

PALMÆ.

Orania aruensis, Beccari. (Plate LXV., I.)

Orania aruensis, Beccari, Malesia, i. p. 76.

Sea-beach, Arrou.

Only the one germinating seed represented in our plate was collected. Dr Beccari furnished the name from a drawing we forwarded to him. This palm was described from specimens collected in the island of Wokan, one of the smaller islands of the Arrou group, where it inhabits very dense, often inundated forests. In a paragraph, *loc. cit.*, p. 9, on the distribution of palms, Dr Beccari calls attention to the fact that the fruits or seeds of very few palms are adapted for wide dispersion. Some, he says, like *Cocos nucifera* and *Nipa fruticans*, are able to resist the action of salt water; and he had also observed that the fruits of *Orania* are often thrown up uninjured from the sea. "Ho osservato che anche i frutti di *Orania* sono spesso rigettati intatti dal mare." But what is more extraordinary, he states that the cassowaries often swallow the fruits of palms which are in no wise fleshy, and carry them considerable distances. In the Arrou Islands, for instance, he saw heaps of the seeds of *Orania aruensis* in their excrement, yet every one was from 55 to 60 millimetres in diameter—that is, from about $2\frac{1}{4}$ to $2\frac{1}{2}$ inches; the one represented in Plate LXV. is barely $2\frac{1}{4}$ inches in diameter. Of course, although this be the case, the cassowaries could only assist in the local dispersion of the species. It is certainly remarkable how very local the majority of palms are.

GNETACEÆ.

Gnetum rumphianum, Beccari. (Plate LXIV., D.)

Gnetum rumphianum, Beccari, Malesia, i. p. 182.

Funis gnemoniformis, Rumph., Herb. Amboin., v. p. 11, t. 7.

Sea-beach, Arrou.

We are also indebted to Dr Beccari for the determination of this seed, of which there are several in the collection. In all cases, the outer fleshy envelope of the seed has disappeared, leaving bare the second envelope, which is crustaceous and traversed longitudinally by about fifteen prominent ribs, and is free from the body of the seed except at the base. As shown in the plate, the seeds have begun to germinate by breaking through the apex of this second envelope, which, being free from the body of the seed within and splitting longitudinally, might easily be mistaken for a pericarp. None of the seeds is in a sufficiently advanced stage of germination to enable us to fully explain the mode, which is certainly very singular, and apparently essentially the same as in *Gnetum gnemon*, as described by Bower (Quarterly Journal of Microscopical Science, N. S. xxii. p. 278, t. 25). In the latter the seed is about a quarter the size of ours. The