

Palms of the Ledo Road, Myanmar



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1. *Salacca secunda* growing
along a stream near Tanai.

The Ledo Road in Myanmar, constructed during World War II, passes through country rich in palms.

Construction of the Ledo Road in Myanmar began in early 1943, at the height of the Second World War. In 1942, Japanese forces had overrun Rangoon, capital of Burma, and cut off the Allies' supply line to Chinese forces under Chiang Kai-shek, battling the Japanese in China. The American air force began supplying the Chinese by flying from Assam, in northeastern India, to Kunming in China. But this was not enough to move the huge amount of material promised by the US. In January 1943, the American army began building a road in order to move supplies. Its route was from the railhead in Ledo, northeastern India, through Kachin State in northern Burma to Myitkyina, and from there to the Burma road that led to Kunming.

The Ledo Road, as it became known, was built through extremely difficult terrain and at a huge cost in lives and money. The route not

only crossed steep mountain ranges, but also the Hukaung Valley, a large, flat, forested area which floods for many months of the year in the monsoon season. When it was completed in early 1945, the tide of war had turned, and the road was little used. At the end of the war, Burma (now known as Myanmar) gained independence from the British. The country was closed to foreigners, and the road fell into disrepair.

For various reasons this area of northern Myanmar has retained its forest cover and its wildlife. The human population is relatively low. There is severe malaria in the region, and the Hukaung Valley itself floods during the monsoon season, making travel all but impossible. By the end of the twentieth century, this region contained one of the largest intact areas of forest in southeast Asia. It also contained populations of large

2. *Calamus tenuis* with its distinctive ridged leaf sheaths.



mammals, such as tigers and wild elephants, animals that were rapidly disappearing from other parts of Asia.

Beginning in 1993, the Wildlife Conservation Society of New York and the Nature and Wildlife Conservation Department of the Forestry Department in Myanmar began to plan for the conservation of this region. One result of this was the Hukaung Valley Tiger Reserve, established in 2001. It covers a large area of almost 12,000 square kilometers, with the Ledo road running right through the middle. In early 2005 we traveled along the Ledo Road in order to survey the rattans of the Hukaung Valley and to estimate the impact of rattan harvesting in the Reserve.

We flew from Yangon (as Rangoon is now known) to Myitkyina, where we began our journey. The road from there to Tanai is in

good repair, and it is only a five-hour trip by car. The first palms we saw were *Calamus guruba* and *C. viminalis*, growing with a species of *Salacca*. These are common roadside palms in this area. When we entered the Hukaung Valley itself, these species were replaced by *Calamus floribundus* and another species of *Salacca*, *S. secunda* (Fig. 1). This *Salacca* from Kachin State in northern Myanmar is almost certainly the same as that described by Griffith, as *Salacca secunda*, first collected just across the border in northeastern India. Another species of *Salacca* occurs in Myanmar, in the southern part of Kachin State. I believe this to be an undescribed species, differing from *S. secunda* in its regularly arranged (as opposed to irregularly arranged) leaflets. This undescribed species is also known from adjacent Yunnan in China and just reaches northern Thailand. To complicate matters further, these two



3. *Livistona jenkinsiana* in flower near Tanai.



4. *Pinanga sylvestris* in the forest near Shinbwiyang, with another unidentified species of *Pinanga* to its left.

species appear more similar to *Eleiodoxa* than to other species of *Salacca*. Near Tanai we collected a variety of rattans, including *C. tenuis*, *C. floribundus*, *C. palustris* and *C. leptospadix*. *Calamus tenuis* (Fig. 2) is heavily exploited in this area, and all along the banks of the Tanai River we saw the camps of rattan collectors. Species of *Pinanga* were also very common in the forest here, and this was the most confusing genus we came across. At least three species occurred in the forest near Tanai, and we saw others later. Planted in villages near here was *Livistona jenkinsiana*, in full flower at this time of year (Fig. 3).

From Tanai to the next village, Shinbwiyang, the road is less well maintained, and the journey involves driving through at least two large rivers. We traveled on an old truck with four-wheel drive. It was an exciting ride. Near Shinbwiyang we found *Calamus flagellum* and *Pinanga sylvestris* (Fig. 4). In some places here we came across reminders of the War – rusting jeeps and trucks, almost completely consumed by the forest.

After Shinbwiyang the road enters the mountains, and the palm flora becomes more diverse. Just a few kilometers into the hills we collected *Areca triandra*, *Arenga westerhoutii*,

Caryota maxima, *Livistona jenkinsiana*, *Pinanga* spp., *Wallichia densiflora*, and *Wallichia caryotoides*, and various species of *Calamus*, including *C. henryanus*, *C. erectus* (Fig. 5), *C. gracilis* and *C. kingianus*, as well as an undescribed species (Fig. 6). Also here was a massive *Plectocomia*. Collecting this was interesting. Several of our field assistants could not pull it from the forest, such was the grip of its thorny leaves on the surrounding trees. Fortunately the two elephants that we had hired for our return journey happened by, and one of them easily pulled the huge palm from the forest. Study of this specimen, and another collected later, in fruit, showed it to be *Plectocomia assamica* (Front Cover). This species has been repeatedly confused with others, but is easily distinguished by its regularly arranged leaflets.

The furthest north we reached was the village of Namyung. Near here we found *Calamus gracilis* and an interesting species of *Wallichia*, possibly *W. triandra*. There were also some species of *Calamus* here belonging to the *C. nambariensis* species complex. Some of them had beautifully colored leaf sheaths (Back Cover). We returned from Namyung to Shinbwiyang on foot, with the elephants



5. *Calamus erectus* growing on a steep slope in the forest.

carrying our baggage. We camped in several places along the road and were surprised how cold it was at night. On some nights the temperature dropped to 8°C. Given these low temperatures, the palm flora here is surprisingly rich. Walking the Ledo Road was a good way to study the palms, as the forest grows right up to the road.

On our return to Myitkyina we visited the confluence of the two rivers that form the Ayeyarwady River. Even along the roadsides here, in disturbed vegetation, there were plenty of palms, including *Calamus henryanus*, *C. guruba*, *C. erectus*, *Wallichia densiflora* (Fig. 7) and *W. caryotoides*. On the day we were due to fly back to Yangon we found that flights had



6. Close up of the leaf sheath of a possible new species of *Calamus*.

been temporarily suspended and so were forced to take the train instead. The 45-hour trip was memorable and gave us plenty of time to study the palms of central Myanmar. Just outside Myitkyina our old friends *Calamus guruba*, *C. viminalis* and *Salacca* sp. appeared,

now growing with *Phoenix loureiroi*. After Mandalay, *Borassus flabellifer* dominated the landscape in huge numbers, and in villages and towns were a few plants of *Corypha* and *Phoenix*. Nearer to Yangon we were happy to see large clumps of *Calamus arborescens*. We



7. *Wallichia densiflora*.

had seen this in only one place before, on the road not far from the railway, but now we could confirm that it is quite common in villages near Yangon. Growing with it were *Daemonorops jenkinsiana*, *Licuala peltata*, and another species of *Salacca*, *S. wallichiana*. Just as we entered Yangon, a few plants of *Nypa fruitcans* were seen along some tidal rivers.

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