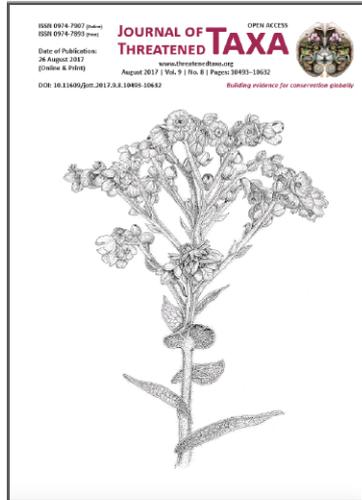


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NOTE

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Robert Stewart & Tanya Balcar

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RECORDS OF THE PALNI HILLS RUDRAKSHA TREE *Elaeocarpus blascoi* (OXALIDALES: ELAEOCARPACEAE) IN PALNI HILLS, TAMIL NADU, INDIA

Robert Stewart & Tanya Balcar

Vattakanal Conservation Trust, 21/45 A&B, Pambarpuram, Kodaikanal, Tamil Nadu 624101, India
tanya.balcar@gmail.com, nandinirajamani@gmail.com
(corresponding author)

The Palni Hills Rudraksha Tree *Elaeocarpus blascoi* Weibel is a medium-sized tree endemic to the Western Ghats that is currently described as Endangered B1+2c ver 2.3 (World Conservation Monitoring Centre 1998). The species is known only from the type.

The species was first collected from Bear Shola (2150 m), on the edge of Kodaikanal Town in the Palni Hills in 1970 by Blasco (FB 339 (HIFP), later described and validly published by R. Weibel in *Candollea* 27: 16, 1972. By the time K.M. Matthew published the Flora of the Palni Hills in 1999, the tree was gone, and he described the species as probably extinct (Matthew 1999).

E. blascoi, a species of the genus *Elaeocarpus* (Family Elaeocarpaceae) is only known from records above 1,900m (Matthew 1999). Other *Elaeocarpus* found on the plateau in sympatry with *E. blascoi* are *E. recurvatus*, *E. glandulosus*, *E. munronii* and *E. tuberculatus* (Matthew 1999).

E. blascoi is described as a tree with branchlets and tender parts sericeous. The leaves are ovate-elliptic, up to 9x4 cm, coriaceous, base obtuse, margin serrate, apex acute; petiole ca 2cm long. Racemes are terminal, up to 7cm long, <10 flowered. The flower is white or cream in

colour, ca 1.2 cm wide with pedicel of 1cm long. Sepals are five in number, lanceolate, 0.8 x 0.2 cm in size and rusty. Petals are 5, cuneate, 1.2 x 0.5 cm in size, apically laciniate. The drupe is ellipsoid, of size ca 1.6 x 1 cm with a stalk of 1.2cm long and one seed.

We describe the rediscovery of the species in the Palni Hills, and two plantings that have survived over the past 20 years. While these have been reported in a few publications, details are incomplete or seem to have been omitted (Stewart & Balcar 2003, 2008; Ramasubbu & Irudhayaraj 2016). Two publications claim rediscovery of the species (Vijayan et al. 2011; Irudhayaraj & Ramasubbu 2014), indeed, of the exact same tree, though our efforts have previously been published (Stewart & Balcar 2003, 2008).

During routine seed collection around Kodaikanal in 1989, a few seeds of *E. blascoi* were collected in Vattakanal Shola, above 1,900m, by RS and TB. At the time the seeds were collected, it was not known that these were of *E. blascoi*, as rainforest tree seeds are often hard to tell apart. Also, at the time, the authors had no previous experience with the species. One seed germinated in 1990, and after seven years of nursery care AB9 was planted on Vattakanal roadside with the help of the Vattakanal Youth Group volunteers in July 1997. The tree was named AB9 according to our internal numbering system. Since it was a seedling/young tree, it was still not identifiable as *E. blascoi* at the time of planting. AB9 still survives to this day. This tree first flowered in 2005 and bore fruit from 2006. It has been flowering and fruiting regularly since then. Details of growth are in Table 1 (Images 1–5).



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Table 1. Girth and Height measurements for the two planted *E. blascoi* trees, AB9 on Vattakanal Road and the Pambarpuram nursery tree.

Year	AB9Tree			Pambarpuram nursery tree		
	Age (years)	Girth (cm)	Height (m)	Age (years)	Girth (cm)	Height (m)
2001	11	10	3.5	na	na	na
2011	21	50	8.9	na	na	na
2014	24	55.2	9.5	na	na	na
2016	26	60	13	16	49.5, 40.5	5.3

In 2000, T. John, a nurseryman at the Vattakanal Conservation Trust, came upon what was presumably the mother tree in Vattakanal Shola. We checked against *E. munronii* and concluded it was *E. blascoi*. Further consultation with Fr. K.M. Matthew confirmed this. Herbarium sheets were prepared and Fr. Matthew took one to Kew Herbarium in 2003, where authorities at Kew authenticated the identity of our tree as *E. blascoi*. Kew called to congratulate and confirm that it was indeed *Elaeocarpus blascoi*. Following this, in 2001, tree AB9 and the seedlings from the mature tree were confirmed as *E. blascoi*.

Several small collections were made in 2000 with green drupes from the mature *E. blascoi* tree in Vattakanal Shola. A conventional soil mix in a seed tray covered glass was used, which produced good germination. Annual spring (March–April) bug infections tend to be a major setback as the new growth is attacked. We observed light germination from six months and up to 18 months and initial growth was very slow. The fruit's stone was difficult to break without destroying the seed and we typically cleaned the flesh off the seeds before sowing them. While this can speed up germination by one year, it proved difficult to do, so we advise that the seeds are best sown with the stone.

One sapling from the 2000 seed collection batch was planted in the Pambarpuram nursery of the Vattakanal Conservation Trust in 2010 after 10 years of care, and still survives there to this day. The Pambarpuram tree, entering its 16th year (2016), has grown into the most densely foliaceous tree we have ever seen, its production of leafy bio-mass is greater than any of our other species. Though as a sapling the plant suffered from periodic infections, the Pambarpuram tree, once planted out, shook off its annual infection. We have no definite idea why this should have happened, or why it opted for two main stems.

The Pambarpuram tree is more vigorous than AB9, despite being younger (Table 1). This could be attributed to the fact that the Pambarpuram tree is planted next to a compost heap, possibly a source of nutrients. It is



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Image 1. *E. blascoi* Pambarpuram tree - seed sown 16.12.2004. Germination 1.06.05. Photo taken 2.08.05, plant aged 2 months.



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Image 2. *E. blascoi* Pambarpuram tree - seed sown 16.12.04. Germination 1.06.05. Photo taken 2.08.05, plant aged 2 months.

also possible that this tree was planted after 10 years of nursery care, and AB9 was planted when it was seven years old.

E. blascoi is a very slow-growing species due to severe annual bug infections (March–April) in its initial years, but



Image 3. *E. blascoi* Tree AB9 flowering in 2005.



Image 4. *E. blascoi* Pambarpuram tree - sapling aged 4.5 years. Note insect damage to new leaves. The insect infection leads to a multiple branching habit. This is the same tree as the one featured below.

has been a priority for us due to its rarity. A minimum of five years nursery care would seem appropriate. Our planted trees were watered whenever required. We recommend at least two years of aftercare for planted trees.

Other saplings have been planted in the Pambarpuram nursery, predominantly from AB9, having been germinated successfully using our conventional technique. A few other



Image 5. The *E. blascoi* Pambarpuram tree, now 16 years of age has recently been pruned. This tree's very fast growth once planted out is attributed to it being in deeper soil with lack of competition and being next to our compost heap. It has begun to produce flowers and fruits after 14 to 15 years.

saplings of *E. blascoi* were planted in safe places, including the Forest Department headquarters, Kodaikanal. Many people have taken seeds from the roadside tree AB9, including colleges and schools. Seedlings have routinely been given to Forest Department, Kodaikanal. Several institutions, plains-based, have attempted to cultivate the tree through laboratory techniques etc. As far as we can ascertain none have been successful. Our experience tells us that only conventional cultivation by seed and a great deal of patience can ensure the future of the tree.

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