



## The last wild Red Latan population in the Mascarene Archipelago

BY CHRISTOPHE LAVERGNE, CLÉMENT DURET & LUC GIGORD

▲ The newly discovered relict coastal population of Red Latan, seen from the air (left) and on the ground (right).

*Photographs by Gaetan Lerceteau*

▼ A young seedling, demonstrating heterophylly

▼► Inside the grove



The Latanier rouge (Red Latan) or Latanier de Bourbon (*Latania lontaroides* (Gaertn.) H.E. Moore) is a beautiful and popular ornamental palm tree endemic to La Réunion Island. It was thought to be almost extinct in its native habitat. However, a relatively intact coastal ecosystem, including the single largest known wild population of this species, has been recently discovered in the south of the island. This fantastic and unexpected discovery may give us the opportunity to understand both the biology

of the species and the functioning of the last primeval coastal plant ecosystems of Réunion. Also, this population may contain a significant proportion of the genetic diversity of the species, diversity that could be used for future restoration and reintroduction.

When we heard that an entire population of Red Latan had been sighted in the south of La Réunion, we could not believe it. And when we first arrived at the site, we realized that the plants were truly wild. We had the strange and exciting feeling of being living 350 years ago, when the first inhabitants of the island arrived.



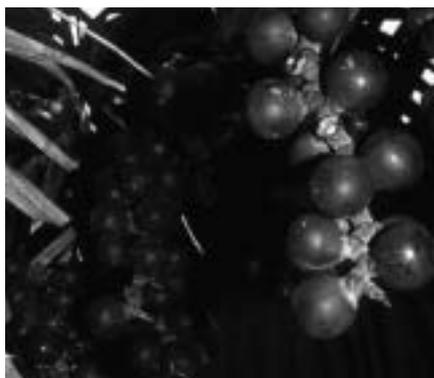
Red Latan is an almost mythic species for the inhabitants of La Réunion. The local government has recently voted to allocate up to €1.6 million to plant these trees along the national road. So why is the species so interesting, so special? *Latania* is a genus endemic to the Mascarene archipelago with three species: Latanier rouge (*Latania lontaroides*), Latanier

jaune (Yellow Latan, *L. verschaffeltii*), endemic to Rodrigues, and Latanier bleu (Blue Latan, *L. loddigesii*), mainly endemic to Round Island, a small island 20 km north of Mauritius. The first two species are becoming extinct in their natural habitats. However, *Latania* species are widely cultivated in gardens around the tropics, and on La Réunion, *L. lontaroides* can be seen in gardens and along the roads. Propagation by gardeners is based on few parent plants only, so most trees probably come from few genotypes. The coloured heterophyllic leaves – an adaptation to drought – of the seedlings and young plants make these species particularly attractive. The albumen of the young seeds is edible and well known by local people under the name of *pomme latanier*.

The probably original, lowland, semi-dry savanna, with Benjoin (*Terminalia bentzoe*) and *Latania lontaroides*, has been completely replaced today by urbanization and agriculture, and by a secondary grassland dominated by fire-resistant grasses. In 1822 Billiard recorded that the leaves and trunks of *Latania* were cut every day to build traditional houses on the west coast.

The species is now considered to be Endangered (EN) by IUCN. Other than the newly discovered population, it is reduced to a few individuals among sugar cane fields on the south coast, between Petite Île and Saint-Philippe, and on the slopes of gullies on the west coast, but was formerly more common in gullies and on coastal cliffs. Except for the newly discovered population, it is on the verge of extinction in its natural habitat. This is why we consider the discovery of this wild population to be a major event.

About two years ago, Philippe de Vos had first noted the population of approximately 150 individuals on the south coast. This wild population is protected from damage because of its inaccessibility on private land. This is also probably the reason why nobody recorded it before. On the site, several native plant species form a community quite undisturbed by human activities. It is noticeable that the *Latania* leaf litter seems to, at least partly,



▲ Fruits of Red Latan

prevent invasion of the population by alien plant species from surrounding land. It is also interesting that recruitment seems to be relatively high within the population.

However, several threats persist. Black rats seem to appreciate the palm fruits because we found that many of the fruits on the ground had had their albumen totally eaten. Local people collect fruits and seedlings each year. Most seedlings and a large proportion of the fruits that were on the trees in December 2003 had disappeared by March 2004. Also, invasive plants have moved into the surrounding coastal vegetation; these include the native grass *Stenotaphrum dimidiatum* and the alien succulent *Agave vera-cruz*, which seems to inhibit seedling recruitment inside the palm wood.

This newly discovered population is not only important for the survival of the species, but also for many other organisms. Some elements of the endemic fauna live in the *Latania* grove and seem strongly linked with this palm tree. The endemic and protected Manapany Day-gecko (*Phelsuma inexpectata*) is only found in the *L. lontaroides* area (Saint-Joseph, Manapany and Grand' Anse). Small colonies are strongly associated with the presence of *Pandanus* and *Latania*. Moreover, a single colony of the supposedly extinct Bouton's Skink (*Cryptoblepharus boutonii*) has been recently discovered close to the last wild Latanier population, which might play a key role in its survival. A similar plant-animal association was found to recover after rabbits were eradicated on Round Island.



▲ Red Latan grove, home to geckos and other animals

Therefore, we should like to suggest some conservation measures. A programme should be urgently started to conserve all the individuals of the wild population and all other existing population remnants. This unique remnant of a *Latania* wood could serve as a model for restoration of coastal vegetation in La Réunion and elsewhere.

At the same time, it would be extremely useful to set up a research programme to study population dynamics, genetic diversity, recruitment and pollination of the species, and the role of leaf litter in recruitment and in limiting invasion by alien invasive species. Finally, tourism infrastructure should be avoided so as to protect the last population from human damage.

To achieve this, we strongly encourage the local institutions – Conservatoire Botanique National de Mascarin (CBNM), Conservatoire du Littoral, Direction Régionale de l'Environnement (DIREN, Ministry of Environment), Mairie of Petite Île, Office National des Forêts (ONF) and the University of La Réunion – to work together to conserve and study this last wild population and to reinforce native populations at various sites.