Notes on African plants

VARIOUS AUTHORS

INTRODUCTION

Ophrestia H.M.L.Forbes is a member of the sub-tribe Ophrestiinae in tribe Phaseoleae (Fabaceae). This sub-tribe was erected by Lackey (1977) to include three genera: the mostly African Ophrestia, the tropical African Pseudoglycine Hauman (both previously in Glycininae) and the South-East Asian Crudassia Prain (formerly in Galactiinae). Although the Ophrestiinae appear to have affinities with some Asian Tephrosia Pers. (Tephrosia is currently placed in the tribe Millettieae), Lackey (1977) decided to keep them within the Phaseoleae due to their twining habit. The Ophrestiinae can therefore be described as ‘Tephrosia-like Phaseoleae’. A cladogram generated from a combination of molecular datasets (including Kajita et al. 2001 – rbcl; Hu et al. 2002 – ITS; and Wojciechowski et al. 2004 – matK) nonetheless points to a sister relationship of Ophrestiinae with the core-Millettieae (Schrire 2005). These datasets, however, included only two representatives of the Ophrestiinae, i.e. Ophrestia hedysaroïdes (Willd.) Verdc. and O. radicosa (A.Rich.) Verdc.

Ophrestia, an anagram of Tephrosia, was created by Forbes (1948) to accommodate T. oblongifolia E.Mey. and three other species, which she described as new at the time: O. nervosa H.M.L.Forbes, O. retusa H.M.L.Forbes and O. swazica H.M.L.Forbes. The latter three were all subsequently placed into the synonymy of O. oblongifolia (E.Mey.) H.M.L.Forbes by Verdcourt (1970), who argued that the leaf characters given by Forbes (1948) were “quite unusable and too variable”. Ophrestia and Tephrosia (especially the Asian species) share a number of characters, including pentafoliolate leaves, silky petals and obscure stipels (Lackey 1981). Ophrestia, however, differs from Tephrosia in having leaflets with fewer, prominent and widely-spaced lateral veins, which loop back without forming a marginal vein, as opposed to the many, inconspicuous, and closely-spaced parallel veins that form a marginal vein in Tephrosia (Forbes 1948; Verdcourt 1970).

Verdcourt (1970) expanded the circumscription of Ophrestia by amalgamating it with Paraglycine F.J.Herm. and Pseudoglycine F.J.Herm. on the basis that Herman’s (1962) characters were not adequate to separate these two genera from Ophrestia. Paraglycine is characterized by having 1–7 leaflets, pubescent exterior of corolla, and a swollen, cartilaginous, ariloid strophiole (Herman 1962). Pseudoglycine has 5–7 leaflets, sericeous standard on the outside towards the apex, and a hilum covered by a membranaceous collar; it can also be characterized by petaloid calyx lobes and a persistent style in the fruit (Hermann, 1962). Ophrestia can be characterized by lateral veins which loop back without forming a marginal vein on the leaflets, it has 1–11 leaflets, pubescent corolla on the outer surface, and a prominent aril. Some species of Ophrestia are superficially similar to certain species of Glycine Willd., which would explain why a number of the species transferred from Paraglycine to Ophrestia were originally placed in Glycine (e.g. Harms 1899; Baker 1929; Hauman 1955). Ophrestia, however, differs from Glycine in having short petioles, silky standard petals (glabrous in the latter), and prominent seed arils (Lackey 1977, 1981). In addition, Glycine is generally trifoliolate, while Ophrestia is 1–5-jugate (Forbes 1948). As currently circumscribed (Schrire 2005), Ophrestia comprises 16 species occurring mainly across Tropical Africa (8), and also in Madagascar (4), Asia (3), and thinly distributed in southern Africa (1). We describe and illustrate the southern African O. oblongifolia for the first time since its description, correct the typification, and also provide a distribution map.

MATERIALS AND METHODS

Plant material was studied mainly from herbarium specimens loaned from PRE, which has a comprehensive collection of Ophrestia specimens. Habitat affinities are described according to Mucina & Rutherford (2006). Type specimens were viewed at www.plants.jstor.org.

TAXONOMIC TREATMENT


Paraglycine F.J.Herm.: 52 (1962); Hutch.: 448 (1964). Type species: P. hedysaroïdes (Willd.) F.J.Herm. (= Ophrestia hedysaroïdes (Willd.) Verdc.)

Pseudoglycine F.J.Herm.: 74 (1962); Hutch.: 448 (1964). Type species: P. lyallii (Benth.) F.J.Herm (= Ophrestia lyallii (Benth.) Verdc.)

Prostrate, climbing or erect perennial herbs or shrubs, arising from a woody rootstock. Leaves digitately or pinnately 3–11-foliolate or unifoliolate, leaflets elliptic-oblong, ovate-oblong or lanceolate-oblong,
with 5–7 prominent nerves above; stipules linear; stipels minute or absent. Inflorescence axillary racemes, slender, sometimes much longer than leaves, few- to many-flowered. Bracts persistent, linear-lanceolate; bracteoles persistent, linear or filiform. Calyx campanulate, sometimes cylindric-campanulate, 5-lobed, tube membranous; lobes subequal, all shorter than tube, upper two ± connate. Corolla longer than calyx, purple, purplish pink, violet, whitish pink or yellow; standard oblong-pandurate, lower part auriculate, silky on outer side, with well-developed, channelled claw; wings usually oblong, auriculate near base, with well-developed linear claw, silky outside; keel narrowly elliptic, with well-developed linear claw, auriculate near base, silky outside. Stamens diadelphous, vexillary stamen free or slightly joined to others, filaments alternatively long and short, anthers all uniform in size. Ovary subsessile, silky, ovules 2–8, style glabrous or hairy along one side, stigma small, capitate. Fruit oblong or linear-oblong, dehiscent, oblong-ovate, smooth, aril prominent.

16 spp.; southern Africa (South Africa and Swaziland), northwards into Tropical Africa, extending to Asia and also in Madagascar.

Diagnostic characters: Ophrestia shares a number of characters with Tephrosia, notably the pentafoliolate leaves, silky petals and obscure stipels, but is distinguished from it by the fewer, prominent and widely-spaced lateral veins which loop back without forming a marginal vein on the leaflets.

O. oblongifolia (E.Mey.) H.M.L.Forbes in Bothalia 4: 258 (1948); Verdc. 24: 258 (1970). Tephrosia oblongifolia E.Mey.: 108 (1836); Meissn.: 86 (1843); C.Krauss: 54 (1846); Harv.: 209 (1862); O.Kuntze: 175 (1891); Wood: 42 (1907); Burtt Davy: 377 (1932). Type: South Africa, [KwaZulu-Natal], Drège s.n. P03453602 (P, lecto., here designated). [Syntypes: [Eastern Cape], ‘ad Omskaba’ [Msikaba River], Drège s.n. (syn., not located); ’prope Ompento et’ [Mtenu River], Drège s.n. (P! K!, syn.). [Note: The fruiting specimen in P is chosen as lectotype because it was annotated by Meyer and because it is the only one with fruits (the fruits were described in the prognosis)].


O. nervosa H.M.L.Forbes: 1006 (1948). Type: South Africa, [North-West], Marico district, Thode A 1394 (NH, holo.).


O. swazica H.M.L.Forbes: 1005 (1948). Type: Swaziland, Dalriach at Forbes’ Reef H. Bolus 11845 (PRE, holo.; GRA! K!, NH!, iso.).

Scandent perennial herb with trailing stems, up to 1 m wide. Leaves 1–5-jugate, rarely unifoliolate; leaflets oblong, 40–75 × 20–30 mm, densely silky beneath, glabrescent above, petiole (25–)45–80 mm long; stipules linear-lanceolate, 5–7 × 1–2 mm; stipels absent. Inflorescences few- to many-flowered axillary racemes; peduncles 7–35 cm long. Flowers purple, purplish pink, violet, whitish pink, yellow or bluish-purple, (6–)11–15 mm long; bracts persistent, linear-lanceolate, 4–6 × ± 0.5 mm; bracteoles linear-lanceolate, 2–3 × ± 0.2 mm. Calyx bilabiately, densely silky hairy, two upper lobes fused up to two-thirds of their length, upper lip 6–8 mm long, lower lip 6–8 mm long. Petals: standard oblong, 10–12 × 4–6 mm, silky on outside, claw 2–4 mm long; wings oblong, 6–10 × 4–6 mm, silky on outside, claw ± 3 mm long; keel narrowly elliptic, 5–9 × 3–4 mm, claw 3–4 mm long. Stamens diadelphous, vexillary stamen slightly joined to others. Ovary 4–5 mm long, linear-oblong, 2–4-ovuled, style with few hairs along one side, curved upwards. Fruit linear, laterally compressed, 20–40 × 7–8 mm, glabrescent, 1–2-seeded. Seeds brown to black, oblong to ovoid, ±4 × ±3 mm, aril prominent. Flowering time: Nov.–Feb. (Figure 1).

Distribution: Ophrestia oblongifolia is the only species of the genus that occurs in southern Africa and is endemic to South Africa (Limpopo, North-West, Gauteng, Mpumalanga, and KwaZulu-Natal) and Swaziland (Figure 2).

Diagnostic characters: Close to O. hedysaroides and O. radiocosa in having generally oblong leaflets, however in these two species the petioles are shorter than in O. oblongifolia (the longest being up to 5.5 cm in O. radiocosa vs. 7.5 cm in the latter). In all African species of Ophrestia (except O. hedysaroides), the leaflets are narrower than in O. oblongifolia (up to 18 mm in O. unifoliolata [Bak.f.] Verdc. compared to up to 2.5 cm). O. oblongifolia also lacks stipels.

Key to varieties of O. oblongifolia:

1a. Leaves 3–7-foliolate, sparsely to densely covered with whitish hairs . . . var. oblongifolia
1b. Leaves 3–11-foliolate; whole plant densely covered with brownish hairs . . . var. velutinosa

O. oblongifolia var. oblongifolia

Leaves with 3–7 leaflets. Whole plant sparsely to densely covered with whitish hairs.

Diagnostic characters: Ophrestia oblongifolia var. oblongifolia is less robust (with fewer leaflets than var. velutinosa) and is sparsely to densely covered with whitish hairs while in the latter the hairs are brownish.

Distribution and habitat: This variety is much more widespread than var. velutinosa, occurring in South Africa (Limpopo, North-West, Gauteng, Mpumalanga, and KwaZulu-Natal) and the Mbabane area in Swaziland (Figure 2). It grows on sandy soil in the Savanna and Grassland Biomes in the following vegetation types: Zeerust Thornveld, Gold Reef Mountain Bushveld; Central Sandy Bushveld, Mkhado Sweet Bushveld; Polokwane Plateau Bushveld, Legogote Sour Bushveld, Swaziland Sour Bushveld, Carletonville Dolomite Grassland, KaNgwane Montane Grassland, KwaZulu-
Natal Coastal Belt, Thukela Thornveld, and Ngongoni Veld (Mucina & Rutherford, 2006).

Additional specimens


NORTH-WEST.—2526 (Zeerust): Zeerust, (–CA), Mar. 1912, T.J. Jenkins 11679 (PRE); Grasfontein, Lichtenburg, (–CC), 8 Dec. 1929, J.D. Sutton 302 (PRE).


2528 (Pretoria): camp adjoining govt house, Bryntirion, (–CA), 14 Nov. 1926, C.A. Smith 3353 (PRE); Botanical Reserve, Silverton, (–CB), 16 Dec. 1946, R. Story 1420 (PRE).


2931 (Stanger): Port Natal [Durban], (–CC), Drège s.n. c (P).


Natal], ‘Zululand’, Gerrard 1082 (NH, holo.; BM!, K!, P!, iso.).

Leaves with 3–11 leaflets. Whole plant densely covered with brownish hairs.

**Diagnostic characters:** this variety appears to be more robust (with 3–11 leaflets as opposed to 3–7 leaflets) than the typical variety, and much more hairy, with brown rather than white hairs.

**Distribution and habitat:** var. velutinosa appears to be restricted to the KwaZulu-Natal coastal belt, from Port Shepstone to north of Durban. It occurs on sandy soil in Midlands Mistbelt, Thukela Valley Bushveld and Eastern Valley Bushveld (Mucina & Rutherford 2006).

**Additional specimens seen**


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**REFERENCES**


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**CYPERACEAE**

**IDENTITY AND TYPIFICATION OF CAREX COGNATA AND STATUS OF C. DRAKENSBERGENSIS**

In a useful synopsis of sub-Saharan and Madagascan species of *Carex*, Gehrecke (2011: 73) lectotypified the name *Carex cognata* Kunth on ‘South Africa, Western Cape Province, Swellendam and George District, W. Mundi s.n.’ (S) (more correctly it was a neotypification) and since that particular specimen is (in our opinion) part of the same collection cited by Nees (1836) as *C. clavata* Thunb. and currently identified by Gehrecke (2011) as such, the action resulted in Gehrecke placing *C. cognata* in the synonymy of *C. clavata*. *Carex cognata*, in the sense of recent authors, e.g. Clarke (1898), Kükenthal (1909), Haines & Lye (1983), Gordon-Gray (1995), and Verdcourt (2010) was treated by Gehrecke (2011: 75) as *C. congolensis* Turrill, citing several specimens from southern Africa as this species. In the same article, Gehrecke (2011: 74) treated the evidently closely related *C. drakensbergensis* C.B. Clarke as a separate species. The aim of this brief note is to discuss and clarify some of the issues of typification and synonymy within this African species complex, mainly with reference to southern Africa.