

3. *C. sphaerica*, Hook.

*Leaves* plane, sides of the petioles armed with a short spine; *angles* four, eighty to one hundred pair, sub-alternate, linear, spinous-pointed. *Scales* of the male-strobile with long, curved, subulate points. *Recept* spheroidal.

This additional, charming species of *Cycas* was with *C. circinalis*, introduced into the Botanic garden from the Nicobars in 1788-9. In 1836 and the following year several of both male and female plants, blossomed in the month of May. The female of one of these ripened its seeds in January and February, and now, September, these seeds are beginning to vegetate, after having been in the ground about six months. The plants of this species differ in habit but little from *circinalis*; I will therefore only note wherein they differ from each other.

*Trunk* of both the male and female trees, are hitherto, in this species from thirty-four to fifty-four inches in circumference; it is therefore thicker than *circinalis*, in other respects they are alike. *Leaves*, in this species they are smaller, the petioles longer and more armed, and the leaflets more numerous, viz. from eighty to one hundred, sub-alternate pairs. In *circinalis* they are from fifty to sixty, narrower, and straighter. *Male*, In this the strobile, or cone, has the same appearance of a pine-apple, as it has also in the other, but the scales taper from the middle, into very long, incurved, subulate points; whereas in *circinalis* they are almost truncated, with a point more or less long, arising nearly at right angles, from the exterior upper angle. *Strobile* the same in both. About the time the cone, or flower, begins to drop, it is, as in *circinalis* forced to one side by the onward talk of foliage bursting from the crown of the

plant. **FURVEE.** The spines are numerous, and with generally three pistils on each side, beyond these they rise in a curve, and immediately expand into an oval-triangular shape, with long, subulate points, and the whole very, or deeply and acutely dentate; every part, except the pistil, is clothed with a thick coat of ferruginous down, which is easily rubbed off. In *C. circeoides* these form a large globe-like cover in the centre of the last year's foliage, and are surrounded with numerous, barren, cuspidate scales, or bracts. Great solitary, round, partly immersed in the edge of the spine, one-celled, ovula solitary, singly attached to the bottom of the cell. Style short, straight. Stigma simple, perforated. Drupes nearly round, a little compressed, smooth, about the size of a pigeon's egg, tipped with the permanent stigma, when ripe of a dull orange colour. Pulp somewhat fleshy, sweet, yellow, but the smell is uncommonly disagreeable. Nut solitary, conform to the drupes, lignous, a little pointed under the stigma, with a small elevation running from down to the base on each side, which marks the place where it bursts, when the seeds begins to vegetate, consequently it is two-valved. Seed single, of the size and shape of the cavity of the nut which it completely fills. Endosperm three, the exterior one deep brown, thick, and firm, adhesion to the inside of the shell, particularly at the bottom, the middle one thin, of a light brown, membranaceous, and the inner one a very thin white membrane. Perisperm conform to the seed, of a pale pinkish white, fleshy; in its apex, under the style, is a triangular seed pit, the bottom thereof marked with five or six brown dots, corresponding with as many oblong canals immediately under them, which penetrate, in unimpregnated seeds about one-fourth their diameter, those are alike in shape and size, but in such as have been impregnated, one of these canals penetrates more than half way down, through its centre, and contains a wedge-shaped body, which I call the vitellus, suspended, or attached to the mouth of the cell, by a long, white, folded, umbilical cord. A vertical section of this body

express what I call the true embryo lodged a little above its middle, and composed of two unequal lobes, resembling cotyledons pointing to the base of the radicle; from the upper pointed end of this bilobate body the radicle issues, when vegetation commences, passing out through the mouth of the cell, and the apex of the root now open; from the middle of the upper side of the radicle branches forth, in due time, the plumule, in form of a small scale, and from its centre other scales continue to spring; the fourth, or fifth, begins to take the form of the pinnate leaf of the full-grown plant.

From the fresh wounded parts of all the three species of *Cypripedium* known to me, viz. *circinatum*, *puberulum* and this, there is discharged a quantity of clear, luscid mucilage, which soon hardens into firm, transparent gum, like *fragrantum*, but denser; my experience however does not lead me to think that any one of the three yields galls, or even a substitute for it. I dare not venture to quote *Todd's process of Rhede's Malabaricus*, iii. t. 13—21, for this, because it has already been quoted by *Linnaeus*, &c. for *C. circinatum*, yet I think *Rhede's* figure and description, agree better with this plant than with what I have already described, and figured under that name. For more information, consult *Boeml's Herbarium Amboinense*, i. n. 86—88, and the figures there