Principes, 40(3), 1996, pp. 148–151

Pelagodoxa henryana in Fiji

R. H. (DICK) PHILLIPS
G.P.O. Box 1151, Suva, Fiji

Pelagodoxa henryana Becc. is a rare palm from Nuku Hiva in the Marquesas Islands reportedly growing in dense rain forest about 135 m above sea level *in a humid valley*. This description from *Genera Palmarum* probably gives some indication of the rarity of the palm. Its status on the island is doubtful in that one search party was unable to locate the palm, but another report speaks of collecting fruit.

Just how and when this palm reached Fiji I do not know. John Parham (*Plants of the Fiji Islands* 1972) reports that three specimens had been growing in the Suva Botanical Gardens (now the Thurston Gardens) but that they had died. The photograph in *Genera Palmarum* (p. 142) was certainly taken in the Thurston Gardens, but although I have lived in Fiji for many years, I do not remember having seen the palm.

My real interest in palms began in about 1976—I attended my first International Palm Society Biennial in 1978—and I assumed that *Pelagodoxa henryana* had been lost to Fiji. However, I kept looking in all the old gardens in Suva and encouraged several friends to do the same.

My best collector was Nacani, who seemed to have inumerable relatives who died with monotonous regularity; as a result, he was always short of money. He came to my house one day with an almost round, smooth seed, slightly smaller than a golf ball and announced that it was the seed of a palm. I had never seen a palm seed that looked like that so I demanded an explanation. The more details Nacani gave me, the more excited I became, particularly when he mentioned the corky warts on the fruit.

He led me to an abandoned garden quite close to the Thurston Gardens and there, in all its glory, was the palm. It took only a quick look for me to know that it was *P. henryana*. Better still was the fact that it was loaded with several hundred seeds in various stages of development and, on the ground below, there were about 40 seedlings growing strongly.

Fortunately, I knew the owner of the property so we stole all the seedlings and then phoned and told the owner what we had done. As I expected, he approved. The seedlings grew well, as did many more plants, which I have grown from seeds from this palm.

Over the years I have sold and given away more than 100 palms to friends who had fairly permanent gardens. Four specimens have been planted in the Botanical Gardens section of the University of the South Pacific in Suva and three in the Thurston Gardens (Fig. 1). All of these are growing well.

Collectors coming to Fiji have also been happy to take a few seeds with them, and it soon became known, through the Palm Society, that there was a fruiting *P. henryana* in Fiji. This led to numerous letters asking for seed. The request I do remember was from Germany—a Society member rang me to see whether seed was available. Unfortunately he forgot that there was a 12-hour time difference between Germany and Fiji. At 3 a.m. I was not very receptive to a request for seed!

A member in southwestern England wrote asking for seed. As I had a friend flying to the U.K., it was arranged that he would carry two seedlings. The member rode a bus from his home to Heathrow, picked up the seedlings, and rode the bus back to his home. The seedlings were out of the ground for not much more than 60 hours and were not troubled by the trip half way around the

→

1. Three young specimens of *Pelagodoxa henryana* growing in Thurston Gardens, Suva in 1993. 2. Fruits on one of the *Pelagodoxa* in the Phillips' garden. The palm first flowered in 1993; the lowest inflorescence is the second or third formed. 3. A germinating seed of *Pelagodoxa*.

world. They grew well but succumbed when a hail storm broke the panes in the glasshouse roof and let in the cold winter air.

I planted three palms in my own garden about 1980. These have grown well in the shade of several large trees, which also sheltered them from some of the wind (Fig. 2). In January 1993 Cyclone Kina passed through at about 200 km per hour. The shelter trees blew over but the palms remained. They were, however, left in full sun. The same hurricane demolished the one fruiting *P. henryana* that had given me so much seed.

A month later I noticed an inflorescence on one of my palms and there was a certain amount of celebration, though I thought it possible that the inflorescence had been triggered by the stress of the storm and the sudden increase in light. There was more celebration when inflorescences continued to appear—and, better still, seed set regularly. In April 1995 the second palm started to flower and this was followed by the third palm in June 1995.

This palm is said to be protandrous so, from experience, I expected the female flowers of the first inflorescence to be pollinated by the male flowers on the second inflorescence. The female flowers on the first inflorescence, however, were well past the receptive stage when the pollen was available from the newer inflorescence. But nearly 25 seeds set on the first inflorescence (Fig. 3). How were they pollinated? I do not know but, now, more than two and a half years later as the fruit is finally maturing, the first seeds appear to have viable embryos. This I leave to the experts to consider.

The long delay between pollination and maturity of the seed has surprised me. Perhaps it is that these palms are not common so no one has checked this point, but I have seen nothing in any literature that had commented on this long period of development.

I would estimate that the first of my palms to flower has well in excess of 200 seeds in various stages of development. Hopefully, this means that there will be a steady supply of seed ripening throughout the year.

It has been reported that the palms in the Marquesas and Tahiti have a very small number of seeds. The seeds are also much larger than those on my palms. I doubt that the difference in the size of the seeds is sufficient to suggest that there are two species.

This small-seeded variety is also reported from the Solomon Islands (Dowe: *Palms of the South West Pacific*), but as it is in association with a deserted village it is probably introduced and not native. In November 1994 I was in Vanuatu with John Dowe and Suliana Siwatibau for the *Carpoxylon macrospermum* project to locate and enumerate these palms in the wild and in cultivation and, hopefully, to initiate a species regeneration scheme. During that period we visited most of the villages on the northeast coast of the island of Malekula. We found *P. henryana* in a number of villages (Fig. 4). Indeed, the most beautiful specimen of this palm I have seen was in a village garden in this area. It was protected by the trees and, as a result, there was little damage to the leaves. It was growing with *Cocos nucifera* and *Metroxylon warburgii*. The villagers did not mention any uses for the palm.

It would be my guess that *P. henryana* travelled around the Pacific with Catholic priests. They

4. *Pelagodoxa henryana* with *Metroxylon warburgii* and *Cocos nucifera* in a garden on the island of Malekula, Vanuatu.

are the ones most likely to have seen the palm in Tahiti or the Marquesas and, if the report that the young endosperm was eaten is correct (*Genera Palmarum*, p. 420), this might be sufficient reason to take the palm to new lands where the value of the edible endosperm was forgotten during the 20 years that it would have taken for the seeds to grow and the trees to mature.

There have been problems with the germination of the seeds. Originally I used to clean the seed, soak it in a fungicide and an insecticide, and place it in a plastic bag with damp spaghnum moss, which fortunately grows in Fiji. The bag was then hung up in strong light but not in any direct sun. Inside the plastic bag some heat would build up during the day, but the temperature would drop at night. In this way I obtained only 30% germination over a period of three to six months. The seeds that were left were then thrown under a bench in one of my shade houses on a bed of damp wood shavings or rice husks. Often a few more would germinate over another three or four months.

Then a friend of mine tried constant heat. He cleaned and treated the seed as I had done and put them into plastic bags with damp vermiculite. They then went into a heated cabinet, which maintained a constant 30°C. On a trial of ten seeds, several germinated within a month and the rest germinated intermittently over a ten month period, but he did obtain 100% germination. It would appear that heat is essential for good germination.

I would hope that *Pelagodoxa henryana* is now well established in Fiji and that, unless there is a major catastrophe, the numbers will not fall as dangerously low as they did in the past.
