

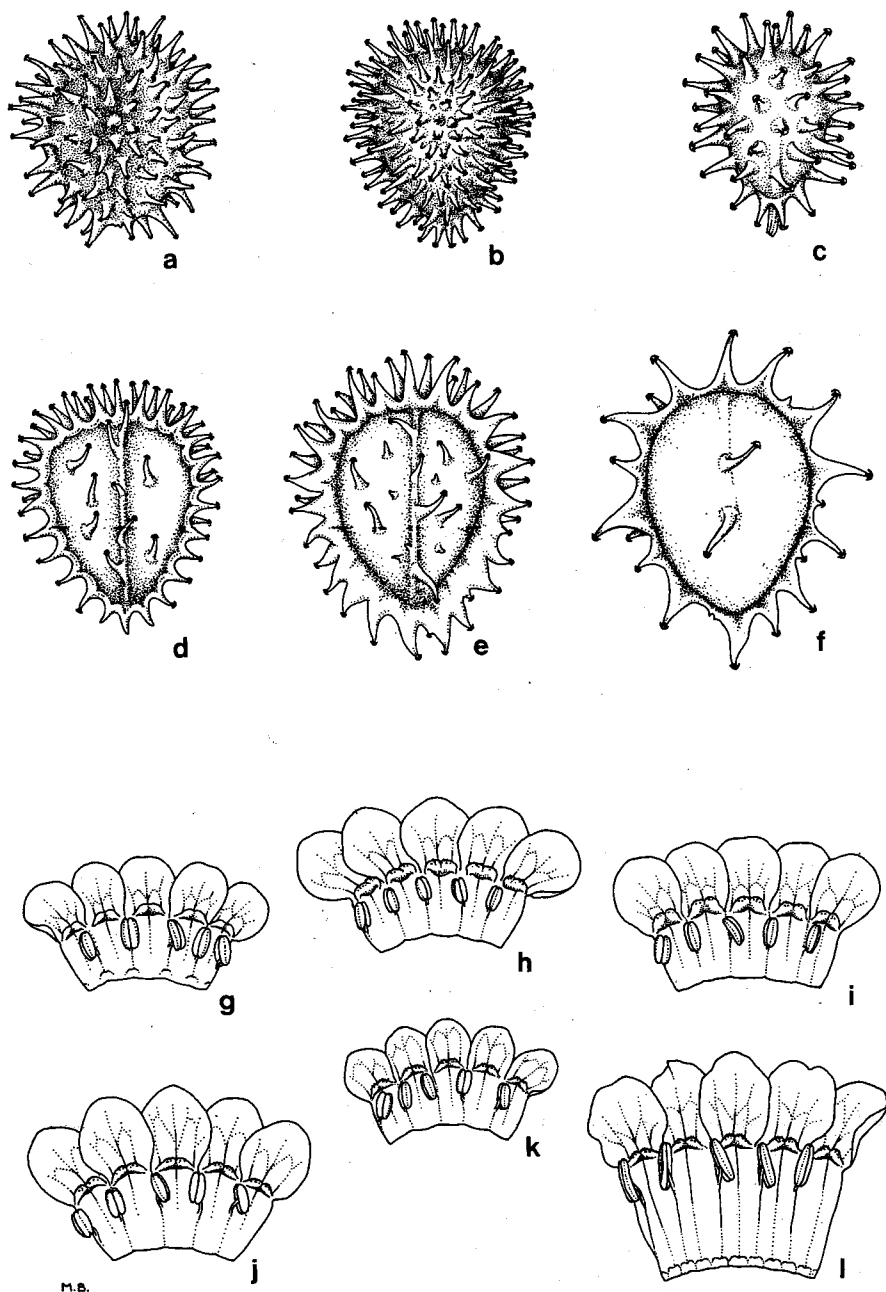


FIG. 1. Nutlets: a, *Paracynoglossum yemenense* $\times 8$; b, *P. afrocaeruleum* $\times 8$; c, *P. lanceolatum* $\times 12$; d, *P. geometricum* $\times 8$; e, *P. bottae* $\times 8$; f, *P. sabirensense* $\times 8$. Corollas: g, *P. yemenense* $\times 5$; h, *P. afrocaeruleum* $\times 4$; i, *P. bottae* $\times 4$; j, *P. geometricum* $\times 5$; k, *P. lanceolatum* $\times 5$; l, *P. sabirensense* $\times 4$.

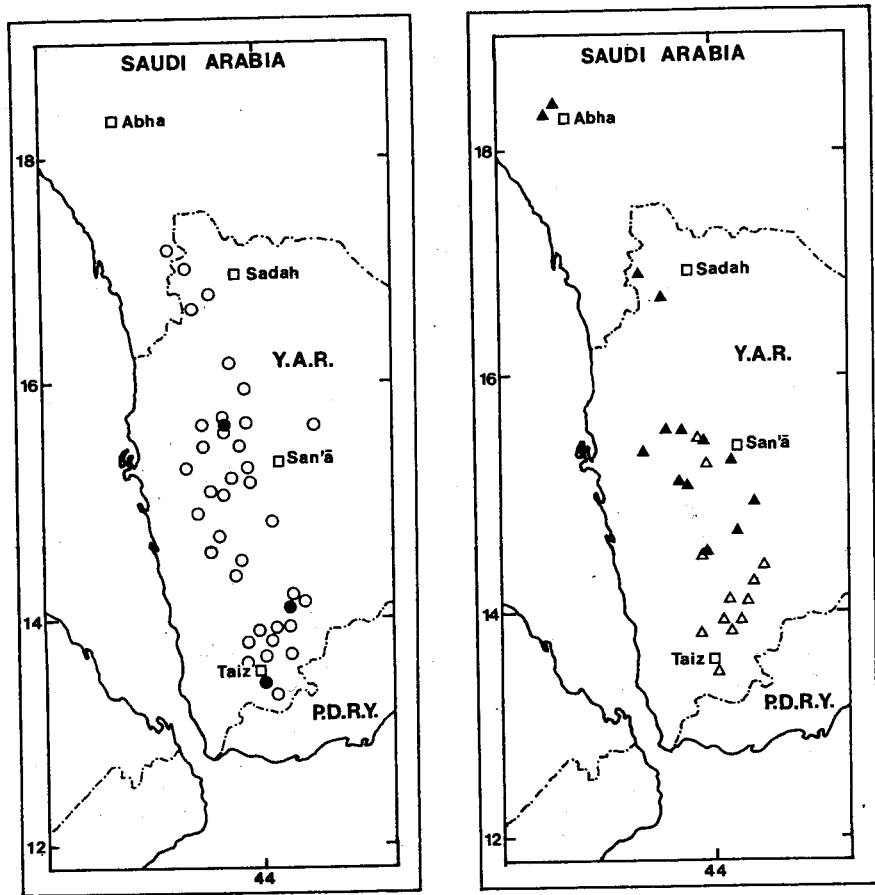


FIG. 2. Distribution of *Paracynoglossum sabirens* ●; *P. lanceolatum* ○; *P. bottae* ▲; *P. yemenense* △. (*P. bottae* also 20°31' N 41°05' E).

Type: [Yemen Arab Republic] Hadîe, *Forsskål* s.n. (n.v.).

SAUDI ARABIA. Jabal Fayfa, 100 km NE of Jizan, among shrubs on rocky hillside, 1615 m, 18 ii 1982, *S. Collenette* 3262 (E).

YEMEN ARAB REPUBLIC. Nr Al Qa'ala, J. Razih, Khawlan As Shan, 2000 m, 27 ix 1979, *J. Wood* 2936 (E); Shaharah, field margins, 2200 m, 22 ix 1978, *Miller* 179 (E); *ibid.*, N slope to village, field margin, 2300 m, 22 ix 1978, *Miller* 192 (E); J. Nabi Schwaib, S ridge to summit, rocky slopes and terrace walls, 3000 m, 20 ix 1979, *Miller* 151 (E); Menacha, Hajarrah to Attarah, S facing rocky slopes, 2000 m, 12 x 1978, *Miller* 485a (E); J. Masar in the Haraz, 2600 m, 8 vi 1979, *J. Wood* 2834 (E, K); J. Schibam, Menacha, 2400–2600 m, 28 ii 1889, *Schweinfurth* 1752 (K); Sumara Pass, W facing gully, 2600 m, 9 x 1978, *Miller* 425 (E); Wasab region, J. Hisn Madnan, rocky slopes, 2200 m, 16 ix 1978, *Miller* 113 (E); N side of J. Kuburu nr Gerger above Hadia in J. Raymah, 2000 m, *J. Wood* 2805 (E, K); above Suddah in Wadi Banna, 2500 m, 29 v 1979, *J. Wood* 2768 (E); Mashwara, on the Ibb–Udayn pass, 2500 m, *J. Wood* 75/465 (BM);

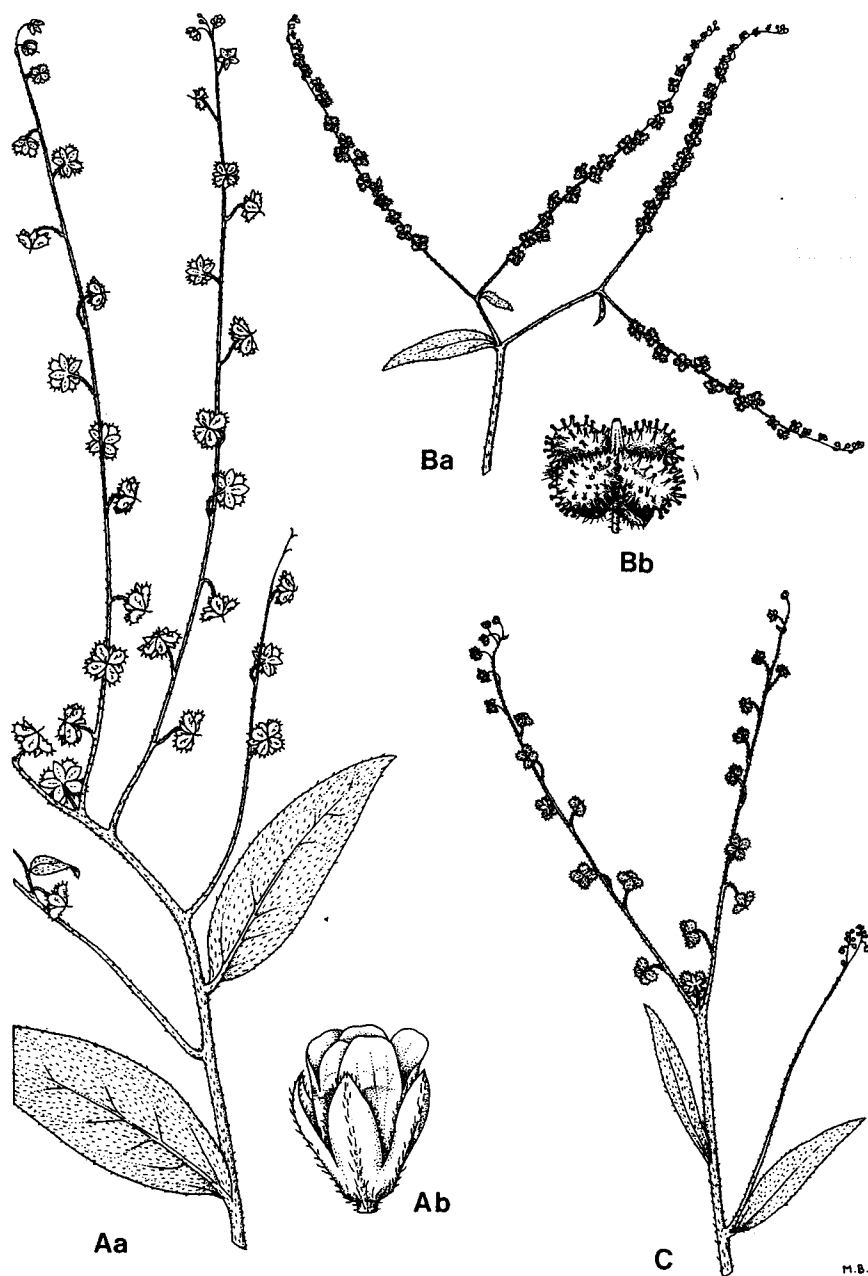


FIG. 3. *Paracynoglossum sabirens*: Aa, fruiting branch $\times \frac{2}{3}$; Ab, flower $\times 6$. *P. lanceolatum*: Ba, fruiting branch $\times \frac{2}{3}$; Bb, fruit $\times 4$. *P. yemenense*: C, fruiting branch $\times \frac{2}{3}$.

name the new name *Paracynoglossum afrocaeruleum* R. Mill is proposed here.

***Paracynoglossum afrocaeruleum* R. Mill, nom. nov.**

Syn.: [*Cynoglossum coeruleum* Hochst. ex A. DC. in DC., Prodr. 10:148 (1846) non *C. caeruleum* Buch.-Ham. ex D. Don, Prodr. Fl. Nepal 100 (1825)].

Type: [Ethiopia] in agris Abyssinae, *Hochstetter*, Pl. Schimper abyss. sect. 2 no. 542 (type of *C. coeruleum* Hochst. ex A. DC.; n.v.).

4. *P. sabirens* R. Mill & A. G. Miller, sp. nov. Figs 1f, 1l, 2, 3Aa-b.

A *P. lanceolato* (Forssk.) R. Mill nuculis maioribus marginatis, ramis inflorescentiae angulam acutam divergentibus differt; a *P. bottae* et *P. yemenense* nuculis maioribus disco parvis gluchidiato refert.

Herba biennis vel perennis. *Caules* e basi ramosi, ad c. 60 cm ascendentes, inferne $\pm$ glabrescentes, superne pilis retrorsis tecti, venter nitentes. *Folia* pallide viridia, anguste elliptica vel elliptica, 50–230 $\times$ 10–40 mm, integra, apice acuta, inferiora basi $\pm$ in petiolum angustata, superiora basi $\pm$ rotundata; indumentum tenue, e pilis $\pm$ adpressis e basibus bulbosis exorientibus compositum; folia uninervata. *Cymae* terminales vel in axillis cincinni foliorum superiorum, parce ramosi, rami ex axe inflorescentiae ad angulam acutam divergentes, inferne bracteati, omnes in statu fructifero elongati; indumentum pilis patentibus vel $\pm$ retrorsis compositum, quam caulem densiore. *Pedicelli* quam calyces breviores, c. 1–2 mm, fructiferi a 3 mm elongati, recurvati. *Lobi calycis* 2–3 $\times$ 0.75–1.5 mm, oblongo-elliptici, in statu fructifero accrescentes, 5 $\times$ 3 mm, elliptici, secus margines loborum et costas ciliati. *Corolla* pallide caerulea, rotata, 6–8 mm; lobi oblongi, 2.5–3 $\times$ 2.5–3 mm, tubus 3.5–5 mm. *Fornices* semilunares, emarginati. *Stylus* calycem brevior vel aequans. *Stigma* capitatum. *Nuculae* 4–5 $\times$ 2.5–3 mm (gluchidiis exclusis), albido-tinctae, circa marginem gluchidiatae, in disco 1–2 gluchidia solum provisae.

Type: Yemen Arab Republic: J. Sabir, nr Taiz on amphibole granite, 2500–3000 m, 23 ix 1977, *Lavranos* 15937 (holo. E).

YEMEN ARAB REPUBLIC. J. Manar nr Ibb, in a stream bed, on volcanic soil, flowers blue, scorpioid, 2900 m, 22 vi 1979, *J. Wood* 2876 (E); damp densely shaded gully separating Shernana from the main mountain of J. Hiswar, on limestone, flowers pale blue, leaves pale green, stem brown, bracts enclosing flower buds, 2900 m, 20 vi 1980, *J. Wood* 3319 (E).

P. sabirens is readily distinguished from the other Arabian species by its generally larger leaves and stature, and by its whitish, strongly marginate nutlets which are relatively sparsely gluchidiate on the disc. In flower it is characterized by the buds which are covered by bracts, and by the calyx lobes being more or less glabrous except for a line of hairs on the midvein and fringing the margin.

P. sabirens is a very local plant and consequently it is difficult to generalize about its ecology and distribution. On J. Miswar it grows in a deeply shaded gully which is an outlying locality for *Arisaema bottae* Schott, a rare plant which also occurs at both its other localities.