

bulk of the seed of *Gnetum rumphianum* consists of very hard, almost horny albumen, with a small axile embryo. According to Bower the embryo of *Gnetum*, or at least of *Gnetum gnemon*, is not formed until after the seed falls from the parent, but is a development of the seed immediately preceding active germination. In *Gnetum gnemon* there is a lateral outgrowth of the hypocotyledonary part of the embryo growing in such a manner that the rest of the embryo is pushed out from the cavity of the albumen in which it is formed, and develops in the ordinary way, being nourished by the albumen conveyed to it through the lateral outgrowth or "feeder," as it is called. In *Gnetum rumphianum*, judging from the more or less mutilated specimens before us, a cluster of rootlets is given off close to the point at which the protruded part of the embryo emerges; this may have been caused through injury to the primary rootlet, or it may be normal. There is also what we take to be a long, relatively stout hypocotyledonary stem, at the apex of which are the scars of the two cotyledons.

Whether these seeds were washed ashore, or produced by plants growing in the island, is uncertain, but the fact remains that they were picked up on the beach in a germinating condition. Dr Beccari, *loc. cit.*, states that it is apparently common in New Guinea, occurring also in the Arrou Islands, and that he had found the fruit of it in the Celebes. This species, which has been confused with *Gnetum scandens* and others, is easily distinguished from its congeners by the intermediate coat of the seed being ribbed.

Gnetum sp.

Sea-beach, Arrou Islands.

A single seed undoubtedly of this genus, but we are unable to determine the species. It has a smooth secondary envelope.

SEEDS STRANDED AT PALISADOES PLANTATION, JAMAICA.

GUTTIFERÆ.

Calophyllum calaba, Linn.

Calophyllum calaba, Linn. ; Jacq., *Sel. Stirp. Amer.*, p. 269, t. 165 ; Griseb., *Fl. Brit. W. Ind.*, p. 108 ;
Descourt., *Fl. Antill.*, ii. p. 30, t. 74.

Sea-shore, Palisadoes Plantation, Jamaica. Seeds apparently quite sound.

Grisebach states that this tree is common in mountain woods in the West Indies, while Descourtiz says that it inhabits sandy sea-shores, which is more probable, though it may, like *Calophyllum brasiliense*, grow far inland as well as on the sea-shore. Grisebach gives the range of *Calophyllum calaba* as "Cuba to Brazil;" but we have only seen West Indian specimens. It is, however, generally spread there from Cuba to Trinidad. There is a specimen in the Kew Herbarium from the Bahamas, collected by Mr Brace, who notes that it was introduced. It is also planted in the Bermudas.