

In Penang island upon a coconut plantation near Tanjong Bunga stands a palm branched as in the annexed drawing by Mr. Mohamed Haniff. It has seven branches and the stumps of two additional ones. Mr. Mohamed Haniff has ascertained that all the fully crowned branches are fertile, and the palm is fruiting now. The tree is said by an old Malay on the Estate to be 45 to 50 years in age.

Mr. Frank G. Crosslé has supplied the following information and the photograph reproduced here of a branched coconut to which the following relates "The tree is upon the outskirts of the village of Bachok, Kelantan. It is said that once it had fourteen branches, and that five have died off: the stumps of two of these can still be seen. The height is approximately 25 feet high from the ground to the place where it divides. It has now started to bear fruit, three nuts on three different branches, which have matured."

Mr. Crosslé continues that he has heard of several branched coconut-palms before, and knows one at Kretay in Trengganu, but that he has never heard of one bearing fruit.

Further information upon branched trees occurring elsewhere would be valued.

I. H. BURKILL.

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### BRANCHING IN ARENGA PINNATA.

A young palm of *Arenga pinnata* Merr. (*A. saccharifera* Labill.) planted out as a replacement in the Arenga Avenue of the Botanic Gardens suffered in 1920 injury to its terminal bud. This bud was replaced by an axillary bud from one of the uppermost axils, and that bud is now commencing to produce a trunk. The possibility of this palm branching has not been recorded before.

I. H. BURKILL.

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### AN EXPERIMENT WITH LETTUCES.

In the end of 1921 lettuce-seed of a number of different races was ordered from England and from France, with the object of ascertaining the best races for local cultivation. The seed duly arrived,—twelve races from Messrs. Sutton and Sons, Reading, England, and 15 races from the firm of Vilmorin-Andrieux and Co., Paris. Of the english races eight were cabbage lettuces and four cos lettuces; and of the french races twelve were cabbage lettuces and three cos. The seeds were sown on November 21st, in a mixture of sand and burned earth, and germination was very satisfactory in forty-eight hours. When the seedlings were 2—3 inches high,—that was in 7—9 days,—they were transplanted into beds, care being taken to do it only when the sun was off the beds.

and set out in rows nine inches apart. A fortnight later they were manured by pouring an emulsion of cow-dung into runnels between the rows. In 41-44 days they were mature, the maximum weight being five ounces.

The lettuces were then sent out in pairs to friends willing to endeavour to judge their table value, each pair with a voting paper. These voting papers showed that the english race was preferred to the french in four cases, and the french to the english in one, while as regards the others the votes cast were roughly equal. The four races of english origin judged better than the french race against which each was pitted, were:—Sutton's Golden Ball, Standwell, Improved Tom Thumb and Satisfaction: the french race judged better than its english competitor was Vilmorin's All-the-year round.

On the whole it appears that from the salad standpoint only races favoured in England are a little better suited to Singapore than races favoured in France.

The races named above are not the only races which did satisfactorily. Sutton's Heartwell, Whiteheart Ideal, and Nonsuch made good in growth, as also did Vilmorin's Large White Stone, Balloon, Neapolitan, Green Madrid and May King.

The experiment, however, must not be considered as final. The chinese cook comes in, and the way in which he served the trial lettuces must have varied. Few know just how a lettuce should be treated, and the cook is not one of them. A lettuce for salad should be allowed just to get flaccid, then an hour before serving it should be plunged into pure cool water, which it will take up the more greedily for the flaccidity and it will be the crisper and better when eaten. But at any rate the chinese cook would treat both competing lettuces with equal disregard to their best.

J. LENNON.

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## A SPINY YAM FROM SUMATRA.

In the whole vegetable kingdom there are very few instances of the conversion of roots into spines, and these almost without exception in Monocotyledons: *e.g.*, some palms, one of the Iridaceae and a few species of *Dioscorea* such as *D. esculenta* and *D. prehensilis*.

A new and divergent instance is now added in the undescribed *Dioscorea* from Sumatra which is here figured. This *Dioscorea* converts the roots arising on its tubers into spines, and they may cover the whole surface: thus it wears an armour against the depredations of wild pigs etc. It is otherwise with the Asiatic *Dioscorea esculenta* and the African *D. prehensilis* where the spines are the lateral rootlets of long specialised roots produced above the yam and distributed around it in a way that would on the whole