rocky slopes, 3000 m, 26 ix 1978, *Miller* 237 (E); between Kaukaban and Shibam, 2900 m, *J. Wood* 2756 (E); Hadda, 4 km SW of Sanaa, on terraces around town, 2400 m, 15 x 1978, *Miller* 566 (E); J. Nabi Schwaib, S ridge to summit, terrace walls, 3000 m, 20 ix 1978, *Miller* 154 (E); nr summit of J. Melhan, Shahir, 2300 m, 14 vi 1979, *J. Wood* 2862 (E); frequent around the Hisn nr the summit of J. Masar, Haraz, 2800 m, 8 vi 1979, *J. Wood* 2831 (E, K); Menacha, J. Schibam, overgrown terraced fields, 2700 m, 5 x 1978, *Miller* 381 (E); Nachl al Hamra, Kumain, NE of Dhamar, edge of irrigated 'Qat' field, 2600 m, 25 v 1979, *J. Wood* 2783 (E, K).

The application of the name *Cynoglossum bottae* Deflers has presented a problem. In SW Arabia there are two taxa which are possible candidates for the name. The first has marginate nutlets and white flowers with blue centres; the second has immarginate nutlets and blue flowers. Only one of the two syntypes has a fruit and this is rather immature. *Miller* 381 from the type locality of J. Schibam is very similar in facies to the syntypes of *C. bottae* and is of the first taxon. The immature nutlet on *Deflers* 300 is apparently marginate and consequently we have linked this taxon with the name *C. bottae*. Defler's description of the flower colour as 'yellow' is very misleading and certainly refers to the colour when dry. The second taxon, with blue flowers and immarginate fruits, we have separated as the new species *P. yemenense*.

In N Yemen *P. bottae* is a mountain plant of 2500 m and higher. It has a strong northern tendency, i.e. it is absent from the Ibb region and further south. A number of plants have similar distribution patterns in N Yemen, including *Galium yemenense* Kotschy, *Pavonia patens* (Andr.) Chiov., and *Festuca obturbans* St.-Yves. One collection (not on Fig. 2), *Grainger* 433, has considerably extended the range of *P. bottae* north to J. Ibrahim, 20°31′ N 41°05′ E.

The relationship between *P. bottae* and the African species *P. geometricum* (Baker & C. H. Wright) R. Mill needs consideration. The latter is blue-flowered, with larger, more distinctly marginate nutlets. It was considered by Brand (1921) to be a subspecies of *Cynoglossum lanceolatum* but his concept of that species is now considered to be unacceptably broad and heterogeneous. Baker & Wright (1906) had separated *P. geometricum* from *P. lanceolatum* on the nutlets having glochids confined to the margin and central keel, rather than being evenly scattered over the surface. Most African floras, e.g. Agnew (1974) and Robyns (1948–55), follow them and treat the two as distinct species. There would seem to be ecological justification for this view; Robyns (op. cit.) states that in the Albert National Park *P. geometricum* is nitrophilous and prefers humid habitats, while *P. lanceolatum* is a pioneer ruderal species. The necessary new combination is made below.

Paracynoglossum geometricum (Baker & C. H. Wright) R. Mill, **comb. nov.**
Syn.: *Cynoglossum geometricum* Baker & C. H. Wright in Thiselton-Dyer, Fl. Trop. Africa 4 (2):52 (1906).

3. P. yemenense R. Mill & A. G. Miller, **sp. nov.** Figs 1a, 1g, 2, 3c.