Notes RBG Edinb. 41(1):115–121 (1983)

TWO NEW MONOTYPIC GENERA OF LABIATAE

I. C. HEDGE

ABSTRACT. Two new genera of Labiatae are described from the Old World. *Puntia* Hedge from Somalia is very isolated in the family and apparently without a generic ally in subfamily Stachyoideae; the single species *P. stenocaulis* Hedge is from the coastal plains of C Somalia. *Dauphinea* Hedge (*D. brevilabra* Hedge), subfamily Ocimoideae, is a new genus from Madagascar; it has some distant affinity to *Plectranthus* L'Hérit., but differs in the broad corolla tube and the short corolla lobes. Both new genera are based on single gatherings.

Puntia Hedge, **gen. nov.** (Labiatae-Stachyoideae)

Herba perennis elata. *Caules* numerosi, erecti, ramosi, pauci-foliati, tenues. *Folia* integra, linearia, opposita, margine revoluta, sessilia, pilis simplicibus eglandulosis brevissimis et glandulis sessilibus obsita. *Racemi* terminales, pauciflori, laxi. *Verticillastri* 2-flori, distantes. *Bracteae* parvae. *Calyx* tubuloso-campanulatus, non vel vix bilabiatus, 10-nervis indistinctis, in parte superiore calycis reticulato-anastomosantibus; labium inferius tridentatum; superius bidentatum. *Corolla* bilabiata, labiis vix divergentibus; labium superius bilobum, breve, porrectum; labium inferius trilobum, lobo mediano majore, lateralibus brevioribus; tubus ± rectus superne sensim ampliatus, exannulatus sed pilis longis eglandulosis numerosis ornatus, calyce exsertus. *Stamina* 4 omnino fertilia, didynama, anteriora quam posteriora breviora, corollae tubo inclusa, porrecta; antherae uniloculares, glabrae. *Stigma* bipartitum, lobis latis applanatis inaequalibus. *Nux* ignota. Genus monotypicum.
Type: *Puntia stenocaulis* Hedge.

Puntia stenocaulis Hedge, **sp. nov.** Fig. 1

Herba perennis inferne lignosa. *Caules* ad 70cm, tenues, erecti vel ascendentes, vix quadrangulares, inferne glabri, superne in regione inflorescentiae pilis paucis albidis eglandulosis minutissimis adpressis antrorsis obsiti, plerumque in dimidio superiore ramosi, internodiis elongatis. *Folia* pauca, 10–20 × 0.5–1 (–1.5)mm, anguste linearia, sessilia, margine revoluta, incrassata, pilis eglandulosis antrorsis brevissimis et glandulis numerosis sessilibus provisa; costa mediana invisibilis. *Petiolus* subnullus vel in caule decurrens. *Inflorescentiae* ad extremos ramos laxe dispositae, sine ramulis. *Bracteae* binae c. 1.5mm longae. *Pedicelli* 2–4mm, tenues, erecti. *Calyx* tubuloso-campanulatus, c. 5mm longus, pilis eglandulosis adpressis numerosis et glandulis sessilibus paucis praeditus, non vel vix bilabiatus; nervi primarii tenues in dentes calycinos excurrentes; nervi laterales tenuissimi indistincti; labium inferius bidentatum dentibus c. 1.5mm longis, ovato-triangularibus; labium superius tridentatum dente intermedio lateralibus latiore; indumentum calycis intra e pilis longis eglandulosis consistens. *Corolla* alba, c. 10–12mm longa, ± ad quartem partem bilabiata, intus indumentum ut in calycibus; labium inferius trilobum; labium superius bilobum ut videtur ± rectus. *Stamina* quattuor in tubo corollae inclusa; filamenta brevia.

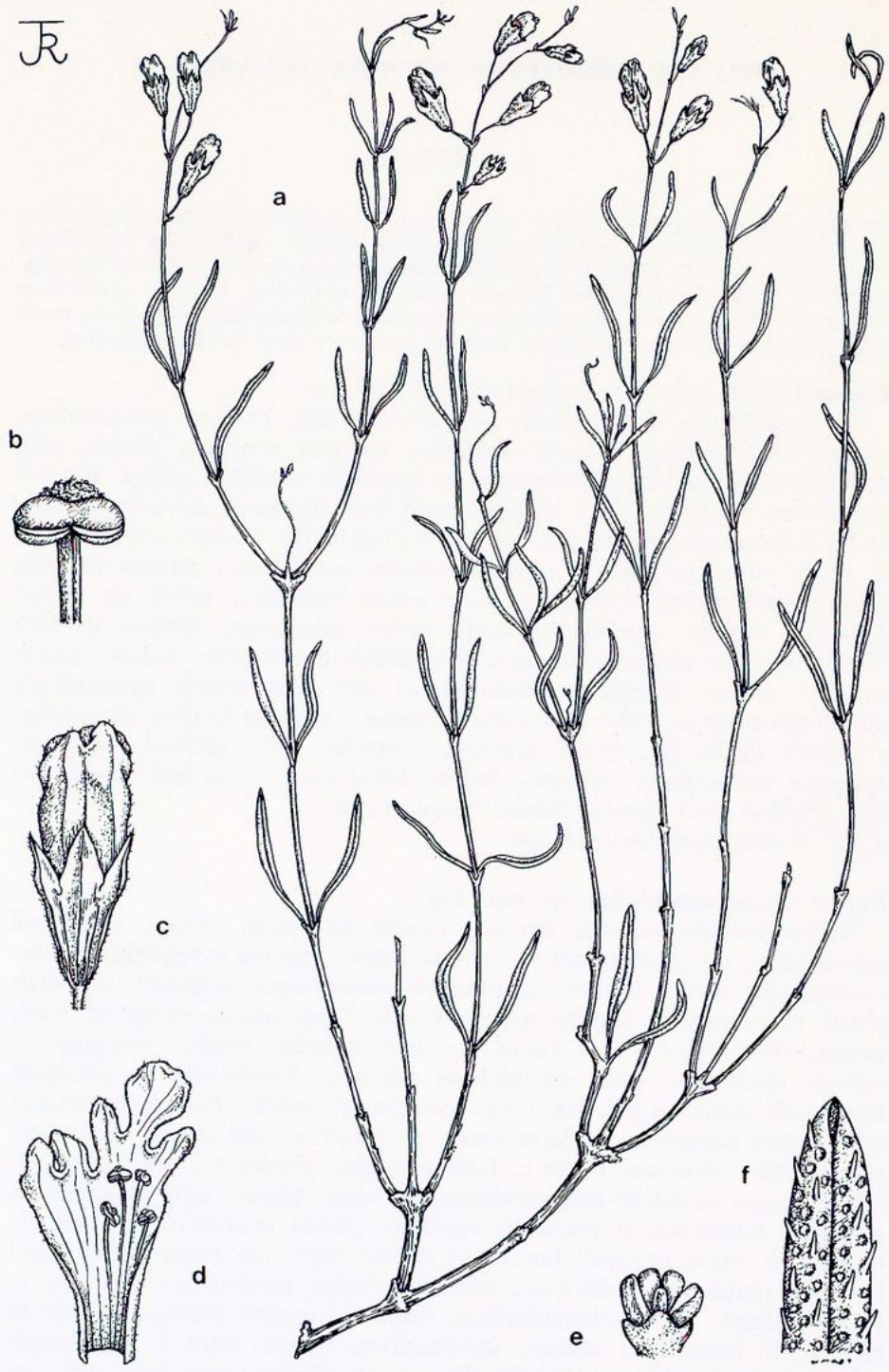

FIG. 1. *Puntia stenocaulis* Hedge: a, habit × 1.4; b, stamen × 25; c, calyx upper lip and flower bud × 4.5; d, corolla opened out × 4; e, ovary × 20; f, leaf undersurface × 25.

SOMALIA (C): 44km S of Jeriban (Jerriiban) on road to Obbia (Hobya), 6°50′N, 48°52′E; whippy herb c. 70cm high, corolla white; abundant here, not seen elsewhere, with *Acacia leucospyra, A. sarcophylla* and *Loewia,* 110m, 27 v 1979, *J. B. Gillett, C. F. Hemming & R. M. Watson* 22102 (holotype E; iso. EA, FI–n.v., K–n.v., MOG–n.v.).

A first glance at this curious plant does not give the impression of it being a Labiate at all and indeed in the field the very experienced collectors mistook it for an unknown genus of Scrophulariaceae. Only when a dissection showed it to have a 4-lobed, 4-ovulate ovary and a clearly gynobasic style was its true family identity revealed. It appears to be very isolated in the family and belongs to the huge subfamily Stachyoideae, but further than that, at least at present, it seems impossible to go. There are many other such isolated genera throughout the world in the Labiatae and often, as is the case with *Puntia,* they are distinctive on account of combinations of vegetative and/or floral characters rather than in having any one particularly unusual feature. In the Somali genus, the whip-like slender often unbranched stems, the few linear revolute leaves, the few-flowered inflorescences with distant 2-flowered verticillasters, the not or scarcely bilabiate calcyes with subequal teeth, the bilabiate corolla with a 2-lobed straight upper lip and a 3-lobed lower lip, stamens included within the corolla tube, the unilocular thecae with horizontal dehiscence and the rather broad stigmatic lobes all combine to give an unusual permutation of characters.

On the basis of the almost regular calyx, the 2-lobed upper and 3-lobed lower lobes of the corolla, and the position of the stamens, the new genus is, as indicated above, in subfamily Stachyoideae and not, as many tropical Labiatae are, in Ocimoideae, characterized by the declinate stamens. Further material, especially with mature nutlets and field observations on the positioning of the corolla lobes, might provide new clues in suggesting an ally, but it seem most likely that *Puntia* will retain its isolated position in the family.

Two of the floral features of *Puntia* deserve comment: the positioning of the staminal filaments, and the structure of the thecae. Throughout the Labiatae, and indeed the 4-staminate families of the 'Bicarpellatae', the normal situation is that the anterior pair of stamens are inserted on the central part of the labellum and the posterior pair about the lateral margins of the galea. In *Puntia* the stamens all appear to be inserted on the labellum and only careful examination shows that the posterior pair are on vascular strands leading to the outer extremities of the galea. Secondly, unilocular thecae are very unusual in the Stachyoideae, but common in the mostly tropical Ocimoideae. In many of the genera of the latter the anthers are very similar to those of *Puntia* with confluent thecae and a central apical tuft of sterile tissue.

The Labiatae are relatively poorly developed in Somalia. Chiovenda's *Flora Somala* (1929) lists but seven genera and in Cufodontis' *Adumbratio Florae Aethiopicae* (1962–63) the following 19 genera are given, by extrapolation, for present-day Somalia: *Teucrium* L., *Tinnea* Kotschy & Peyr., *Renschia* Vatke, *Lavandula* L., *Nepeta* L., *Leucas* R. Br., *Otostegia* Benth., *Stachys* L., *Salvia* L., *Satureja* L. (s.l.), *Aeollanthus* Mart.,

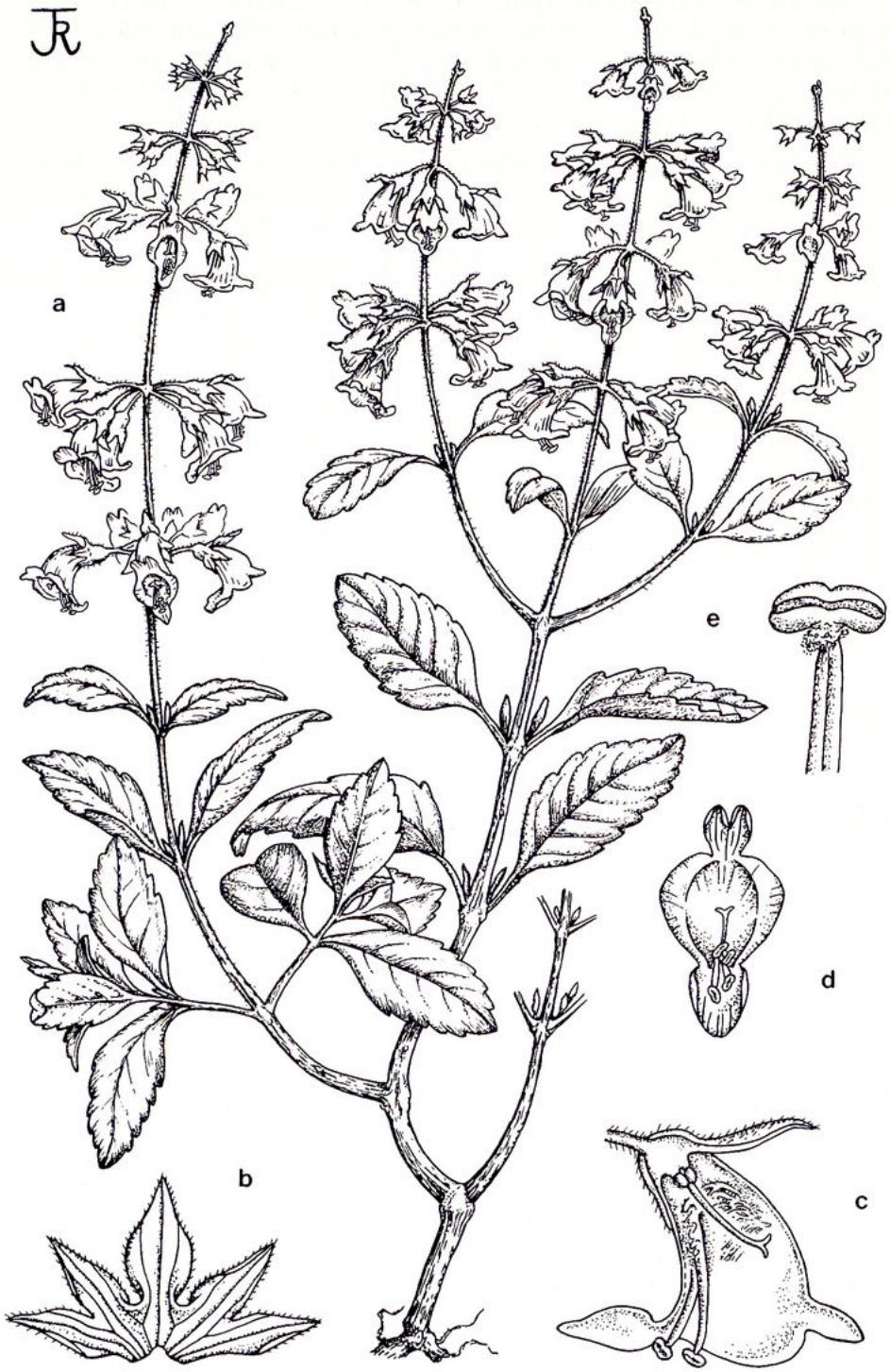

FIG. 2. *Dauphinea brevilabris* Hedge: a, habit × 0.60; b, calyx opened out × 3; c, corolla side view × 3; d, corolla frontal view × 2.5; e, stamen × 12.

Plectranthus L. 'Hér., *Capitanya* Gürke, *Erythrochlamys* Gürke, *Basilicum* Moench, *Ocimum* L., *Becium* Lindl., *Endostemon* N. E. Brown, *Orthosiphon* Benth. None of these resembles, in facies or floral structure, *Puntia*. *Stachys* does have a somewhat similar calyx structure and a not totally different corolla, but the included stamens, the position of the filaments, the unilocular thecae, quite apart from the habit of *Puntia,* must make any relationship with it a very distant one.

The generic name commemorates the land of Punt, the ancient Egyptian name for northern Somalia.

I wish to express my thanks to Mr Jan B. Gillett, Nairobi, both for originally sending a specimen to Edinburgh for naming and also for helpful comments about the manuscript.

Dauphinea Hedge, **gen. nov.** (Labiatae-Ocimoideae)

Herba perennis vel suffrutex. *Folia* petiolata, crassa, carnosa, opposita. *Inflorescentia* terminalis, laxa; verticillastri 6-flori, distantes; bracteae parvae, deciduae. *Calyx* parvus, infundibuliformis, bilabiatus, 5–7-nervis; labium superius 1-lobatum, ovatum, in tubum non vel vix decurrens; labium inferius 4-dentatum dentibus subaequalibus triangularibus. *Corolla* breviter bilabiata labiis late divergentibus; labium superius 4-lobatum, breve; labium inferius 1-lobatum, planum, deflexum; tubus latus, manifeste e calyce exsertus, intus glaber, fauce ampliatus, truncatus. *Stamina* quattuor, fertilia, declinata, subexserta, didynama, filamentis liberis, omnino glaberrimis, antheris reniformibus et confluentibus, 1-locularibus. *Stylus* apice breviter bilobum. *Nuculae* ignotae. Genus monotypicum.
Type: *Dauphinea brevilabra* Hedge.

Dauphinea brevilabra Hedge, **sp. nov.** Fig. 2

Herba perennis vel suffrutex, vix aromatica. *Caules* erecti vel pendentes, foliosi, basi lignosi ad 10mm vel ultra diametro, ramosi, internodiis usque ad 30mm attingentibus, vix vel indistincte quadrangulares, pilis brevibus eglandulosis pauciarticulatis antrorsis vel subpatulis et glandulis sessilibus paucis obtecti. *Folia* crassa, ± carnosa, subcoriacea, ad 60 × 25mm, atroviridia omnino praecipue ad nervos pilis eglandulosis antrorsis brevibus, et glandulis punctatis paucis provisa; lamina obovato-oblonga, apice acuta vel rotundata, basi in petiolo cuneato-attenuata, marginibus serrato-crenulata, nervis pennatis subtus inconspicuis supra immersis vix reticulato-anastomosantibus. *Petiolus* 5–10mm longus. *Racemi* terminales, laxi, simplices. *Bracteae* parvae, ovatae, mox deciduae. *Pedicelli* tomentosi, 3–6mm longi, horizontaliter patentes vel subdeflexi. *Calyx* parvus, pallide viridis, infundibuliformis, c. 7mm attingens, extus pilis eglandulosis articulatis albis, praecipue basin versus et ad margines, et glandulis sessilibus praeditus; nervi primarii indistincti; tubus c. 4mm longus intus glaber, superne ampliatus; dens posticus ovatus, c. 2.5mm diam.; dentes caeteri triangulares, acutiusculi, subaequales, c. 3.5mm longae. *Corolla* atropurpurea vel purpureo-magentea, 14–19cm longa, extus glandulis sessilibus aliter glabra vel pilis brevissimis paucis praedita; tubus 8–14 mm longus, latus, apicem versus sensim ampliatus, ore 4–6mm lato intus glaber, corrugatus; labium posticum parvum 4-lobatum; labium anticum planum, reflexum. *Stamina* vix exserta, circa medium corollae tubi inserta,

filamentis crassis teretibus liberis glabris. *Discus* antice in glandulum tumens. *Stylus* apice bilobatus, stamina vix superans.
MADAGASCAR (SE): Fort Dauphine distr., 46km N of Fort Dauphine, Ranomafana, coastal rain forest, iv 1969, *Hardy & Rauh* 2876 (living material only), cult. Pretoria and RBG Edinburgh, fl. 12 ix 1978, *C.* 12272 (holotype E).

This interesting Labiate was first discovered by D. S. Hardy & W. Rauh in 1969. Although it was then not in flower and no herbarium specimen was made they took cuttings back to the Botanic Garden at Pretoria where in due course it flowered and proved to be an attractive plant. Cuttings from this stock were given to the Botanic Garden in Edinburgh in the early 1970s. Although it flowered regularly at both Gardens (under glass at E) and seemed to be in the general *Plectranthus* alliance, neither Dr L. E. Codd at Pretoria nor myself was able to find a genus or species to accommodate it. No further collections have been made in Madagascar in the meantime and no herbarium specimens of it have been traced in the Paris herbarium (P). The description and discussion are thus entirely based on the available cultivated material.

The complex of genera which has *Plectranthus* L.'Hérit. at its core is a sector of the family fraught with difficulty. There are a very large number of species involved in tropical and subtropical areas of both Africa and Asia and different authors have generally taken different standpoints as to the genera they recognize—or do not recognize. In this context I have followed the treatment by L. E. Codd in his revision of *Plectranthus* and its allies in southern Africa (*Bothalia* 11:371–442, 1975).

Dauphinea does appear to be closest to *Plectranthus* and to the African rather than the Asiatic species. It has similar vegetative characters, and in the structure of bracts, calyces, stamens and thecae it is also similar to *Plectranthus.* The two genera, however, clearly differ in corolla structure. In the new genus the broad, not pouched or invaginated, corolla tube, the reflexed flat, not boat-shaped, corolla lower lip and the short ± vertically borne upper lip set it apart from any of the African species of *Plectranthus* (cf. Codd, op. cit.).

The following African or Asiatic generic relatives of *Plectranthus* were also considered as possible allies to *Dauphinea*: *Ceratanthus* G. Taylor, *Neohyptis* J. K. Morton, *Skapanthus* C. Y. Wu, *Rabdosia* (Bl.) Hasskn., *Englerastrum* Briq. (doubtfully different from *Rabdosia*), *Isodictyophorus* A. Cheval, *Thorncroftia* N. E. Brown, *Solenostemon* Thonning and *Hanceola* Kudo. The differences between all of them and the Madagascar genus are however so marked, both in facies, inflorescence and floral characters, that none, with the possible exception of the huge and protean *Rabdosia,* can be considered as at all closely allied.

Perrierastrum A. Cheval and *Capitanopsis* S. Moore (the latter also described from the Fort Dauphine area) are two other curious isolated Labiate genera in Madagascar and they serve to illustrate, with the new genus, the great interest of the family on the island. The Labiatae are still poorly known there—little has been published—and there is certainly much of interest yet to be discovered.

I am very grateful to Dr L. E. Codd, Pretoria, for his interest and comments on the new genus, and also to Jenny Ryrie for providing the illustrations of both new genera.

The pollen morphology of the two new genera is considered by Alan P. Bennell in the following paper (*Notes RBG Edinb.* 41:123–125, 1983).