



## SOME NEW DISTRIBUTIONAL RECORDS OF ANGIOSPERMIC PLANTS FROM PALAMAU DIVISION OF JHARKHAND

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The present paper describes occurrence of some important plants *Senna hirsuta* (L.) H.S. Irwin & Barneby family Caesalpinaceae; *Adansonia digitata* L. *Ceiba pentandra* (L.) Gaertn. family Bombacaceae; *Ruellia tuberosa* L and *Ruellia brittoniana* Leon family Acanthaceae; *Tinospora cordifolia* (Willd.) Miers family Menispermaceae; *Dioscorea alata* L. family Dioscoreaceae; *Millingtonia hortensis* L.f. family Bignoniaceae from Palamau division of Jharkhand state for the first time.

**Key words** - New distributional record, Angiospermic Plant.

Palamau division of Jharkhand state consists of three districts, i.e., Palamu, Garhwa and Latehar. The Palamau region of Jharkhand is located at the latitude of 23.0° to 24.3° N and longitude 84.4° and 85.0° E, and spreads over 3.50 kms, from east to west and 3.45 kms from north to south. The river North Koel flows in east-west direction towards southern boundary of Daltonganj, the headquarters of Palamau. It's a rich area from the floristic point of view. The floristic Studies in this area are very poor however the records date back to 1925 but it is still virgin area (Haines 1921-25, Santapau 1995). The most recent floristic studies of this area are by Sarma and Sarkar (2002), and so far no additions are being made in this flora.

### MATERIALS AND METHODS

During a recent ethnobotanical exploration of Palamau division, some angiospermic plants were recorded for the first time from this area. The plants were collected and identified with the help of pertinent literature (Maheshwari 1963, Babu 1977, Naik 1998, Randell and Barlow 1998, Almeida 2001, Yadav and Sardesai 2002, K.M. Chetty *et al.* 2015). The studied specimen have been deposited in the herbarium of Dept. of Botany, G.L.A. College, Daltonganj.

The Photograph of flowering twig is shown in plates. A short diagnostic description of the plants is provided herewith. This is a new distributional record from this region. The

information will be useful in determining the bio-prospecting potential of these important plants.

### RESULT AND DISCUSSION

#### DESCRIPTION

*Senna hirsuta* (L.) H. S. Irwin and Barneby, family Caesalpinaceae

Synonym-*Cassia hirsuta* L., *C. tomentosa* Arn.

A large upright erect shrub, branches leaves and pods densely tomentose, compound pinnate leaves alternate, petiolate, on a long petiole 40-50mm long. Leaflets 4-6 pairs, 4-8 cm × 2-3 cm, ovate or ovate oblong, entire, caudate, petiole with a gland at base, stipules linear. Flowers deep yellow in axillary corymbs, flowers pedicellate, pedicel 10-20 mm long. Sepals 5, unequal in size, densely villous, 2 outer small, ovate to obovate, 3 inner puberulent, similar but larger. Petals five, yellow, obovate 1.4 -1.8 cm, glabrous. Stamens 10, fertile stamens 7, ovary subsessile. Pods slightly curved densely hirsute and ribbed. Seeds ovoid to round, brown or blackish. (Plate 1-Fig. 1)

Fl. & Frt: September-December.

*Adansonia digitata* L. family Bombacaceae:

It is a large deciduous tree, the trunk is very much thickened, totally out of proportion to its

height. The bark is thick, grey, and lustrous. The leaves are alternate, digitately compound, large, smooth above and hairy below, leaflets 5-7, obovate-oblong or elliptic-oblong or elliptic-oblong,  $3-10 \times 1.5-5.0$  cm. Flowers are white, large, axillary, solitary, hanging singly on long pendulous stalk. Each flower has a five locked calyx, hairy corolla with 5 petals, white with crinkled margin, recurved upward. Stamens numerous with golden anthers; through which pierces the cylinder style with 5-7 projecting stigmas, ovary 5-10 celled. The fruit is large, indehiscent ellipsoid to globose, green or brown woody capsules. Seeds kidney shaped enclosed within soft, white, acidic and fibrous pulp. (Plate 1-Fig. 2).

Fl. & Frt.: June-January.

***Ceiba pentandra*** (L.) Gaertn. family Bombacaceae:

Synonym - *Bombax pentandrum* L.; *Eriodendron anfractuosum* DC.

Deciduous unarmed trees, prickly when young. Leaves 5-9 foliolate, oblanceolate or elliptic, acuminate, entire, 12-15 nerved. Flowers yellow white, in axillary clusters or grouped at the ends of leafless branchlets. Calyx tube campanulate, lobes 4 or 5. Petals 5, obovate. Staminal tube short. Stamens 5, ovary 5-locular, ovules numerous per locule, axile. Fruits capsule indehiscent, green in young, becomes brown when mature. (Plate 1-Fig. 3)

Fl. & Frt.: December-April.

***Ruellia tuberosa*** L. family Acanthaceae:

Erect herb with tuberous roots, stems 4-angled, nodes purplish, tender parts hispid. Leaves obovate to lanceolate, entire, obtuse to subacute, base cuneate to attenuate. Flowers purple, solitary or 3-flowered, axillary or terminal cymes, bracts and bracteoles linear-lanceolate. Calyx lobes subequal, valvate. Corolla tubular, lobes twisted to left in bud. Stamens 4, included filaments hairy below, anthers sagittate, staminodes linear. Ovary bicarpellary, bilocular, ovules 12 per locule, stigma 2-lamellate, flattened, aliate or

fimbriate, obtuse. Capsules oblong, beaked, seeds numerous, flattened, orbicular, hairy, brown. (Plate 1-Fig. 4)

Fl. & Frt.: September-January.

***Ruellia brittoniana*** Leonard family Acanthaceae:

Tender evergreen perennial that forms colonies of stemy stalk standing 3ft in height. Leaves simple, opposite, lanceolate, serrate, 15-30 cm in length and 1.3-1.9 cm wide. Flower solitary, purple. Each flower lasts for one day. Bracts and bracteoles linear-lanceolate. Calyx lobes subequal, valvate. Corolla tubular, lobes twisted to left in bud. Stamens 4, included filaments hairy below, anthers sagittate, staminode linear. Ovary bicarpellary, bilocular, ovules 12 per locule, stigma 2-lamellate, flattened, aliate or fimbriate, obtuse. Capsules oblong, beaked, seeds numerous, flattened, orbicular, hairy, brown. (Plate 1-Figure 5)

Fl. & Frt.: September-January.

***Tinospora cordifolia*** (Willd.) Miers family Menispermaceae:

Synonym - *Menispermum cordifolium* Willd.; *Cocculus cordifolius* (Willd.) DC.

Dioecious, climbing, woody shrubs; stems succulent; bark papery, corky when mature. Leaves deeply cordate, 5-7 nerved, entire, acuminate with glandular-papillose patches on lower surface in basal nerve-axils. Flowers unisexual, yellow, in racemes or panicles, axillary, terminal or on old stems. Sepals 6 (3+3), free in two series of three each, the outer ones are smaller than the inner. Petals 6, free, smaller than sepals, obovate and membranous. Stamens 6, staminodes 6. Carpels 3; stigma forked. Drupes round-oval, sessile, red when ripe. (Plate 1-Fig. 6).

Fl. & Frt.: February-August.

***Dioscorea alata*** L. family Dioscoreaceae:

Synonym - *Dioscorea globosa* Roxb.

Dioecious, climbing herbs. Root tuberous, very large, reaching 6-8 feet in length, edible,

branhclets 4-winged or 4 angled, often with small axillary, bulb like tuberos. Leaves opposite, cordate-ovate to codate-oblong, entire, acuminate, base sinus, 7-9 nerved. Flowers unisexual, male flowers green, in narrow axillary panicles, female in simple spikes. Perianth campanulate, lobes 3+3, coriaceous. Stamens 3 or 6, alternating with 3 staminodes, filaments inserted at the base of the perianth lobes. Ovary inferior, tricarpeal, trilocular, ovules 2 per locule, superposed on axile placentae, styles 3, reduced, stigma simple or bifid. Capsules leathery, elliptic, 3-

winged. (Plate 1-Fig. 7).

Fl. & Frt: August- November.

***Millingtonia hortensis*** L. family Bignoniaceae:

Synonym-*Bignonia suberosa* Roxb.; *Bignonia azedarachta* Konig & Sims

A tall tree with narrowly pyramidal crown. Leaves opposite, 2 or 3- pinnately compound leaves 1-3 ft. long with ovate or ovate-lanceolate acuminate sinuate or crenate leaflets 1-3" long. Inflorescences cymose-paniculate, terminal. Panicles usually inclined with very

**Plate 1 (Figure 1-8):** New angiospermic plants from palamau division of Jharkhand



1-Senna hirsuta



2- Adansonia digitata



3-Ceiba pentandra



4-Ruellia tuberosa



5-Ruellia brittoniana



6-Tinospora cordifolia



7-Dioscorea alata



8-Millingtonia hortensis



numerous pendulous white fragrant flowers 2-3" long and 1" diam. Calyx cupular, small, apex subtruncate, with very short teeth. Corolla bilabiate, tube long and narrow, upper lip 2-lobed, lower lip 3-lobed; lobes valvate, ovate-lanceolate, densely pubescent adaxially along margin. Stamens 4, didynamous, inserted high in corolla tube, 1 anther cell fertile and ellipsoid, another caudate and appendage like. Disc annular-cupular. Ovary sessile, ovoid. Style long; stigma ligulate, compressed, 2-lobed, slightly exserted from corolla tube. Ovary glabrous; ovules numerous, 4 rowed. Capsule linear,  $30-35 \times 1-1.5$  cm, compressed. Seeds discoid-oblong, compressed, including wing  $1.5-3.5 \times 1-1.5$  cm, surrounded by membranous and transparent wings. (Plate 1-Fig. 8).

Fl. & Frt: October-December.

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