

The Palms of Hainan

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1. *Chuniophoenix
humilis* at Diao
Luo Shan.

Hainan Island in southern China has a diverse and interesting palm flora. In this article, we describe a recent visit to the island to see the island's palms.

Hainan, lying in the South China Sea, is one of China's smallest provinces, with an area of 34,000 km². It extends about 260 km from west to east and 210 km from north to south. It is the most southerly of China's provinces, almost exactly the same latitude as Hawaii. It has a tropical climate with annual rainfall of about 2000–2400 mm on the east coast and about 1000–1200 mm on the west coast. Like many other tropical areas, deforestation has been severe, and now less than 20% of the island is still covered by forest, most of which is in protected areas. The highest mountain

on the island, Wuzhi Shan or Five-Finger Mountain, is 1867 m elevation. Hainan has high biological diversity, and there are an estimated 4600 vascular plant species – including 26 species of palm (see Sidebar).

In March 2006 we visited the island province of Hainan in China, to carry out field work for the book *Field Guide to the Palms of Southern Asia* (Henderson, in prep.). This field work was supported by a grant from the International Palm Society. We arrived in the capital, Haikou, by air and left the next day for our first locality,

2. *Chuniophoenix hainanensis* at Diao Luo Shan. 3 (inset). Flowers of *Chuniophoenix hainanensis*.





List of the palms of Hainan

Arenga caudata
Arenga westerhoutii
Calamus egregius
Calamus hainanensis
Calamus multispicatus
Calamus pulchellus
Calamus rhabdocladus
Calamus simplicifolius
Calamus tetradactyloides
Calamus tetradactylus
Calamus walkeri
Caryota maxima
Caryota mitis
Chuniophoenix hainanensis
Chuniophoenix humilis
Daemonorops jenkinsiana
Licuala fordiana
Licuala hainanensis
Livistona chinensis
Livistona jenkinsiana
Nypa fruticans
Phoenix loureiroi
Pinanga baviensis
Plectocomia microstachys
Rhapis excelsa
Rhapis gracilis

4. *Licuala hainanensis* at Diao Luo Shan.

Diaoluoshan, a forested mountain area in the southeast of the island. This turned out to be an excellent locality for palms. One genus that we were particularly interested in seeing was *Chuniophoenix*, and here we found both Hainanese species. *Chuniophoenix humilis* is a small palm, similar to *Rhapis* in general appearance (Fig. 1), and is rare on the island. It is sometimes included in *C. nana* from northern Vietnam, but we consider it distinct, based on its broad, hooded leaflets. *Chuniophoenix hainanensis* is more common and much larger, and we saw plants up to 4 m tall growing in the forest (Fig. 2). While we were there, this species was in full flower, with beautiful purple flowers (Fig. 3). Both these species of *Chuniophoenix* are endemic to Hainan. Also here were two species of *Licuala*. One of these, *L. fordiana*, formed large, stemless clumps in the forest. It occurs in Hainan and also in the mainland province of Guangdong. The second species has been called *L. spinosa*. However, subsequent study of our collections showed this to be a distinct species, which we

have described as a new species, *Licuala hainanensis* (Fig. 4). It is unusual in being dioecious, with separate male and female plants. A *Pinanga* was common here and elsewhere on Hainan. We identified it as *Pinanga baviensis*, a widespread species in southern China and northern Vietnam. There were a few rattans here, including *Calamus walkeri*, *C. rhabdocladus*, and *Daemonorops jenkinsiana*. We found two forms of *D. jenkinsiana* on Hainan, possibly representing two different taxa. We were also delighted to find *Plectocomia microstachys*, a very poorly known species which turned out to be quite common in the forest here (Fig. 5).

After a couple of days at Diaoluoshan we proceeded to Five Finger Mountain. Here we saw many of the same palms we had seen at Diaoluoshan, but there were also a few new ones, including *Caryota maxima* and a couple of species of *Calamus*. We finally concluded that these were *C. egregius* and *C. simplicifolius*, both endemic to Hainan. These two species



5. *Plectocomia microstachys* at Diao Luo Shan.

are large rattans which climb by cirri – long, whip-like extensions of the leaf rachis.

Our next locality was Jianfengling National Forest Park, a famous nature reserve in southwestern Hainan (Fig. 6). This mountainous area is covered in beautiful rain forest, full of palms! We saw many of the species we had seen at other sites, but also found *Calamus tetradactyloides*, a beautiful small rattan, endemic to the island of Hainan (Fig. 7). Common here were large plants of *Arenga westerhoutii*. There were also two species of *Livistona* here. One, very abundant along the river banks, we took to be *L. jenkinsiana*. The second, of which we found only one plant, appeared to be *L. chinensis*, with its characteristic pendulous leaflets.

Near Jianfengling we visited the Tropical Forest Experimental Station. In the grounds of the station we were shown another endemic Hainan rattan, *Calamus multispicatus*. We had thought it might be the same as *C. henryanus*, but when we saw it in the field we realized it was quite distinct, especially by its short female flowering branches (Fig. 8). It was cultivated with *Calamus tetradactylus*.

Our third, and final locality was Bawangling, another nature reserve in western Hainan, and last remaining home of the endemic Hainan

6. Jianfengling National Forest Park.





7 (left). Leaf sheath of *Calamus tetradactyloides* at Jianfengling. 8 (right). *Calamus multispicatus* near Jianfengling.

gibbon, now on the verge of extinction. Here we had a wonderful day in the forest, and were shown a population of *Rhapis excelsa*. This was growing with a species of *Calamus*, *C. hainanensis*. This species is sometimes included in *C. gracilis*, but appears to differ in its larger fruits.

On our drive back to Haikou we saw many plants of *Phoenix loureiroi* growing in disturbed places and between rice fields. We finally left

Hainan by ferry, crossing the Hainan Straits to the mainland Leizhou Peninsula.

Acknowledgments

Field work in Hainan was supported by a grant from the International Palm Society. We thank Mr. Zhou Lianxuan of the South China Botanical Garden for his assistance in the field, and the Hainan Forestry Bureau for permission to visit forest reserves in Hainan.