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The Vanishing Palms of the Andaman and Nicobar Islands, India

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The Andaman and Nicobar Archipelago, situated in the Bay of Bengal, is characterized by a humid tropical climate and sustains luxuriant vegetation over the islands. These islands, isolated from the major land masses of South and Southeast Asia, form a rich reservoir of genetic variability. However, it has been noticed that many of the species described earlier by British botanists are not known to be present on the islands now. Balakrishnan (1989) in his studies on the flora of the Andaman and Nicobar Islands has pointed out that many taxa have never been recollected after the type collection.

Wild palms are one of the most important components of the tropical rain forest of the Andaman and Nicobar Islands and have been found distributed from sea level to high altitudes. Champion and Seth (1968) in their classification of the forest types have demarcated clearly the "cane brakes" occurring in the interior valleys of these islands, as a distinct type of vegetation, thereby recording the abundance of rattans in the tropical forests of Andaman and Nicobar Islands.

The Andaman and Nicobar Islands are known to host 26 species of palms spread over 13 genera, a list of which is given in Table 1. Of these, 12



1. Coconut population at Mus shore—Car Nicobar Island.



2. Wild population of *Areca catechu*—Car Nicobar Island.

species are endemic and ten others are endangered. *Calamus dilaceratus* and *Corypha macropoda* are known only from their type collections and have never been collected again. Another endemic species *Korthalsia rogersii* is confined to its type locality, Havelock Island in South Andaman. *Bentinckia nicobarica* occurs in small populations in the Nicobar group of islands and is on the verge of extinction.

Pinanga is represented by three species, *P. andamanensis*, *P. coronata* and *P. manii*. *P. andamanensis* and *P. manii* are endemic to the Andaman and Nicobar Islands, respectively. *P. andamanensis* has hitherto been thought to be confined to the type collection made by E. H. Mann from Andaman Islands. Recently, small populations of this species have been found occurring on the slopes of Mount Harriet region of South Andaman Island. *P. manii* collected by E. H. Mann from Nicobar Islands is known to be very rare in the islands now and this species has not been collected recently. *P. coronata* occurs very rarely.

Calamus is the most dominant genus among the palms of the islands (Rao and Srivastava 1990) and is represented by eight species. *Daemonorops*, related to *Calamus*, is represented by two species and both are endangered. *Caryota*, *Licuala*, *Nypa* and *Phoenix* are distributed widely over the islands.

Cocos nucifera and *Areca catechu* are widely cultivated, mainly for their nuts. Prain (1890) in his studies on the flora of these islands observed that coconut palms are not found wild in the Andaman Islands. Balakrishnan and Nair (1979), during floristic explorations, observed wild populations of *C. nucifera* from several islands in the Nicobar group (Car Nicobar (Fig. 1), Teresa, Tillangchang, Katchal, Kamorta and Little Nicobar) and also from uninhabited South Sentinel Island of the South Andaman Group. Wild populations of coconut palms are also present on North Reef Island of the North Andaman Group. Balakrishnan and Nair (1979) also observed *Areca catechu* occurring in the wild state at various places in the Nicobar Islands (Great Nicobar, Katchal Island and Car Nicobar (Fig. 2)). This species grows

Table 1. List of palm species present in the forests of Andaman and Nicobar Islands.

Taxon	Occurrence		Distribution	Status/Ecology
	Andaman Islands	Nicobar Islands		
<i>Areca catechu</i> L.	+	+	Very common	Cultivated among the islands of Andamans. Wild populations occurring in Nicobar Islands. Sandy loam or clayey loam in lowland forests, not threatened.
<i>A. triandra</i> Roxb.	+	-	Very common	Occurring in evergreen and semi-evergreen forests with sandy or clayey loam. Not threatened.
<i>Bentinckia nicobarica</i> Becc.	-	+	Very scarce	Endemic to Great Nicobar Island. No recent collections. Endangered.
<i>Calamus andamanicus</i> Kurz	+	+	Very common	Endemic to Andaman & Nicobar Islands; found growing in moist evergreen forests with clay or sandy loam. Maximum commercial exploitation, presently out of danger.
<i>C. dilaceratus</i> Becc.	+	-	?	Endemic to Andaman Islands. Known from the type collection only. Present status unknown.
<i>C. longisetus</i> Griff.	+	-	Very common	Semi-evergreen forests to evergreen forests; slightly clayey to rocky loam. Not threatened.
<i>C. nicobaricus</i> Becc.	-	+	Scarce	Endemic to Nicobar Islands. Few recent collections from North Nicobars. Scrub forests or open places with clayey loam, very rare.
<i>C. palustris</i> Griff.	+	R	Scarce	Lowland forest to high hilly slopes. Common near the stream edges with sandy loam. Few collections from North & South Andamans. Present status rare.
<i>C. pseudo-rivatis</i> Becc.	+	+	Scarce	Endemic to Andaman and Nicobar Islands. Few recent collections from Middle Andaman. Inland forest with clayey soil. Endangered.
<i>C. unifarius</i> Wendl. var. <i>pentong</i> Becc.	+	R	Scarce	Endemic to Andaman and Nicobar Islands. No recent collections from Nicobar Islands. Occurring in evergreen forests and littoral forests. Sandy soil. Endangered.
<i>C. viminalis</i> Willd. var. <i>fasciculatus</i> Becc.	+	-	Common	Mixed forests with sandy or rocky or slightly clayey loam. Not threatened.
<i>Caryota mitis</i> Lour.	+	-	Common	Hilly forest slopes, stream edges, sandy or rocky or slightly clayey soils. Not threatened.

Table 1. Continued.

Taxon	Occurrence		Distribution	Status/Ecology
	Andaman Islands	Nicobar Islands		
<i>Cocos nucifera</i> L.	+	+	Very common	Cultivated among the islands of Andamans except at South Sentinal Island and North Reef Island (Wild). Wild population occurring at Nicobar groups also cultivated. Sandy or clayey loam. Not threatened.
<i>Corypha macropoda</i> Lindl. ex Kurz	+	-	?	Known from the first collection only from Andaman group of islands. Present status unknown.
<i>Daemonorops kurzianus</i> Hook. f.	+	+	Very scarce	Endemic to Andaman and Nicobar Islands. Few collections from South Andaman Islands. Inland and sub-tidal forest edges. Rocky or clayey soil. Endangered.
<i>D. manii</i> Becc.	+	R	Very scarce	Endemic to Andaman and Nicobar Islands. No recent collections from Nicobar Islands. Few recent collections from South Andaman Islands. Low inland forests at sea level. Sandy loam. Endangered.
<i>Korthalsia laciniosa</i> (Griff.) Mart.	+	+	Very common	Lowland forests along stream edges with rocky or sandy loam. Out of danger.
<i>K. rogersii</i> Becc.	+	-	Very rare	Endemic to South Andamans. Confined to the type locality (Have-lock Island). Endangered.
<i>Licuala peltata</i> Roxb.	+	-	Very common	Edges of semi evergreen, deciduous or tidal forests with rocky or clayey loam. Not threatened.
<i>L. spinosa</i> Wurmmb	+	-	Common	Inland forests edges at low altitude. Sandy loam. Not threatened.
<i>Nypa fruticans</i> Wurmmb	+	+	Very common	Mangrove and tidal forests with clayey soil. Not threatened.
<i>Phoenix paludosa</i> Roxb.	+	+	Very common	Tidal or sun-tidal forests or near the mangrove edges. Sandy or clayey loam. Not threatened.
<i>Pinanga andamanensis</i> Becc.	+	-	Very scarce	Endemic to Andaman Islands. Inland evergreen forests with rocky loam. Recently collected after type collection. Endangered.
<i>P₁ coronata</i> Bl.	+	-	Scarce	Inland semi-evergreen forests with rocky loam. Endangered.
<i>P. manii</i> Becc.	+	+	Scarce	Endemic to Nicobar Islands. Few recent collections from South Andamans. Endangered.
<i>Rhopaloblaste augusta</i> (Kurz) H.E. Moore	-	+	Scarce	Endemic to Nicobar, scrub and mixed forests. Few collections from Nicobars. Endangered.

+ = present; - = absent; R = recorded earlier, specimens not seen; ? = doubtful occurrence.

abundantly in several large areas in lowland forests with sandy soil rich in moisture.

About fifty percent of the palm species of the Andaman and Nicobar Islands are endemic and over forty percent of the palm species are endangered. Many species of this vulnerable palm flora are facing the threat of extinction. The major factors that have contributed to this dangerous situation for the native palms of the islands are isolation and habitat alterations. Catastrophic events such as earthquakes, the cyclones of 1884, 1891, 1941, and 1988, and the volcanic eruption that occurred in the Barren Islands in 1991 have had a serious impact on the vegetation of the islands. The unique palm flora has to be protected to preserve the natural heritage of our country.

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