

Saribus jeanneneyi at the Botanical Garden of Nancy

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1. A tall specimen of *Saribus jeanneneyi* now pushing toward the conservatory roof.

At the end of spring 2011, in Conservatoire et Jardins Botaniques de Nancy (CJBN), in northeast France, the extremely rare palm tree *Saribus jeanneneyi*, endemic to New Caledonia, flowered for the first time.

The CJBN is a scientific and cultural institute, co-managed by the Communauté Urbaine du Grand Nancy (local authority) and the Université de Lorraine. The CJBN includes the Montet Botanical Garden at Villers-lès-Nancy (in the suburbs of Nancy) and the Alpine Garden of Haut-Chitelet in the Vosges Mountains (located about 100 km from Nancy). More than 12,000 plant species are in cultivation in the park and greenhouses of Montet, with notably a collection of rare palms from the Mascarenes and other islands of the Indian Ocean, as well as New Caledonia.

As such, the CJBN grows *Saribus jeanneneyi*, previously known as *Pritchardiopsis jeanneneyi* (Bacon & Baker 2011), one of the world's rarest palms. Discovered in 1890, it was already rare at that time, and its intensive harvest for palm hearts decreased its population so much that it was thought to be completely extinct by the beginning of 20th Century (Beccari 1910, 1920). Fortunately, the palm was re-discovered in 1980 in the south of New Caledonia (Moore & Uhl 1984, Hodel & Pintaud 1998, Pintaud 2000, Baker & Pintaud 2008). Nevertheless, the species was in grave danger, because only one adult specimen had survived! An *in situ* conservation plan was immediately organized; the location was kept secret, and the zone closely watched. Although the plantlets were well protected, the majority of young



3. Both the rachillae and flowers of *Saribus jeanneneyi* are deep red in color. Photo by P.-F. Valck.

specimens, which grew near the mother plant were stolen by unscrupulous enthusiasts.

At the same period, an *ex situ* conservation plan was considered; seeds were sent

2. The inflorescence of *Saribus jeanneneyi*.





4 (upper left). Young, developing fruits of *Saribus jeanneneyi*. 5 (upper right). A single, ripe fruit, rich orange-brown in color. 6 (lower left). A fruit cut open to show the thick mesocarp and single, large endocarp. 7 (lower right). The ridged endocarp containing a single seed. Photos by P.-F. Valck.

worldwide in the aim to grow this species, and with, ideally, the aim of its reintroduction. With the support of the New Caledonian branch of ORSTOM (Office de la Recherche Scientifique et Technique Outre-Mer – Office for Scientific and Technical Research in French Overseas Departments And Territories, now replaced by IRD [Institut de Recherche pour le Développement – Institute for Research and Development]), a few seeds were sent to the CJBN in 1982. The seedlings were grown for a few years in clay pots in the tropical greenhouses, then, with the opportunity provided by the construction of a new greenhouse in 1987, one of the palm trees was planted in the ground in 1989. It settled little by little, with moderate growth during several years. It finally reached a state of vigorous development by 2005. This small plant that was 2 m in height at that time now exceeds 5 m (Fig. 1)! This surge of strength eventually resulted in blooming at the end of May 2011.

During anthesis artificial pollination was made; each day, flowers were pollinated amongst themselves with a small brush. After a few weeks, a majority of non-fertilized flowers fell, and small fruits began to form. Unfortunately, the intense heat of the early summer quickly killed all these young fruits.

Luckily, in May of the following year, a second flowering with seven vigorous inflorescences occurred (Figs. 2 & 3).

To avoid excessive heat and ensure shade, shading was put above the inflorescences. The same care was given to these new flowers, with more success, however; the summer of 2012 was more favorable to fruit development and only a few young fruit failed to ripen. About 60 drupes ripened slowly, and the first mature fruit fell in the middle of July 2012 (Figs. 4–7). In total, 54 fruits were collected from 26 July to 11 October 2012.

All fruits were sown immediately, and different treatments were tried for the fruit – with or without pericarp, with or without soaking, antifungal chemicals, rasping, in many different substrates, etc. Finally, these methods did not make any difference. The first root was observed on 26 September 2012 from a seed sown on 26 July 2012. Leaves began to emerge from the ground in the middle of December 2013 (Fig. 8).

About 30 seeds were shared with eminent institutions and relevant growers, five stored in herbaria and the remainder were kept at Nancy's greenhouses to ensure the long term future of this species in our collections. In May



8. Young seedlings of *Saribus jeanneneyi* grown from seeds harvested from CJB's plant. Photo by P.-F. Valck.

2014, about two years after the flowering that provided the fruits, 19 healthy young palm trees are in cultivation in the CJB. News from other seeds sent out is also really optimistic. For such a rare species, the mortality rate is surprisingly low.

At the time when these lines are written, a new flowering has begun; five beautiful inflorescences have started to grow. The young flowers have already been pollinated by hand.

However, the bad news is that this tree has reached 5.5 m and the greenhouse where it grows is only about 6 m at this point. If we would like to keep this plant at the CJB, we have three choices: move the plant in the greenhouse to a place where the roof is higher, build a new greenhouse for the palm tree, or increase the height of the current greenhouse. An alternative possibility could be to move the plant into another garden, but can this adult tree survive travelling? A last choice that would be the worst: if nothing is done, *Saribus jeanneneyi* will have to be chopped down when it becomes too high. This would be the

cheapest choice, but needless to say nobody wants this! However, the problem is the lack of funding.

LITERATURE CITED

- BACON, C. D. AND W. J. BAKER. 2011. *Saribus* resurrected. *Palms* 55: 109–116.
- BAKER, W. J. AND J.-C. PINTAUD. 2008. A revision of the palm genera (Arecaceae) of New Caledonia. *Kew Bulletin* 63: 61–73.
- BECCARI, O. 1910. *Palme Australasiche nuovo o poco note*. *Webbia* 3: 131–165.
- BECCARI, O. 1920. *Le Palme della Nuovo Caledonia*. M. Ricci, Firenze, 78p.
- HODEL, D.R. AND J.-C. PINTAUD. 1998. *Les Palmiers de Nouvelle-Calédonie*. Allen Press, 135 p.
- MOORE, H.E. AND N.W. UHL. 1984. The indigenous palms of New Caledonia. *Allertonia* 3: 313–321.
- PINTAUD, J.-C. 2000. An introduction to the palms of New Caledonia. *Palms* 44: 132–144.