The Rediscovery of *Calamus harmandii*, a Rattan Endemic to Southern Laos

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Calamus harmandii **Pierre ex Becc., long known from a single record, is rediscovered in Laos and shown to be a very peculiar rattan.**

Since 1992 the Department of Forestry in Laos has been working on a catalogue and manual of the country's rattans. In 1997 I joined the team to help them expand and complete this work, funded by the UK government through the Darwin Initiative for the Survival of Species. Since then we have been collecting the length and breadth of the country, from the Chinese border in the north to Cambodia in the south.On our travels we have always had an eye out for the one endemic rattan described from Laos, *Calamus harmandii*. When described this plant was considered bizarre enough to be given a new genus of its own, *Zalacella*, and it wasn't until recently that it was placed in *Calamus* (Dransfield 1984). For a long time we had little idea where it came from, because the notes on the type specimen were so sparse, and the locality, Phou Lekfay, was not on any modern map.

Then, by lucky chance, my wife Laura gave me a book for Christmas which solved the mystery. It was the recently translated account of a journey by Dr François Jules Harmand himself, back in 1877 (Harmand 1979). Rattans aside it is a remarkable book, a self-penned portrait of a man who embodied all the worst of the old colonial explorers. It is liberally scattered with tirades about the character of the 'savages' he met, and enhanced by pictures with titles like 'Punishing a mandarin in the pagoda of Song Khon' and 'Clandestine disinterments in Attapu'. Loneliness, severe financial hardship, genuinely unwelcoming locals and the differing cultural standards of the time can all be offered in Harmand's defence, but it has has to be said that he formed a very different opinion of South Laos from the sympathetic writings of another explorer, Dr. Garnier, who crossed the same ground twelve years earlier (Garnier 1869–1885).

In March 1877 the cantankerous Dr. Harmand found himself in Attopu, the Lao province adjoining Vietnam and Cambodia. He was searching for routes through the Mekong basin in the hope of extending French colonial influence to the hinterland of Indochina. As he went he collected plants, birds, animals and cultural artefacts. His time in Attopu was cut short by a cholera epidemic which emptied villages and killed three of his local assistants, but among the collections from this brief visit was the curious spiny palm which now bears his name.

The published account doesn't mention this plant but does devote several pages, a map and an engraving to Phou Lekfay. The long scenic boat ride up the Xe Kaman river to the feet of the Annamite mountains where he camped and collected seems to have been one of the high points of Harmand's trip. His map of the Xe Kaman's meanderings was so accurate that we could easily locate his camp on modern maps, and it was with this information that we set off

1. *Calamus harmandii* growing in an area of shady understory.

2. *Calamus harmandii* with leaf litter trapped on the petiole spines.

for Attopu in May 1999 to see what was left on Phou Lekfay.

Attopu province and its capital, also called Attopu, are a long way from anywhere (Fig. 8). It takes two days drive to get there from the Lao capital, Vientiane. Attopu is a tiny market town with electricity from a generator each evening and more than its fair share of malaria. However, in common with other Lao provincial towns it offers two unexpected French luxuries: excellent filter coffee and locally-baked baguettes for breakfast. Once there we met Mr Sukaserm, chief of the Provincial Forestry Office. With his famous dynamism he took us in hand, wined and dined us, presented us to his chief, Mr Khamdii and organised our travel papers. Then he escorted us into the field, just in case our aging pick-up didn't make it.

After crossing the great Xe Kong river by ferry our route took us across a plain still mainly covered with deciduous forests, some dense and varied but most open, their understorey dominated by the weedy bamboo 'pek' (possibly *Vietnamosasa pusilla*, J. Dransfield, pers. comm.). As the rains had already begun, many plants were in flower, most

3. The ocrea of *Calamus harmandii.*

4. An adult plant of *Calamus harmandii*, with the Darwin Initiative Lao Rattan Project team.

conspicuously great sweeps of the white-flowered shrub *Holarrhena*. Rice-farming villages of stilted houses occupied clearings along the road. The last of these before the hills was Ban Paam, where we planned to base ourselves.

Soon after arriving, and with formalities observed, we began to discuss the local palm flora with the village chief. To our delight he immediately seemed to know of *Calamus harmandii* and confirmed it when shown a photo of Harmand's specimen from Paris. We could hardly believe our luck. After a hasty lunch we began our search. Ban Paam and Phou Lekfay lie on a dirt road winding over to Khontoum in Vietnam. Barely used now, it was once the scene of intense activity. Until 1975 it was a key strand of the network of roads called the Ho Chi Minh trail and used to transport supplies from Communist North Vietnam to guerillas in the capitalist South, bypassing the demilitarised zone between the two. As such it was carpet bombed by American B-52s flying in from Thailand and royalist areas of Laos. The debris and craters have disappeared under the vegetation now, but a decommissioned 8 m long rocket launcher in the centre of Ban Paam forms a stark reminder. Mindful that perhaps 30% of the millions of bombs and bomblets the Americans dropped never went off, we were very careful to watch our step when we left established trails!

As soon as we reached evergreen forest we stopped the car to look at a large rattan which proved to be *Myrialepis paradoxa*. Wandering 5 m into the forest from there one of us immediately stumbled on an adult *Calamus harmandii*. It was that easy. Looking around we saw another, and another, and within 20 minutes had found perhaps 30 plants. We were euphoric and it took us a while to calm down enough to start preparing specimens.

Calamus harmandii is distinctive firstly by being a non-climber. Its uplifted whorl of meter long pinnate leaves stand on a stout trunk no more than a meter tall (Fig. 4), making it look more like a cycad than a rattan. It lacks any kind of climbing organ, even on the inflorescence, and seems content to sit in the deep shade of the understorey of closed forest (Fig. 1). The long petiole spines together form a crude net which traps leaf litter (Fig. 2); this may be an adaptation to capture extra nutrients. But oddest of all are the inflorescences themselves, which stand erect in the crown and bear only short, appressed, spicate partial inflorescences (Fig. 5), quite unlike the long exuberantly branching partial inflorescences of most other *Calamus* species. The spikes, which we noticed do occasionally branch a little, are

5. The spicate partial inflorescence of *Calamus harmandii.*

6. Partly ripe fruits of *Calamus harmandii,* May.

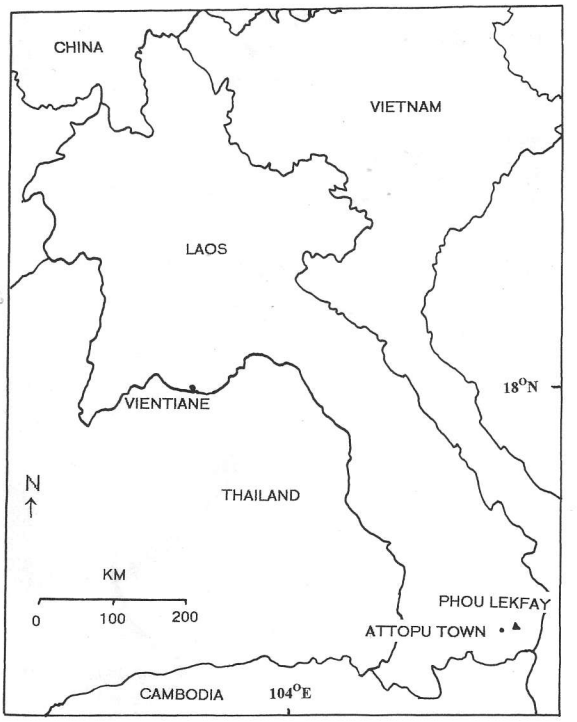
crowded with flowers nestled amongst a felt of grey brown hairs (Fig. 7). They reminded us a little of *Korthalsia* catkins. There seemed to be two types of inflorescence – a larger one with the spikes larger and more widely spaced being the female and smaller, more congested ones presumably the males. Sadly, most inflorescences we found were old and dry but by careful searching we did track down one in fruit and one female with open flowers. The petals were very inconspicuous, leaving the three naked green pistils widely exposed. As in other *Calamus* the female flower is accompanied by a male flower, which is presumably infertile as it is in other *Calamus* (Uhl & Dransfield 1987). On the spikes these pairs are arranged in a jumbled, barely discernible spiral.

The fruiting spikes were mostly covered in mud brought by nesting ants. These stung us with great enthusiasm as we evicted them. The small bronzy fruits (Fig. 6) are covered in the overlapping scales which distinguish the whole subfamily Calamoideae.

One other point of interest is the ocrea which is fragile and densely bristly (Fig. 3). It recalls the ocrea of another, much larger, erect species, *Calamus erectus* Roxb.

Our guides from Ban Paam explained that their name for this tree was 'nyaa seui' which, loosely translated, is 'weedy *Daemonorops*'. There is no local use for the plant – it has no flexible cane, no large juicy palm heart and the leaves are too sparse for thatching. Although the little fruits are edible it is hard to imagine anyone making a special effort to gather them. So the plant remains most interesting as a Lao endemic rarity and as a biological oddity, marking an extreme edge of the diverse, sprawling genus *Calamus*.

Time was sadly too short to determine the conservation status of *Calamus harmandii*. It is under no direct harvesting pressure, but habitat loss is a possible threat. Ban Paam is a village swollen with people who have moved down from remote hill villages to attempt paddy cultivation on the plain. If this fails they may turn to Phou Lekfay to restart shifting cultivation. The province as a whole is heavily forested and Phou Lekfay lies at the edge of a vast tract of forest, much at comparably low altitudes, stretching off into



7 (above). The inflorescence of *Calamus harmandii.* 8 (right). Map showing place names.

equally poorly-botanized areas of Cambodia and Vietnam. If *Calamus harmandii* is present widely in this area, as seems likely, it would be safe for the foreseeable future. However, the Lao name of the mountain refers to the presence of flints or something similar (it literally means 'the mountain of stones for striking fire') which suggests that it has peculiar geology. If *Calamus harmandii* was restricted by soil chemistry to this one ridge it would be in a much more precarious situation. Botanists penetrating more deeply into the area in the future would do well to report on how widely they find this distinctive species, which has remained unseen for so long.

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Note added in press: Dr. J. Maxwell of Chiang Mai University reports that he has just found *C. harmandii* in Nan Province, Northern Thailand, an amazing range extension. We did not have a chance to see this specimen before the publication of this article.

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