

TWO NEW SPECIES OF ANNONACEAE FROM EASTERN INDIA

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ABSTRACT

Two undescribed species of Annonaceae e.g. *Trivalvaria kanjilalii* D. Das, spec. nov. and *Fissistigma santapau* D. Das, spec. nov. are described with illustrations. The specimen of the former species was collected by U. N. Kanjilal in 1917 from Wah-Maw-Iong in the Khasia Hills, Assam and of the latter was collected by G. Panigrahi in 1962 from Dulong Reserve Forest, Assam. These were wrongly placed under different genera.

INTRODUCTION

During the revision work of the Indian Annonaceae, the author came across some specimens which need proper identification. One of such specimens collected by U. N. Kanjilal 7280, in 1917 from Wah-Maw-Iong in the Khasia Hills, previously identified as *Polyalthia cerasoides*, now after careful examination is proved to belong to the genus *Trivalvaria* Miq. As its characters indicate to be an undescribed species, it is described and named by the present author as *T. kanjilalii* D. Das. The other specimen collected by G. Panigrahi 27678, in 1962 from Dulong Reserve Forest, Assam, identified as *Polyalthia simiarum*, is found to be not a species of *Polyalthia*. Its floral characters agree exactly with the genus *Fissistigma* Griffith. But as it does not match with any other species of the genus it has been described by the present author as a new species, namely *F. santapau* D. Das. The descriptions of these species with illustrations are given below.

DESCRIPTION

***Trivalvaria kanjilalii* D. Das** species nova et bene distincta.

Affinis *T. argenteae* (Hook. f. et Thoms.) Sinclair, sed foliis minoribus, bracteis lanceolatis, floribus hermaphroditis, sepalis petalisque majoribus, petalis interioribus imbricatis, petalis exterioribus valvatis, carpella matura subglobosa ad medium transverse canaliculata differt.

Frutex 2-3 m altus. Rami juniores brunneo-tomentosi, vetustiores glabri. Folia tenuiter coriacea, lanceolata, longe acuminata, in utraque pagina glabra, 12-15 cm longa, 3.5-4 cm lata, nervis lateralibus principalibus 8-9 jugis, supra indistinctis; petiolis 2-3 mm longis, glabris. Flores hermaphroditi, solitarii, extra-axillares vel terminales; pedicellis brun-

neo-tomentosis, 3-5 mm longis bracteatis; bractee brunneo-tomentosae, 2-3 mm longae, lanceolatae acuminataeque, ad medium pedicellum praeditae. Sepala 3, imbricata, late ovata, acuta, extus dense brunneo-tomentosa intus puberula, 3-4 mm longa, circiter 4 mm lata. Petala 6, biseriata, extus brunneo-tomentosa, intus puberula; 3 petalae exteriores valvatae, ovatae acutaeque 2.5-3 mm longae, 2.5 mm latae, quam petalae interiores breviores; 3 petalae interiores unguiculatae, apice incurvatae aliquantum rhomboideae, 3-4 mm longae, 2.5-3 mm latae. Stamina numerosa circiter 1 mm longa, connectivo plano vel ad apicem leviter convexo. Carpella numerosa, circiter 1 mm longa, ovariis oblongis, strigosis, 1-ovulatis; stylus curvatus; stigmatibus capitato pubescentibus. Carpella matura pauca, subglobosa, glabra, rubra, in utraque extrema obtusa, circiter 1 cm diam. ad medium distincte transverse canaliculata, parietibus tenuibus praedita; pedicellae 5-7 mm longae. Semen unica.

Holotypus: Lectus in loco Wah-Maw-Iong, montis Khasia in provincia Assamica, a U. N. Kanjilal et positus in ASSAM sub numero 7280.

***Trivalvaria kanjilalii* D. Das**, spec. nov.

This is a distinct species differing from the other Eastern Indian species reported from Assam e.g. *T. argentea* (Hook. f. et Thoms.) Sinclair, in smaller leaves, lanceolate bract, bisexual flowers, larger sepals and petals, sepals and inner petals imbricate, outer petals valvate, ripe carpels sub-globose transversely grooved at the middle.

A shrub, 2-3 m high; young branches brown-tomentose, glabrous with age. Leaves thinly coriaceous, lanceolate, long acuminate, both surfaces glabrous, length 12-15 cm and breadth 3.5-4 cm, main lateral nerves 8-9 pairs indistinct above; petiole 2-3 mm long, glabrous. Flowers bisexual, solitary,

terminal or axillary; pedicels brown-tomentose, 3-5 mm long, with a brown-tomentose 2-3 mm long

lanceolate acuminate bract at the middle. *Sepals* 3, imbricate, broadly ovate, acute, densely brown-



Text fig. 1: *Trivalvaria kanjilalii* D. Das, spec. nov.

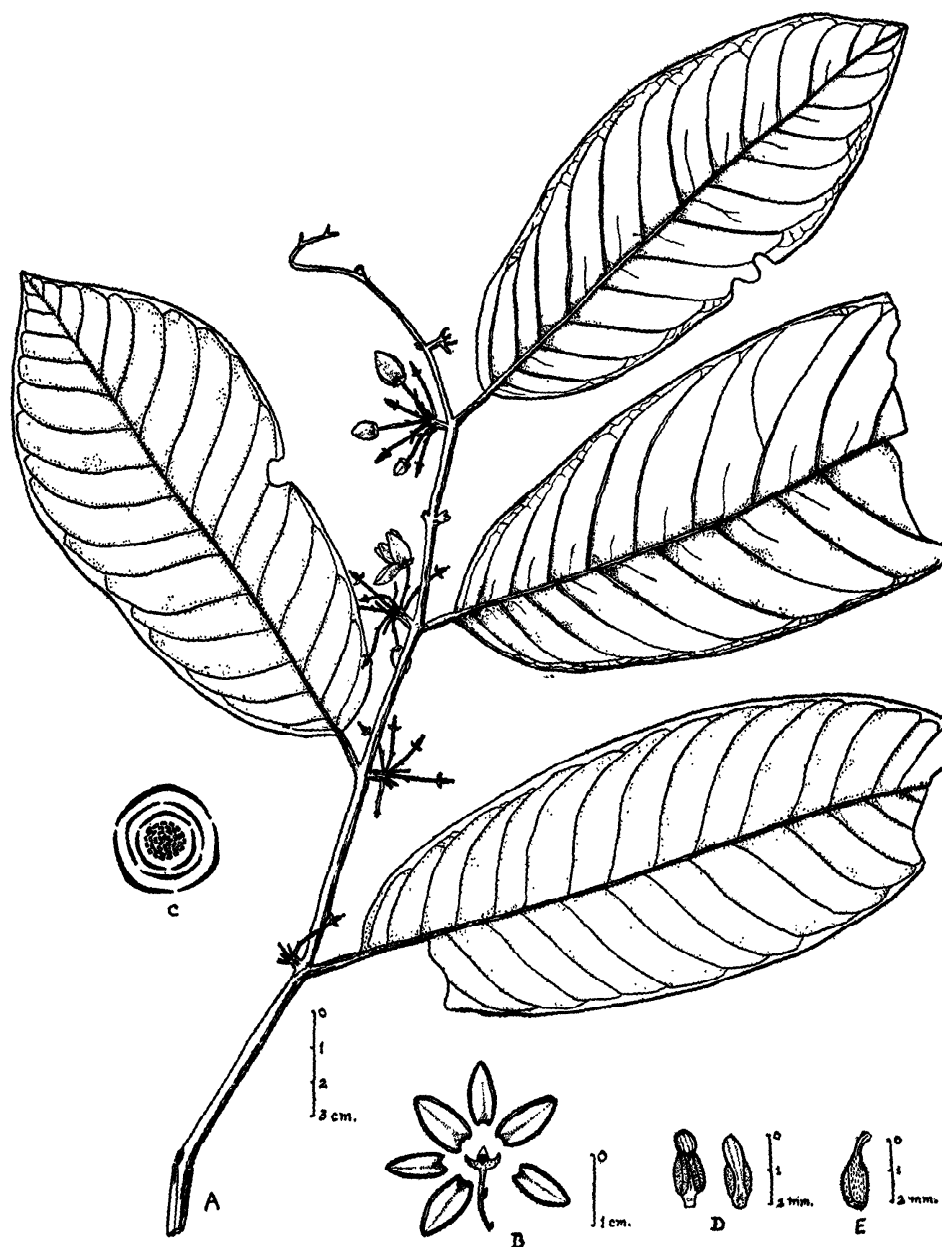
A: Flowering twig. B: Floral diagram. C: Flower. D: Sepal. E: Outer petals showing outer and inner surface. F: Inner petal. G: Stamens showing back and front views. H: Carpel. I: Ripe carpels.

tomentose outside, puberulous within, 3-4 mm long and about 4 mm broad. *Petals* 6 in 2 series, brown-

tomentose outside, puberulous within; 3 outer petals valvate, ovate, acute, 2.5-3 mm long and 2.5 mm

broad, shorter than inner; 3 inner petals imbricate, shortly clawed, tip incurved, more or less rhomboid, 3-4 mm long and 2.5-3 mm broad. *Stamens* numerous, about 1 mm long, anther cells concealed by con-

nective which is flat or slightly convex at the top. *Carpels* numerous, about 1 mm long, ovaries oblong, strigose, 1-ovuled; style curved; stigma capitate, pubescent. *Ripe carpels* a few, subglobose, glabrous,



Text fig. 2: *Fissistigma santapauli* D. Das, spec. nov.

A. Flowering twig. B. Dissected flower. C. Floral diagram. D. Stamens showing front and back views. E. Carpel.

reddish, obtuse at both ends, with distinct transverse groove round the middle, thin walled, diameter about 1 cm, stalk 5-7 mm long. *Seed* 1.

Holotype: Wah-Maw-Iong, Khasia Hills, in Assam, Collector U. N. Kanjilal 7280 (ASSAM).

Other specimens examined: Syndai, Khasia Hills, U. N. Kanjilal 2800 (ASSAM); Nongkla, Khasia and Jaiantia Hills, U. N. Kanjilal 6348 (ASSAM).

Distribution: Assam in Eastern India.

***Fissistigma santapaui* D. Das, spec. nov.**

Affine *F. minuticalyx* (MacGregor et Smith) Chatterjee, sed foliis glabris majoribus, nervis lateralibus supra indistinctis, pedicellis albo-pubescentis crassioribus et brevioribus, bracteis minutis in medio et basi pedicello praeditis, sepalis canescenti-pubescentibus, petalis oblongis, obtusis, subaequalibus brevioribus, sed petalis interioribus angustioribus, stamina longiore differt.

Arbor (?), circiter 13 m alta. *Folia* coriacea, late oblonga, breviter acuminata ad apicem, rotunda ad basin, glabra in utraque pagina, 16-22 cm longa, 6-9 cm lata, nervis lateralibus 16-jugis, nervis supra plerumque indistinctis, subtus prominentibus; petioli puberuli circiter 1.5 cm longi. *Flores* 8-10 in cymas laterales dispositi; pedunculi circiter 5 mm longi; pedicelli albo-pubescenti circiter 1.5 cm longi, bracteati; bracteis minutis in medio et basi pedicello praeditis. *Sepala* 3, valvata, connata ad basin, ovato-acuminata, extus canescenti-pubescentia, intus basi canescenti-pubescentia, circiter 2 mm longa, 1.5 mm lata. *Petala* 6, biseriata, subaequalia, albo-brunnea, oblonga, apice obtusa, carnosa, circiter 1 cm longa, 0.5 mm lata, exteriora extus brunneo-pubescentia et intus albo-pubescentia, interiora ad basin intus concava rubra, petalis interioribus angustioribus, utrinque pubescentibus. *Stamina* numerosa, circiter 2 mm longa, connectivo ad apicem dilatato recurvo, antherarum thecae lineares, filamentis brevibus. *Carpella* 7-8, circiter 2.5 mm longa, ovariis oblongis, pubescentibus, ovulis numerosis, biserialibus; stylus distinctus, tenuis, stigmati apice acuto curvato. *Carpella matura* ignota.

Holotypus: Assam, G. Panigrahi 27678 (ASSAM).

***Fissistigma santapaui* D. Das, spec. nov.**

This species is closely allied to the Burmese species *F. minuticalyx* (MacGregor et Smith) Chatterjee, but differs from the latter by its larger glabrous leaves with lateral nerves indistinct above, pedicels stouter and shorter with whitish hairs, minute bract present at the middle and the base of the pedicels, sepals greyish pubescent, petals shorter oblong obtuse subequal but inner narrower, stamens longer.

Tree (?), about 13 m high. *Leaves* coriaceous, broadly oblong, shortly acuminate at the apex, base rounded, glabrous both surfaces, 16-22 cm long and 6-9 cm broad, main lateral nerves about 16 pairs faint above prominent beneath; petiole puberulous, about 1.5 cm long. *Flowers* bisexual, leaf-opposed 8-10 flowered cyme; peduncle about 5 mm long, pedicels whitish pubescent, about 1.5 cm long, minutely bracteate at the middle and the base. *Sepals* 3, valvate, connate at the base, ovate acuminate, greyish pubescent outside and the base within, about 2 mm long and 1.5 mm broad. *Petals* 6 in 2 series, subequal, whitish-brown, oblong, apex obtuse, fleshy, about 1 cm long and 0.5 cm broad; outer petals brown-pubescent outside, whitish pubescent within; inner petals reddish and concave at the base within, narrower than the outer, pubescent both surfaces. *Stamens* numerous, about 2 mm long, connectives broad and recurved at the top, anther cells linear, filaments short. *Carpels* 7-8, about 2.5 mm long, ovaries oblong, pubescent, ovules many in 2 rows; style prominent, linear, stigma curved pointed at the apex. *Ripe carpels* not known.

Holotype: Collected from Dulong Reserve Forest from Bagjam path through the forest, Assam; G. Panigrahi 27678, 10.3.1962; acc. no. 28885 (ASSAM).

Sheets examined: Holotype & Isotype (ASSAM).

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