

subulate. Anthers small effete. Within the attenuate base, an ordinary rudiment of the female.

*Female flowers* large, also oblique.

*Calyx* not quite divided to the middle, scarious, very striate, segments oblong obtuse. *Corolla* (expanded not seen,) a little longer than the calyx, tripartite nearly to the middle, segments broad ovate.

*Barren stamina* six, much like those of the neuter flower.

*Ovarium* very densely strigose with erect stout hairs,\* (of which the lower are the shorter,) ovate conical, with a stout neck similarly covered with hairs, 3-celled. *Ovula* solitary, erect, anatropous. *Style* stout, thicker than the neck of the ovarium, tripartite, segments lanceolate, stigmatose inside.

This species, would appear to approach *Z. secunda* in the branching of the spadix. It is the only species I am acquainted with in which the wool of the bracteoles is so little developed, as not to be visible externally. The spikes consequently have a smooth aspect.

6. (6) *Z. conferta* (n. sp.) pinnis lineari-ensiformibus strictis margine setoso-spinescentibus, spicis (masculis vel fæmineo-neutris) confertis, fructibus (confertis) turbinatis glaberrimis.

HAB.—In very shady wet places in the great forests of Malacca, as at Ching and Katawn, in flower and fruit most of the year. *Assam Kaloobee, Assam Paiah* of the Malays of Malacca.

DESCR.—Stout, less tufted than any of the others I have seen, forming an impenetrable jungle.

*Petioles* 10-12 or 18-20 feet long, without pinnæ for about half their length, roundish but flattened above, stout, armed, except on upper flat part, with fasciculate, white, slender spines. *Pinnæ* regularly alternating, quite straight, almost ensiform, two feet

\* These hairs are flattened and a little dilated at base, upwards they become subulate and have a fibrous appearance.

long by two and a half inches broad, rigid, 3-carinate or veined above, subulate, acuminate; margins and apex very bristly; the upper pinnæ have bristles also on the three primary veins or carinæ of upper surface.

*Spadices* about a span long, sometimes a foot long, crowded with cylindrical spikes about six inches long, 7-8 lines broad, among which occur spathes of the ordinary structure, but more lanceolate than usual. *Spikes* polygamous on different individuals.

*Male flowers* in pairs, with the usual bracte and bracteoles, the last being exceedingly villous, and connate into a sort of bilocular cup. *Calyx* of 3 oblong sepals, distinct nearly from the base. *Corolla* of 3 petals, hard, almost woody, about twice as long as the calyx. *Stamens* 6, united below to the corolla. *Filaments* short, robust, sanguineous. *Anthers* oblong-ovate, large. Rudiment of a *Pistillum* not observed.

*Female-neuter spikes* more lengthened, the bractææ more acuminate, each of these suffulcs two flowers, one smaller neuter, generally alternating in each series, the other larger female. *Sepals* oblong roundish. *Corolla* tripartite below the middle, segments acuminate. Rudiments of six subulate *stamina*.

*Ovarium*, with the style, obturbinate, scaly, 3-celled. Ovula solitary. Style short, stout, with 3-acute, recurved branches, the inner surfaces of which are transversely lamellar.

*Fruits* crowded into an irregular, formless mass sometimes of considerable size. Each is turbinate, the scales perfectly smooth, with irregular denticulate margins, and a waxy shining aspect. Colour a light tawny-greenish tint: mesocarp white, spongy-cellular. Seed broadly turbinate. *Albumen* adhering strongly to the pulp, which is thick and very sour. Embryo basilar.

This species is distinguished even out of flower by the habit, direction of the pinnæ, bristly carinæ and slender short white spines. In flower or fruit it is at once known by the crowded thyriform spadices.

I have not yet ascertained what distinction is indicated by the two Malayan names, from which it is probable, at

least so experience tells me, that there are two distinct species with this unusual inflorescence analogous to that of *Elæis*.

I have specimens marked doubtfully Assam Paiah, in which the leaves are three feet long, sub-opposite, and closer together, with the central carina of the upper surface bristly above the middle, the spines of this are fusciscent. And I have others, marked also doubtfully, in which the pinnæ are much smaller, distinctly alternate and distant, with appearances of being interrupted, otherwise agreeing with those described in *Z. conferta*.

### SAGUS.

*Rumph. Hb. Amb.* 1. p. 72. t. 17. 18 (*partim*) Metroxylon. *Rottb. König in Ann. Bot.* 1. p. 193. pl. 4. *Martius. Palmæ.* p. 214. t. 102. 159. *Endlicher. Gen. Pl.* 250. No. 1742.

CHAR. GEN.—*Spicæ* teretes, amentiformes. *Flores* hermaphroditæ, masculi, vel polygami, binati, bracteola villosopaleacea utrinque stipati. *Stamina* 6. *Ovarium* squamis obtectum. *Stylus* (sæpius) conico-triangularis, tridentatus. *Fructus* exsuccus, squamis loricatus, 1-spermus. *Albumen* ruminatum. *Embryo* dorsalis.

HABITUS.—*Palmæ Archipelagico-Asiaticæ, monocarpicæ, trunco robusto sæpius elato, corona ampla terminali. Folia pinnata: vaginae et petioli spinis rectis sæpius armati; pinnæ lineari-ensiformes. Inflorescentia terminalis, plerumque pyramidalis. Spathæ plures, incompletæ, inermes vel spinis rectis obsitæ. Flores plerumque rubescentes. Ovaria (monente Jack) unius fere distincta, aliarum coadunata.*