

The trunk of this palm is in much request for making posts. Jack (l. c.) says, that there is only one spathe, and that the flowers are one male to two females. He does not notice any obliquity of the fruit.

82. (13) *A. horrida*,* (n. sp.) arborea, pinnis 2-3 pedibus patentibus, spathis pedunculoque spadiceis armatissimis, floribus congestis, fæmineo inter duos masculos, petalis lanceolato-oblongis in setas attenuatis, fructibus globuli sclopeti majoris magnitudine.

A. Nibung. † *Mart. Palm. t. 153, f. V?*

HABIT.—Common in densely wooded valleys and ravines, Ching. On wooded hills, Laydang Soobubi, but rare. In woods at the base of Battoo Bakar, Malacca. Malayan name, *Bhyass*.

DESCR. ‡—An elegant Palm, 30-40 feet in height, sending off offsets at the base. *Trunk* annulate, the spaces between the rings much armed. *Crown* rather thin. *Leaves* spreading in every direction, 14-16 feet long, 5 feet broad; *sheaths* leathery, much armed, 2 feet long; *petiole* bearing pinnæ nearly from the base, green, stout, flattened at the base, compressed at the apex, otherwise trigonal, covered with brown irregular scales, armed throughout, but especially underneath, with black-brown flat not very strong spines§; *pinnæ* alternate or sub-opposite, nearly linear, 2-3 feet long, subulate-acuminate, coriaceous, dark-green, above keeled along the centre, with two lateral plaits on either side, spreading or oblique, never pendulous, as in *A. tigillaria*; a few scales attached by the middle along the central vein underneath. *Threads* very fine, pendulous, at length deciduous.

Spadix axillary; *peduncle* stout, yellow, flattened at the base, much armed on the spaces between the insertion of the spathes, above these

* A third species of the section, with the habit of this species but smaller, is common on the cliffs of the sea-shore a little to the North of Koondoor, near Malacca. Its Malayan name is *Nibong Paday*. I have not seen it in flower or fruit.

† This name is scarcely tenable, the true Nibung being *Areca tigillaria*, Jack.

‡ Partly from dried specimens: perfect spadices at time of opening of the spathes not seen.

§ This is the general character of the armature.

unarmed; *branches* pendulous, flexuose, about equal, 2 or 3 times branched or simple, 1-2 feet long, each suffulted by a yellow bracte with a broad base, the upper of which degenerate into scales. *Spathes* two, complete, acutely margined, coriaceous, armed with rather weak brown-black spines, 1-1½ foot long, of a greenish colour outside when mature, yellow and polished inside: the inner one with a stout, unarmed cuspidate; incomplete also two, cuspidate, armed, very unequally conduplicate. *Flowers* about 4 ranked, inserted just above a protuberance of the branch of the spadix; lower ones, one female between two males, upper males in pairs.

Male calyx of three imbricate, carinate, sub-membranaceous sepals. *Petals* 3, valvate, subulate or almost setaceo-acuminate. *Stamina* 6, sagittate. *Rudiment* of a *Pistillum* rather large, of three, sometimes two, imperfect carpel-leaves.

Female-calyx, *sepals* roundish-cordate, imbricated. *Corolla* conical in bud. No rudimentary *stamina*? *Ovarium* of one larger complete carpel, and two incomplete ones.* *Style* none. *Stigma* (of the perfect ovule bearing carpel) linear, running nearly half way to the base of the ovarium. *Ovulum* anatropous.

Spadix of the fruit; branches 2-4 feet long, pendulous, without *spathes*, each suffulted by a coriaceous acuminate broad-based bracte. *Fruit* sessile, size of a musket-ball, purplish-black, surrounded at the base by the perianth, oblique, the true apex pointed out by a conspicuous mamilla on one side near the middle; *epicarp* coriaceous; fibres very few; *endocarp* membranous. *Seed* round, appense-pendulous, attached by a broad base, whitish-brown, reticulate with white veiny lines; *hilum* large, with a tendency to have an entering process. *Albumen* horny, deeply ruminant. *Embryo* not observed.

This species is allied to *A. tigillaria*, but is very distinct in the *spathes* and fruit. The flowers also are much more crowded, and generally appear to have the usual arrangement; viz. one female between two males. The young *spadices* from the contrast in colour between the *spathes* and their spines and the waviness and adpression of these have the appearance of tortoise-shell.

* These are folded together, the margins united about the middle, above free, and evidently stigmatic.