulbous rhizome; b, general habit; c, flower; d, vertical section of corolla; e, outer and inner coronas; f, follicle.

***Ceropegia tihamana* Chaudhary & Lavranos, sp. nov. (Fig. 1).**

Affinis *C. subaphyllae* K. Schum. sed forma et colore corollae distinguitur.

Planta perennis, herbacea, tuberosa, scandens. *Tuber* oviforme, 3–4 cm diam., *Folia* mox decidua, 10 × 2–3 mm lata, apice acuta. *Flores* c. 27 mm longi, axillares, solitarii vel bini, longe (c. 12 mm) pedicellati; *corolla* albescens, puniceo suffusa, translucens, parte tertia superiore punctis minutissimis, fusco-purpureis ornata extus glabra; *tubus corollae* strictus vel curvatus, adscendens, basi globosa inflatus, parte media a 2 mm constrictus, parte superiore gradatim expansus et infundibuliformis, a 8–9 mm latus; *lobi* ciliati et intus parte inferiore pilis minutis induti, parte media connati, deinde divisi sed ad apices iterum connati. *Corona* duplex, cupularis, lobis exterioribus 5, breviter bidentatis, erectis, interioribus filiformibus, linearibus, strictis, erectis. *Folliculi* a 9 cm longi, 6 mm crassi.

SAUDI ARABIA: Abu-Arish (Jizan region), 17°02'N 42°57'E, 23 ii 1979, *S. Chaudhary* 901-A (holo. RIY, iso. E); FAO camp, Abu-Arish, 7 iii 1980, *I.S. Collett* 1998 (K).

Perennial, slender herbaceous twiner. *Rootstock* tuberous, oviform, 3–4cm diam. *Stem* and branches up to 5mm diam., rather soft. *Leaves* soon deciduous, c.10 × 2–3mm, acute towards the apex. *Flowers* c.27mm long, axillary, solitary or in pairs developed successively, with *pedicels* about 12mm long; *calyx* lobes linear, acute, 4mm long; *corolla* glabrous outside, creamy white, translucent, with dense, small, reddish brown spots on upper  $\frac{1}{3}$ ; *tube* straight or up-curved, the basal 5mm globose inflated, the middle 5–6mm narrowed to about 2mm, the upper part broadening into a funnel-shaped limb about 9mm at its widest point; interior of tube with a band of maroon-purple hairs just above the basal bulbosity; *corolla lobes* ciliate and bearing short hairs in their lower part, free at first, coalescing below the apex and then extended into a 5-lobed ovate-globose projection, 4–5mm long, creamy-white, the lobes of this projection free, but connate at the rounded apex. *Corona* biseriate, cupular, the outer 5 lobes shortly bifid at the apex, the inner lobes filiform, linear, straight, erect, 2–5mm long. *Follicles* c.9mm long, 6mm thick, terete, acuminate.

This taxon is named after the region of its distribution, the Tihamas (Red Sea Coastal Plains) of Saudi Arabia and the Yemen Arab Republic.

Lavranos & Newton had collected material belonging to this species from Al-Mawza, near Mokha in Yemen Arab Republic in 1977 (Lavranos & Newton 15908), but it was insufficient for publication. Apparently, this species is distributed in the Tihama regions in southwestern Saudi Arabia and the Yemen Arab Republic.

***Ceropegia mansouriana* Chaudhary & Lavranos, sp. nov. (Fig. 2).**

Affinis *C. subaphyllae* K. Schum. sed colore, forma et longitudine loborum corollae distinctissima.

Planta perennis, gracilis, tuberosa, scandens. *Tuber* piriforme, 3–4cm diam. *Folia* mox decidua, anguste deltoidea, acuta, a 5 × 2mm. *Flores* circiter a 55mm longi, axillares, solitarii vel bini, *pedicellis* a 30mm longis. *Corolla* extus glabra; *tubus corollae* viridis, supra purpureo punctatus et reticulatus, parte media ad pare angulo inflexus, basi per 8–9mm a 5mm inflatus, deinde per 8–9mm a 2mm constrictus, supra flexuram inflatus; *tubus* intus supra basin bulbosam ad paucam longitudinem hirtus; *lobi* corollae intus parte inferiore hirti, margine ciliate, c.15mm longi, parte superiore connati, deinde per 8–9mm liberi, primum divergentes, deinde inflexi, apice connati; basis loborum viridis, purpureo maculata, pars media fusco-purpurea; apex loborum albescens. *Corona* duplex, cupularis, lobis 5 exterioribus breviter bidentatis, interioribus filiformibus, apice paulo recurvatis.

SAUDI ARABIA: Abu-Arish (Jizan Region), 17°02'N 42°57'E, 23 ii 1979, S. Chaudhary 900A (holo. RIY, iso. E).

Perennial, slender, succulent, usually leafless twiner. *Rootstock* tuberous, piriform, 3–4cm diam.; stem and branches rarely exceeding 5mm in thickness. *Leaves* caducous, small, c.5 × 2mm, acute. *Flowers* c.5.5cm long, axillary, solitary or in pairs, pedicellate, the pedicels thin, up to 30mm long; *calyx-lobes* linear, about 5mm long. *Corolla* glabrous outside; corolla-tube bent in the middle at a right-angle; basal 8–9mm of the tube inflated (about 5mm wide), the middle 8–9mm narrow (about 2mm wide), saccate or inflated at the bend above which the tube slightly wider; interior of the tube with a hairy band just above the basal bulbosity; lobes of corolla-limb ciliate-fringed, glabrous in their upper

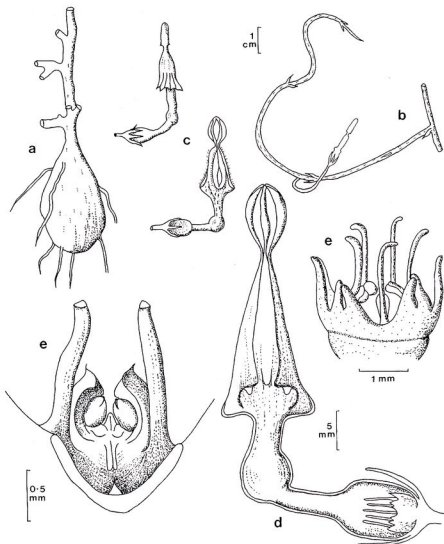


FIG. 2. *Ceropegia mansouriana*: a, bulbous rhizome; b, general habit; c, flower; d, vertical section of corolla; e, outer and inner coronas.

portion, the lower, broader part bearing short hairs, free for 15–18mm, thereafter connate and then projected into a 5-lobed, 8–9mm long, creamy-white beak; the beak-lobes separate from each other but connate at the apex; upper part of the corolla-tube and lower  $\frac{3}{4}$  of the corolla-lobes speckled and fine-dotted and reticulated with reddish-brown on greenish-yellow, translucent ground; upper  $\frac{1}{4}$  of the lobes solid dark-maroon or maroon-purple. *Corona* biseriate; outer cupulate, 5-lobed, the outer lobes shortly bidentate, inner lobes 5, entire, erect, slightly recurved below their tips. *Follicles* not seen.

Apparently this species is distributed in the lower foothills of the Asir

Escarpment. It was also collected by Mrs Sheila Collett some 50km N of Muhaylah (2 v 1981, *I.S. Collett* 2626 (K)).

This taxon is named after Dr Mansour Abu-Hussein, former professor at the University of Riyadh (now the King Saud University).

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#### REFERENCES

- DEFLERS, A. (1889). *Voyage au Yémen. Journal d'une excursion botanique faite en 1887 dans les montagnes de l'Arabie Heureuse*. Paris.
- (1895). Esquisse de Géographie Botanique. La végétation de l'Arabie tropicale au delà du Yémen. *Revue d'Egypte* 1:349–370, 400–430.
- (1896a). Les Asclépiadées de l'Arabie Tropicale. *Mém. Inst. Egypt* 3(2):262–264, tab. 1.
- (1896b). Plantes d'Arabie Méridionale recueillies pendant les années 1889, 1890, 1893 & 1894. *Bull. Soc. Bot. France* 43:321–332.
- FIELD, D. V. (1982). Two new African species of *Ceropegia* and a reconsideration of *C. subaphylla*. *Kew Bull.* 37:305–313.
- FORSSKÅL, P. (1775). *Flora Aegyptiaco-arabica*, 51.
- HUBER, H. (1957). Revision der Gattung *Ceropegia*. *Mem. Soc. Brot.* 12: 5–203.
- HUTCHINSON, J. & BRUCE, E. A. (1941). Enumeration of plants collected by Mr J.B. Gillett in Somaliland and Eastern Abyssinia. *Bull. Misc. Inf. Kew* 1941: 76–199.
- SCHUMANN, K. (1903). Asclepiadaceae africanæ. *Bot. Jahrb.* 33:328–329.