

They Grow Amid Giant Boulders

Now keep to the right of the canyon, to the ridge of rock above you, then cross it to the left, go up and over it, and soon you'll see the first of the Mortero Palms.

A few yards more and you are in the midst of the grove. The trees grow amid giant boulders, forming an almost impenetrable jungle in the canyon which curves right.

They stand against a background of almost totally barren desert mountains.

This is one of more than 1,500 kinds of palm trees, *Washingtonia filifera*. They are native to this desert.

Dalton E. (Mike) Merkel, park naturalist, says the theory is that these palms descended from millions which grew there when the area was a lush and humid jungle, back in the age of the dinosaurs.

Palm trees, since prehistoric times, have provided mankind with food, clothing, shelter, and inspiration. The palm leaf is the symbol of victory.

No Doubt Grove Once Served Indians

No doubt this grove once served the desert Indians, whose Stone Age society peopled these rugged slopes before the white man came.

En route down, watch closely for a large, flat-topped rock with man-made holes in its surface. Indian women once sat in the sun on this rock and ground those holes while making a meal of acorns, a big part of their diet.

These are morteros. They give this grove of palms its name.

WHAT'S IN A NAME?

Areca Catechu—The Correct Name for the Betel Palm

The name of the betel palm is sometimes written *Areca Catechu*, sometimes *Areca Cathecu*. The latter spelling appeared in the three editions of *Species Plantarum* edited by Linnaeus himself and was revived by L. H. Bailey in *Hortus* 59, 1930, after a lapse of many years during which the former spelling was generally used. Both spellings appear in articles today. In order to decide which is proper, it is necessary to evaluate sources and authorities for the specific epithet.

References to the betel palm appear early in the written record of medicine and botany. Serapion or Serapioni (Yuhanna Ibn Serapion), a physician of Alexandria in the third century, mentioned it as *Faufel*, an Arabian name. The famous Avicenna (979-1037), in whom Arabian medicine reached its peak, used variants of *Faufel*. The herbalists knew it by a number of names but the epithet used by Linnaeus is not among them.

Catechu (ká tee shoo, ká tee choo, ká tee cue) is a name coined in Europe during the seventeenth century and derived, according to most dictionaries, from the Malay *kachu* which was in turn borrowed from *kacchu*, *kaychu*, *kashu* in the Tamil, Telugu, and Kanarese languages of India's Malabar coast. Gowda (*Botanical Museum Leaflets, Harvard University* 14: 185. 1951), however, says that it comes from *kachu*, a word of the Kannada language of South India meaning "astringent substance." The *International Encyclopedia* states that the word is compounded from *cate*, a tree, and *chu*, juice, without indicating the language. In any event, the exact method by which the

present form was derived is not clear.

Most commonly, the word catechu is used to designate astringent substances containing tannin (40-55 per cent) and derived from the bark and wood of *Acacia Catechu* and *Uncaria Gambier*, both Asiatic trees, but to some extent it is used also to designate an extract from seeds of the betel palm (*Encyclopaedia Britannica*). This last product is more specifically known as Bombay catechu (*Webster's New International Dictionary*, 1952). It dyes cloth a brown color similar to the catechu (also known as cutch) from *Acacia* and *Uncaria*. Burkhill (*A Dictionary of the Economic Products of the Malay Peninsula* 1: 225, 1935) refers to the extract as *kossa*, stating that it is used to intensify the flavor of inferior betel nuts in betel chewing. The catechu from *Acacia* or *Uncaria* is used in combination with lime, betel nut, and betel piper leaf in India.

Catechu is accounted for in early pharmacopoeias and it is still used medicinally today. The *Oxford English Dictionary* (vol. 2: 180, 1933) attributes an early or perhaps the first use of the name catechu to Johannes Schröder of Germany in his *Pharmacopoeia Medico-Chymica sive Thesaurus Pharmacologicus* published in 1654. The only edition of this work available to me is the Editio Ultima of 1672 where, on page 518, catechu is used as an alternate word for the pharmacological term terra japonica. Schröder thought the dried substance so called to be an earth which was esteemed as an astringent for catarrh and, when held in the mouth, for strengthening the head.

Samuel Dale, an English physician, devoted two and a half pages to catechu or terra japonica in his *Pharmacologia seu Manuductio ad Materiam Medicam* . . . 386-388, 1692. He considered only

the betel palm as a source, for by then it was known that the "earth" of pharmacology was in reality a vegetable product.

Thus, when Linnaeus wrote a treatise on plants of Ceylon entitled *Flora Zeylanica* in 1747, he included the pharmacological name following a list of references to earlier botanical accounts. Under 392. *Arecca frondibus pinnatis, foliolis oppositis lanceolatis plicatis* we find the following notation: Pharmac. CATECHU Terra (*Japonica*), *Tinctura*.

Six years later, Linnaeus published *Species Plantarum* with its binomial system for naming plants. This publication is accepted as the starting point of botanical nomenclature for most plants. On page 1189 of *Species Plantarum*, the name for the betel palm is given as *Areca Cathecu* and reference is made to the prior account in *Flora Zeylanica*. The spelling *Cathecu* appeared consistently in subsequent editions of *Species Plantarum* edited by Linnaeus, in his *Systema Naturae*, and in *Systema Vegetabilium* until 1784 when J. A. Murray, who edited the fourteenth edition of the last, corrected the spelling to *Catechu*. The latter spelling was subsequently adopted nearly universally.

Linnaeus, however, used the spelling *Catechu* himself in the index to "Nomina Trivialia" (specific epithets) in *Species Plantarum*. He also referred to the betel palm in a thesis entitled *Herbarium Amboinense* (1754) defended by his pupil Olaf Stickmann. This thesis was later reprinted in *Amoenitates Academicae* 4 (1759), wherein both *Cathecu* and *Catechu* appear, and in a second edition edited by Schreber in 1788, wherein only *Catechu* appears. The epithet *Catechu* was used by Linnaeus the younger when he described a source of true catechu, *Mimosa Catechu* (now

Acacia Catechu), in *Supplementum Plantarum* 439. 1781.

The International Code of Botanical Nomenclature permits the correction of errors under provisions of Article 73. E. D. Merrill interpreted the spelling *Cathecu* as an error in his *An Interpretation of Rumphius's Herbarium Amboinense* 123, 1917. The evidence supports Merrill's conclusion and the correction made by Murray. *Areca Catechu*, therefore, may be considered the correct name for the betel palm.

The generic name *Areca*, (ár ee ka, a rée ka) comes from the vernacular. Most dictionaries ascribe it to the Portu-

guese as *Areca* or *Arecca*, derived from the Malay, Kanarese, or Tamil names *adekka*, *adike*, and *adaikay*. Wittstein (*Etymologisch-botanisches Handwörterbuch*, 1852) derives it from *Areec*, said to be the name in Malabar for an old tree (*Royal Horticultural Society Dictionary of Gardening*, 1951). Gowda, in the place previously mentioned, says that the name is of South Indian origin. Among the Nairs the word *Areca* means "cavalier" and in Kannada, one of the major languages of the area, the betel palm is called the *adike* tree, the nut *adike*. Whether *Areca* is derived from *adike* or vice versa he is not sure.

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Diseases of the Coconut Palm*

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II. BRONZE LEAF WILT

The second disease to be considered in this series of articles on the diseases of the coconut palm is bronze leaf wilt which has not been reported from the United States. The symptoms attributed to this disease are very similar to those described for the lethal yellowing or unknown disease. The disease was reported from the Island of Trinidad more than thirty years ago (1, 2). It was classified under the general group of bud rots until Nowell, according to Briton-Jones (2), separated the bud rots into three distinct diseases. In one, still called bud rot, the rotting of the bud was primary

and attributed to infection by the fungus *Phytophthora palmivora*. In the other two, the rotting of the bud was secondary. The second disease was termed red ring and attributed to infection by the nema *Aphelenchoides cocophilus*. The third was due to what Nowell termed "wilt" and for which he could not determine a causal organism.

The symptoms of the disease to which the name bronze leaf wilt was applied by Briton-Jones (2, 3) are similar to those of the lethal yellowing disease, which makes it difficult to differentiate the two diseases.

The lowest three leaves of an apparently healthy palm may start to turn

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