DISTRIBUTION. Southern Mexico and the Antilles to Bolivia and southern Brazil.

HABITAT. Weedy areas, particularly pastures, roadsides and lawns.

ACKNOWLEDGMENT. My thanks to Martin Staniforth who provided the information on cultivation of the species at Kew.

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226. PYCNOSPATHA ARIETINA

Araceae

Peter Boyce

Pycnospatha arietina is a tuberous member of the Araceae from Thailand. It has been rarely collected and, as far as is known, has been cultivated only twice, in Kew and Munich. Regrettably neither plant has survived. The plant illustrated in Plate 226 (*Bogner* 395) flowered at Kew in December 1971 when it was painted by Mary Grierson who was then Kew's official artist.

At present two species of *Pycnospatha* Thorel ex Gagnep. are recognized: the type of the genus, *P. palmata* Thorel ex Gagnep. and *P. arietina* Gagnep. *Pycnospatha palmata* is known only from the type collection made by Thorel in Laos during his 1866–68 Mekong Expedition. *Pycnospatha arietina* was originally collected by Putt from central Thailand and differs from *P. palmata* primarily in the shape of the leaves. In *P. arietina* the adult leaf-lobes are much divided, whereas in *P. palmata* they are simple. In addition, the inflorescence of *P. arietina* is twice the size of that of *P. palmata*. Hu (1968) described a third species, *P. soerensenii*, which differed from *P. arietina* in having a less divided leaf, aculeate petiole and some flowers with a rudimentary 'perianth'. However Bogner (1973) did not accept that it was distinct and reduced it to a synonym of *P. arietina*.

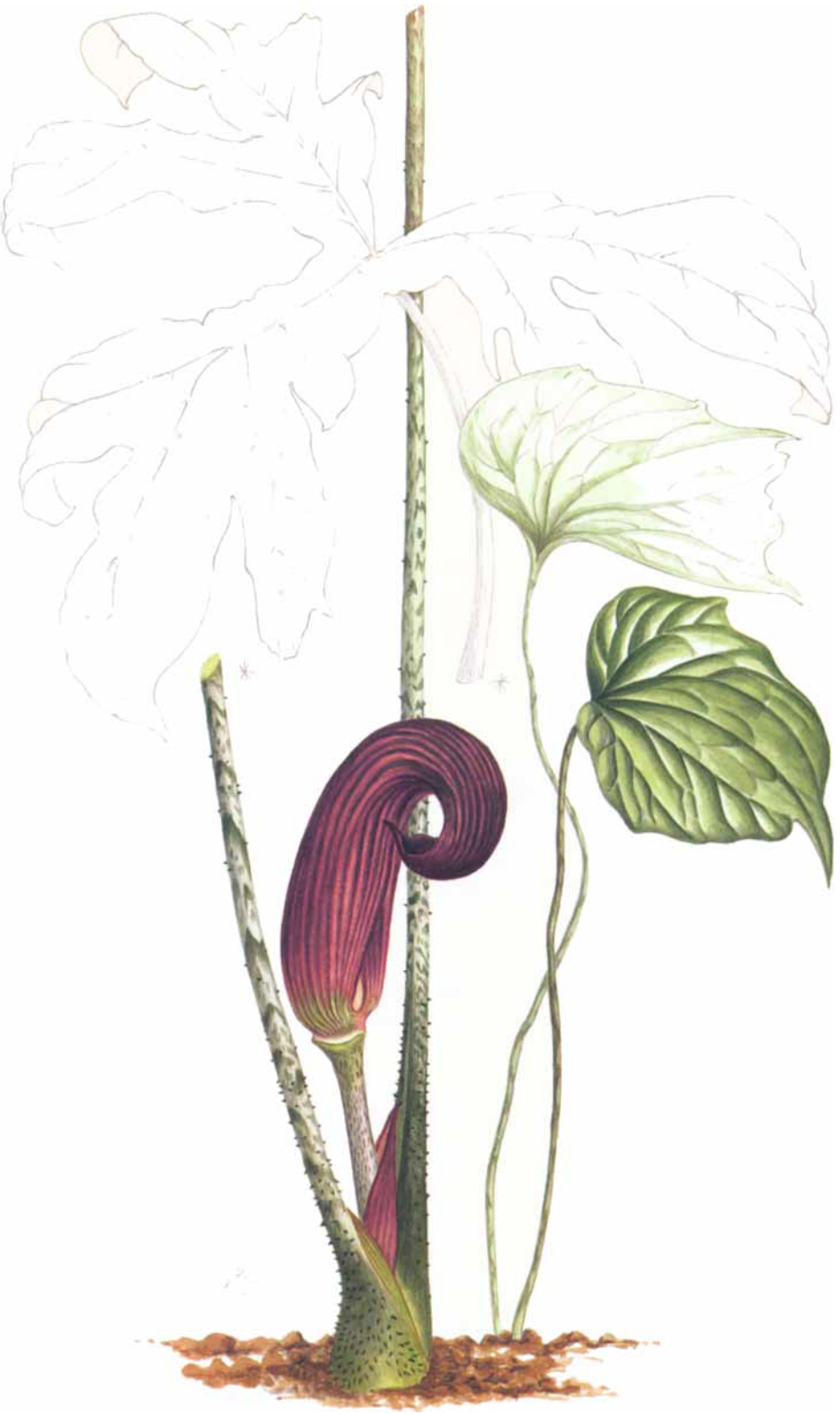
Pycnospatha is similar in appearance to *Dracontium* L. (Linnaeus, 1753), a genus restricted to tropical Central and South America.

Dracontium and *Pycnospatha* are closely related (Bogner, 1973; Hay, 1992), being separated mainly on floral structure. Both have bisexual flowers but those of *Dracontium* are subtended by a whorl of reduced perianth-segments (a perigon) while those of *Pycnospatha* are naked. The genera may also be distinguished in fruit: *Dracontium* has smooth berries whereas *Pycnospatha* has berries with a densely prickly pericarp.

Pycnospatha arietina occurs in seasonally dry bamboo forest in the south-east and central floristic regions of Thailand where it is restricted to the provinces of Chanthaburi, Prachinburi and Saraburi.

CULTIVATION. *Pycnospatha* requires a large pot of free-draining, rich compost, a constant high temperature, ample water when growing and a dry resting period. A compost of equal parts sterilized loam, humus and sharp sand gives the best results. The tuber should be planted with its apex 3–4 cm below the surface of the compost. Water should be given sparingly until the new shoot is growing strongly. Once growth is under way, regular watering and applications of liquid fertilizer will ensure optimum growth and will help to increase the size of the tuber. Leaf growth will continue for several months. It then remains for a further period before eventually yellowing and dying. Once the leaf has fallen, watering should be discontinued and the plant allowed to rest. This dormant period, lasting two or three months, will end with the production of an inflorescence and/or a new leaf. As soon as this growth is evident the tuber should be repotted into fresh compost; care should be taken to ensure that the plant is not damaged. Under glass, a minimum temperature of 18–20°C should be maintained with light shading on hot days. The temperature may be allowed to rise to 30–32°C providing humidity levels can be maintained above 75 per cent. During the rest period the temperature should not fall below 16°C.

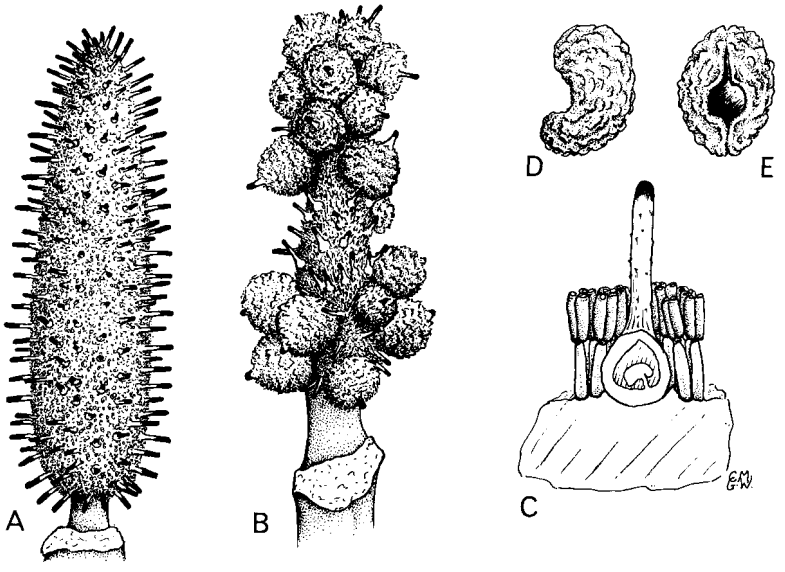
The species can be propagated by division of mature tubers while repotting; offsets that have formed should be removed and potted separately. Seed, however, provides the best method of increase. The seed should be sown fresh in a compost similar to that recommended for adult plants. It is essential that the seed and resultant seedlings do not become either too wet or dry as both can prove fatal. Young plants should be treated as for mature individuals, but great care is required to ensure that young resting



Pycnospatha arietina

MARY GRIERSON

tubers do not become unduly desiccated. Misting carried out weekly should help to retain sufficient soil moisture to alleviate the problem.



Pycnospatha arietina. A, spadix, × 1½; B, infructescence, × 1½; C, flower with part of ovary wall and half the stamens removed, × 6; D, seed, side view, × 3; E, seed, front view, × 3. Drawn by Christine Grey-Wilson.

Pycnospatha arietina Gagnep. in Bull. Soc. Bot. France 88: 512 (1941) & in Lecomte, Fl. Gén. Indo-Chine 6(9): 1110 (1942); Bogner in Oesterr. Bot. Zeit. 122: 207 (1973). Type: Siam [Thailand], Watana [Watthana Nakhon], 15 October 1928, *Putt* 1949 (holotype K!).

P. soerensenii S.Y. Hu in Dansk Bot. Arkiv 23: 418, t. 3, f. 1–3 (1968). Type: Thailand, Chantaburi, Makam, 8 April 1959, *Sørensen, Larsen & Hansen* 7217 (holotype C!).

DESCRIPTION. *Tuberous, perennial, seasonally dormant herb* up to 1.3 m tall. *Stem* an irregular globose tuber 4.5–15 × 2.5–7.5 cm, exterior pale brown, interior pale yellow. *Roots* 3–4 mm in diameter, pale brown. *Leaf* produced after inflorescence in the wild, simultaneously with inflorescence in cultivation, subtended by a triangular cataphyll; cataphyll 4–13 × 1–4.5 cm, pale green to whitish, spotted reddish brown; petiole (on mature leaves only) 50–130 cm × 6–10 mm, greyish green to pale grey with blackish green to reddish brown mottling and scattered to rather dense prickles 0.8–1 mm long; juvenile leaves cordate to palmate, 3–5 × 5–9 cm, each subsequent leaf becoming increasingly divided; adult leaf-blade

tripartite, 40–70 cm wide, anterior segments tripartite with the central partition again bipartite, posterior segments bipartite with secondary and tertiary segments irregularly pinnatifid, the whole structure resembling a tattered umbrella, blade dark green, upper surface glossy with a slight bluish green sheen. *Inflorescence* borne on a pale grey, purple-speckled peduncle 8.5–18 cm × 8–10 mm. *Spathe* 9–20 × *c.* 3.5 cm, erect, thick, fornicate, lower margins free, not overlapping, exterior pale grey with very dense purple speckling, paler below, interior deep purple. *Spadix* much shorter than spathe, 3.5–5 × 1–1.5 cm, conic to ovoid-conic, shortly stipitate, pale greyish white; stipe *c.* 5 × 5 mm, pale grey. *Flowers* bisexual, naked, very densely arranged. *Stamens* 2–3 mm long; filaments *c.* 1.2 mm long, whitish; thecae *c.* 1.5 mm long, yellow. *Gynoecium* bottle-shaped, 5–7 × 0.6–3 mm, pale grey; style extending far beyond stamens; stigma obtuse. *Infructescence* cylindric, composed of *c.* 40 berries; berries globose, *c.* 8 mm in diameter, pericarp densely spiny, spines 1.5–2 mm long, dark green; *seed* ellipsoid, *c.* 5 × 4 mm, testa hard, thick, verrucose.

DISTRIBUTION. S.E. Thailand (provinces of Chanthaburi, Prachinburi and Saraburi).

HABITAT. Seasonally dry bamboo forest; 350–450 m.

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TWO PELARGONIUM SPECIES FROM TURKEY AND NORTHERN IRAQ

Margaret A. T. Johnson and Brian Mathew

The genus *Pelargonium* L'Hér. in the Geraniaceae, comprises approximately 280 species, the vast majority of which are native to South Africa. Surprisingly there are two frost-tolerant species which are found in Turkey and also northern Iraq. *Pelargonium endlicherianum* Fenzl is in fact quite widespread throughout Turkey, unlike the only