



Eriosema arenicola stat. nov. and some notes on *Eriosema glomeratum* (Leguminosae-Papilionoideae) in West Africa

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Key words

Eriosema
Leguminosae-Papilionoideae
West Africa

Abstract *Eriosema arenicola* deserves species status. Its nearest relatives are discussed and a key to distinguish the taxa is provided. Three maps depict the occurrence of the taxa.

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INTRODUCTION

In the course of our work for the Flore Analytique du Bénin (Akoègninou et al. 2006) and while curating Leguminosae from other parts of West Africa in Wageningen, we came across an *Eriosema* clearly different from *Eriosema laurentii* De Wild. It has been described as *E. laurentii* subsp. *arenicola* Verdc. (1971), with narrower leaflets and smaller pedunculate inflorescences than the typical subsp. *laurentii*, and is restricted to sandy littoral habitats. Verdcourt treated it as an ecological subspecies, and mentioned that it had been suggested that it was a distinct species. Now some more material is available, over a wider geographical range, we feel this taxon is worthy of specific status: *Eriosema arenicola* (Verdc.) Maesen & Wieringa. The maps 1–3 are based on the material present in WAG with in addition the types and some sheets that could be identified from the images provided online by P. These maps will not be complete, but will give an impression of the distribution area. For *E. arenicola* also the material present at K is included in the map.

Eriosema arenicola (Verdc.) Maesen & Wieringa, stat. nov. — Map 1

Basionym: *Eriosema laurentii* De Wild. subsp. *arenicola* Verdc., Kew Bull. 25 (1971) 114. — Type: *Deighton 2679* (holo K; iso P n.v.), Sierra Leone, behind H.W.M. between Kent and Tombo, on sandy shore. — Paratypes: *Deighton 2277* (K), Sierra Leone, Turtle Islands, Yele; *Dinklage 3279* (A, BM, K, P, US), Liberia, near Monrovia, Kings Farm. Additional material: *Adam 27917* (P n.v., WAG), Guinea, Kindia; *Adam 28403* (P), Liberia, Buchanan; *Kunkel 6* (WAG), Liberia, Upper Mesurado River, near Monrovia.

Perennial herb with long vertical tap root, procumbent or not, with ascendant or erect branches up to 30–40 cm long, appressed-pubescent; trifoliolate leaves, leaflets rather coriaceous, narrow-lanceolate, 2–9 by 0.3–1 cm, apex acute, mucronate, short-pubescent above and below, veins below prominent, brown, not opposite, pedicels 1–2 mm long. *Stipules* lanceolate, c. 8 mm long, striate, almost glabrous, margins pubescent. *Inflorescences* pedunculate pseudoracemes, 0.3–4 cm long, flowers c. 3–12, papilionaceous, c. 5 mm long, corolla

yellow or red. Pods black, brown to grey-hairy, rounded-oblong, c. 1 cm long, 1–2 seeds.

Ecological note — The plants look capable of surviving savannah fires. Except for *Adam 27917* all localities are coastal sites.

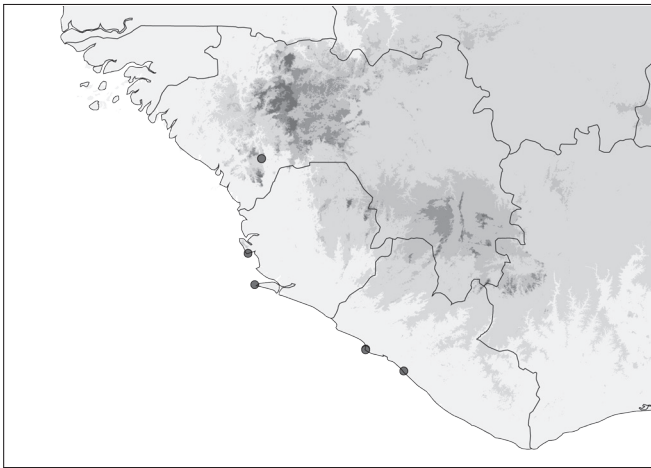
Conservation assessment — Based on an area of extent of nearly 48 000 km² and on an area of occupancy of c. 15 000 km² when using grid cells of 56 km, *E. arenicola* would be classified as Least Concern. However, since the most recent collection (*Adam 28403*) is already 38 years old, at least the Monrovia locality of the species is probably lost, and the actual distribution area along the coast is confined to a very narrow savannah strip that is not considered by both the AOO and EOO calculations, we consider *E. arenicola* is under quite some threat at present and we assess it as Threatened.

Notes — This taxon belongs to the group around *E. glomeratum* (Guill. & Perr.) Hook.f., of which species Verdcourt (1971) indicated the lectotype: *Perrottet s.n.* (P, barcode P00373661), Senegal, Kounoun, 12 mars 1829. It is a smallish specimen with sessile capitate inflorescences, in West Africa difficult to separate from var. *elongatum* (Baill.) Baker, with pedunculate inflorescences; hence both Verdcourt and Jacques-Félix (1971) synonymised the latter with var. *glomeratum*. However, in Flore du Congo-Belge et du Ruanda-Urundi Hauman (1954) kept var. *elongatum* apart, and the specimens are reasonably easy to sort in the more central part of Africa. In Flora Zambesiaca both these taxa are absent, apart from a mention as doubtful (Verdcourt 2001). Hepper in Flora of West Tropical Africa (1958) quoted *Deighton 2679* and *Dinklage 3279* under *E. glomeratum* as undescribed sea coast forms.

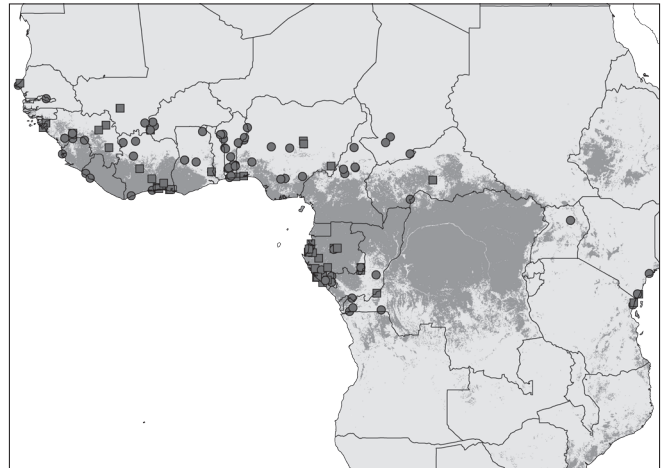
In the Flore Analytique du Bénin (Akoègninou et al. 2006) and the Checklist of Gabon (Sosef et al. 2006) *E. laurentii* was considered a variety of *E. glomeratum*, but upon further consideration it is distinct enough to merit the rank of species, just as Hauman (1954) and Jacques-Félix (1971) preferred. As is apparent from Map 2 and 3 these two species have a different distribution and hence ecology. *Eriosema laurentii* occupies a habitat that, albeit savannah, is closer linked to the forested areas than *E. glomeratum*, the latter avoids the dense forest region as a whole.

The following key may facilitate to separate the species and varieties:

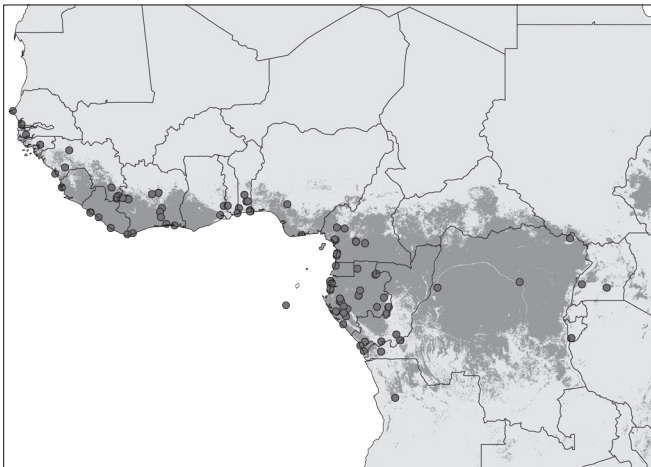
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Map 1 Distribution of *Eriosema arenicola* in West Africa, background indicates altitude.



Map 2 Distribution of *Eriosema glomeratum* var. *elongatum* (■) and *E. glomeratum* var. *glomeratum* (●), darker grey in the background indicates forest cover.



Map 3 Distribution of *Eriosema laurentii*, darker grey in the background indicates forest cover.

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- 1. Leaflets linear to narrowly lanceolate, 2–9 by 0.3–1 cm, leaflets 4.5–15.5 times as long as wide, apex acute, mucronate, short-pubescent above and below, indumentum on the ribbed branches appressed *E. arenicola*
- 1. Leaflets (narrowly) elliptic or oblanceolate, 1.5–12 by 0.6–2.5 cm, leaflets 1.6–8.7 times as long as wide, apex rounded or attenuate, indumentum appressed or upright 2
- 2. Indumentum on branchlets appressed, hairs c. 1 mm long, rarely a few hairs of c. 2 mm occur, hairs usually concentrated on the ribs creating a stripe pattern. Leaflets (narrowly) elliptic, 3–12 by 0.6–2 cm, leaflets 2.8–8.7 times as long as wide, apex and base attenuate, venation pinnate *E. laurentii*
- 2. Branches with long (> 2 mm) upright hairs, often also smaller hairs present, hairs do not create a stripe pattern. Leaflets oblanceolate, 1.5–7.5 by 0.5–2.5 cm, leaflets 1.5–6 times as long as wide, apex rounded or cuneate, venation with the basal secondary veins reaching or surpassing the middle of the leaflet *E. glomeratum* 3
- 3. Inflorescences sessile, (6–)9–16 flowers or more *var. glomeratum*
- 3. Inflorescence pedunculate, (2–)3–9(–10) flowers *var. elongatum*

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