



Rediscovery of *Arisaema translucens* (Araceae) and notes on *A. tuberculatum*, two strict endemics of Nilgiris, India

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Genus *Arisaema* Martius (1831: 449) is represented by 215 taxa worldwide (Govaerts *et al.* 2017), of which 61 taxa are reported so far from India including two recent discoveries from Kerala and Tamil Nadu states of Western Ghats, viz. *A. peerumedense* J. Mathew in Mathew & George (2017: 29), *A. madhuanum* Nampy & Manudev in Manudev & Nampy (2014: 269) and *A. gracilentum* Bruggeman (2016: 87) from Arunachal Pradesh of North-East India. During extensive surveys in the Nilgiri Biosphere Reserve, Tamil Nadu, the authors came across two fascinating *Arisaema* species, one from Thia Shola and the second from Pennant's Valley forest areas. The first species is attractive by means of its translucent spathe and the latter by its long caudate limb with a filiform thread. Detailed study of relevant literature (Fischer 1933, Fischer 1934, Gusman & Gusman 2002) confirmed their identity as *A. translucens* Fischer (1933: 344) and *A. tuberculatum* Fischer (1934: 167), respectively. *Arisaema translucens* is described by Fischer (1933) based on the collection from Thia Shola forests by E. Barnes at an elevation of 6000 ft made in 1932. From a thorough literature survey and herbarium consultations, it became apparent that this taxon had not been collected since 1932. Hence our discovery is a recollection of this species after a lapse of 84 years from its type locality. Detailed description, colour photographs and distribution information are provided based on the recent collections.

Taxonomy

Arisaema translucens Fischer (1933: 344).

Type:—INDIA. Tamil Nadu: Nilgiris district, Nilgiri Biosphere Reserve, Carrington Tea Estate, near Thia Shola, 6000 ft., 1932, Barnes AR.4 (K!). Figs. 1, 2.

Dioecious, perennial herbs. Pseudostem up to 30 cm long. Underground stem a subglobose tuber, 2–2.5 × 3–4 cm across, white–pale yellow. Roots pale purple. Cataphylls 3; inner 8.5–10 cm long, apex obtuse, pale purple; outer 4–5 cm long, apex obtuse. Leaf solitary, radiate; petiole 20–30 cm long, pale purple mottled with brown and white; leaflets 9–11, lanceolate to oblong–oblanceolate; lamina 8–15 × 2–3.5 cm, base attenuate, apex acuminate, margin entire–revolute, glabrous, pale green above, glossy below. Inflorescence dioecious, reaching to halfway length of the stem; peduncle 12–14 × 0.2–0.8 cm, broader distally, light yellow–pink; spathe 7.5–9 cm long including limb; tube cylindrical, 3–3.2 × 1.2–1.5 cm, cucullate at mouth, striped c. 30 longitudinal lines; mouth obcordate–obovate; apex caudate with filiform tail, tail up to 2.5 cm long, deflexed. Male spadix sessile, 4.5 cm long; fertile region stout, c. 1.9 × 0.3–0.4 cm, narrower towards the distal; appendix sessile, c. 2.5 × 0.2–0.3 cm, tapered to the tip, pale purple. Male flowers clearly stipitate; stipe 1–1.5 mm long; anthers 2–6, 0.5–0.7 × 0.6–0.8 mm, reniform, purple, lax, dehiscence through apical slits. Female spadix sessile, cylindrical; spadix is longer than the tube; appendix up to 5 cm long, stipitate, green–light purple streaked, cylindrical at the base, tapering towards the tip, apical part white; neuters c. 5 mm, above the fertile zone, directed upwards. Fruit not seen.

Phenology:—The flowering occurred during April–June.

Distribution:—Endemic to the type locality of Thia Shola, Tamil Nadu.

Specimens examined:—INDIA. Tamil Nadu: Nilgiris district, Nilgiri Biosphere Reserve, Thia Shola, Carrington Tea Estate, ±2050 m. alt. 03 June 2016, Prabhukumar, Tarun Chhabra, Sunil & Binu Prakash 9167 (CMPR!); 16 July

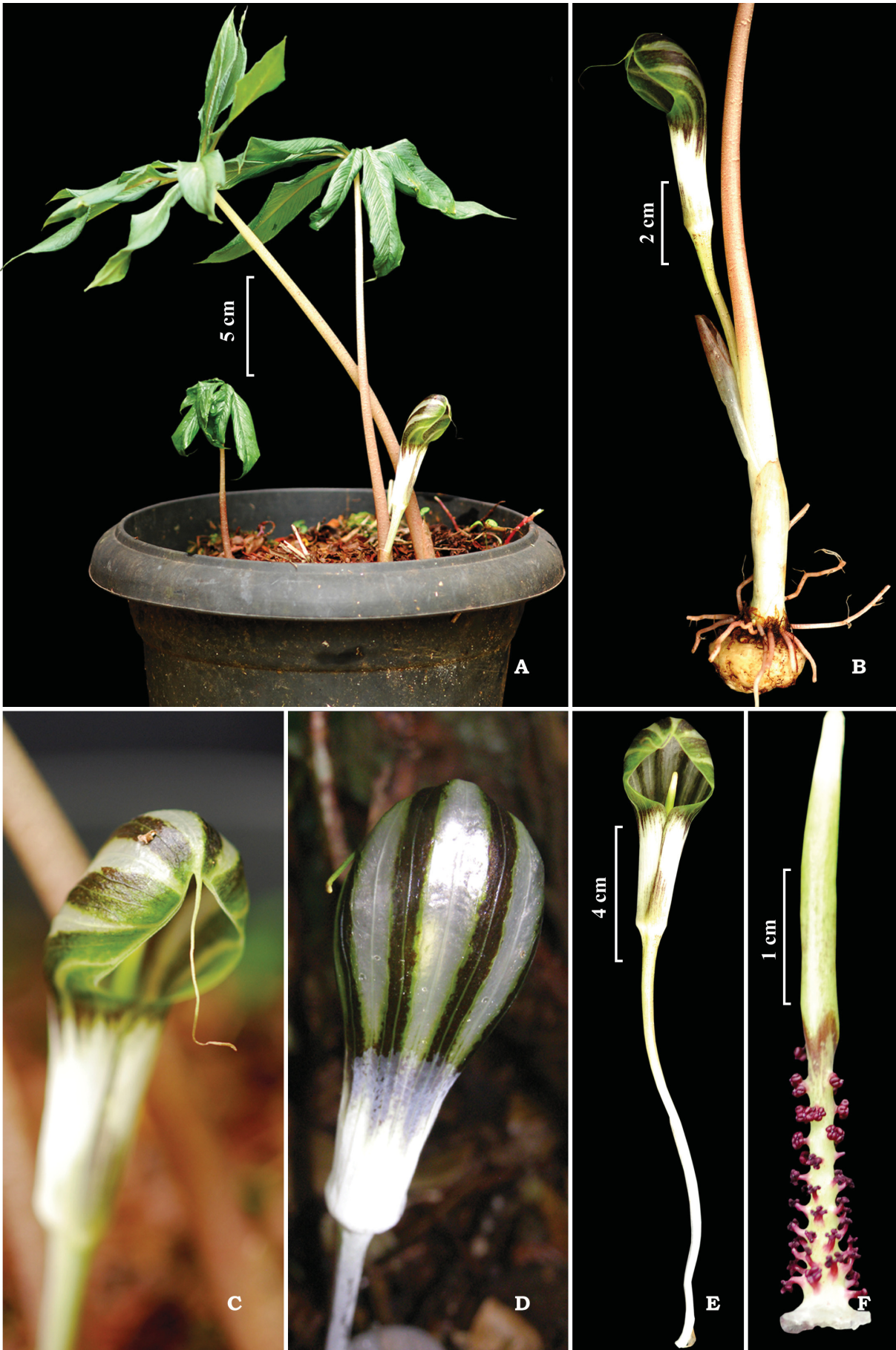


FIGURE 1. *Arisaema translucens* C.E.C.Fisch. A. Habit; B. Tuber with inflorescence; C. Mouth showing filiform tail; D. Spathe showing the translucence nature; E. Inflorescence; F. Spadix.



FIGURE 2. Colour illustration of *Arisaema translucens* C.E.C. Fischer. A. Habit; B. & C. Inflorescence.

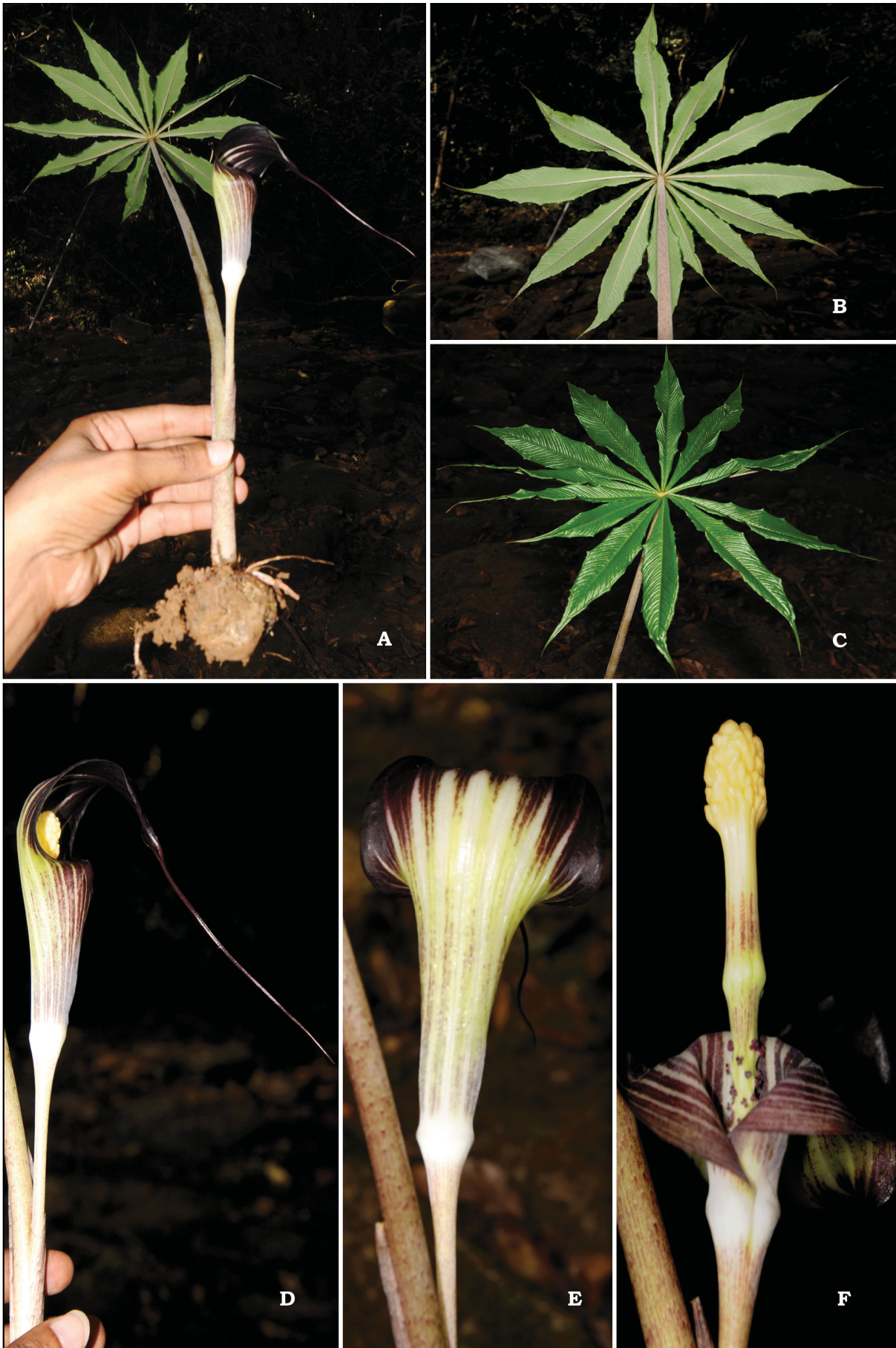


FIGURE 3. *Arisaema tuberculatum* C.E.C.Fisch. A. Habit; B. Abaxial and adaxial view of leaflets; D. Mouth showing caudate limb with a filiform thread; E. & F. Inflorescence.

2016, *Prabhukumar, Tarun Chhabra & Binu Prakash* 9312 (CMPR!); Tamil Nadu, Nilgiris district, Thia Shola, Carrington Tea Estate, 6000 ft, 16 June 1932, *Barnes s.n.*, Barcode no. K000499312, K000499313, K000499314, K000499315 (K!).

Arisaema tuberculatum Fischer (1935: errata slip opposite p. 66).

Replaced: *Arisaema convolutum* Fischer (1934: 167), not *Arisaema convolutum* Nakai (1929).

Type:—INDIA. Tamil Nadu: Nilgiris district, Nilgiri Biosphere Reserve, Parson's Valley, 7000–7500 ft., 20 May 1933, *Barnes AR.7* (K!).

Fig. 3.

Notes:—Fischer described *A. convolutum* (1934) based on the Barnes collection from the shola forests of Parson's Valley of Ootacamund, Tamil Nadu in 1933. After one year, he proposed a new name to the species as *A. tuberculatum* because he found that the name *A. convolutum* had already been used by Nakai in 1929. Presently, *A. convolutum* is synonymized under *A. serratum* (Thunberg 1794: 338) Schott (1832: 17). Recently Ramachandran & Paulraj (2008) rediscovered the species from Bangitappal of Mukurthi National Park based on the collection by Ramachandran and Anil Varghese on 2001, but there are no colour photographs available of this species for morphological identification. Here we are giving the habit and floral photographs of this taxon for future reference. Recently the third author has also collected the species from Sispara region of Silent Valley National Park in Kerala. The flowering of the species is observed during March-May and fruiting in May-July.

Interestingly, few previous literature (Sivadasan 1999, Sasidharan 2006, 2013; Nayar *et al.* 2014) reported the distribution of *A. translucens* from Idukki and Palakkad districts of Kerala. A detailed herbarium survey revealed that there is no specimen of this species deposited in any of the Indian herbaria from Kerala. On the perusal of this data and the information collected through personal communication with some of the authors of the previous reports and experts working on the genus in India, it is confirmed that the previous reports of this species from Kerala is without any scientific evidence.

Distribution:—Endemic to Tamil Nadu and Kerala region of Western Ghats.

Specimens examined:—INDIA. Tamil Nadu, Nilgiris district, Nilgiri Biosphere Reserve, Parsons Valley, Pennant Shola ±2350 m. alt. 03 June 2016, *Prabhukumar, Tarun Chhabra, Sunil & Binu Prakash* 9165 (CMPR!); Bangitappal, 27 April 2011, *V.S. Ramachandran & C.P. Anil Varghese* 2899 (KNASCH); Kerala, Palakkad district, Silent Valley National Park, Sispara, ±2250 m. alt. 9 March 2016, *Robi* 22335 (KFRI!); Tamil Nadu, Nilgiris district, Parson's Valley, Pennant Shola, *Barnes*, s. n., Barcode no. K000950296, K000950297, K000950298 (K!).

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