Published on: 1st Nov 2012

GYMNOPETALUM ARN. AND *GYNOSTEMMA* BLUME (CUCURBITACEAE): TWO GENERIC RECORDS FOR ODISHA

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ABSTRACT:

Gymnopetalum Arn. and *Gynostemma* Blume of Cucurbitaceae family are reported as two generic records for the state of Odisha. Brief descriptions, correct botanical nomenclature with photographs of the taxa have been provided to enable their correct identification.

KEY WORD: *Cucurbitaceae, Dicotyledonous, Floristic, Phytogeography, Similipal*

INTRODUCTION:

Phytogeography of the state of Odisha is quite interesting due to the presence of both temperate and tropical elements. Gamble (1892) correctly comment that Odisha is the meeting ground for the Himalayan and South Indian elements of the Indian flora. Haines (1921-25) and Mooney (1942, 1947, 1950) the pioneers of floristic works in the state of Odisha also reported the occurrence of plants of Assam and Himalayas in the Eastern Ghats of Odisha. The phytogeography of Similipal Biosphere Reserve in Mayurbhanj district, Odisha reveals very interesting information on distribution of plants in the Indian Sub-continent.

STUDY AREA:

Similipal Biosphere Reserve (SBR) is located in the Mayurbhanj district at the north-eastern corner of Odisha, which lies in the tri-junction of three states – Odisha, West Bengal and Jharkhand. It lies between 20^0 17' to 22^0 34'N latitude and 85^0 40' to 87^0 10' E longitude covers major portion in the central part of Mayurbhanj district. The Similipal Biosphere Reserve extends over an area of 5569.00 sq. km. with a core area of *ca.* 1194.75 sq. km., buffer area *ca.* 1335.88 sq. km and transition area *ca.* 3038.39 sq.km. Similipal was declared as a biosphere reserve by Govt. of India on 22nd June 1994 due to its rich

biodiversity and natural heritage. The hills, with their innumerable crests & valleys, interspersed with countless streams & rivers exhibits a great degree of topographic variation, ranging from 200 to 1166 m above sea level. Geological formation of the region consists of sub-metamorphic sand stones and quartzite haematites. They produce a reddish and sandy soils which favours the luxuriant growth of *Shorea robusta* dominant tree of Similipal. The climate of Similipal is warm and humid. The average rainfall of the area is 173 cm. Relative humidity is generally high throughout the year. The mean temperature varies from 20^0 to 28^0 C.

MATERIAL AND METHODS:

While working on "Dicotyledonous Flora of Mayurbhanj with Special Reference to Economically Important Plants" the authors came to know two new genera for the state of Odisha under family Cucurbitaceae namely *Gymnopetalum* Arn. and *Gynostemma* Blume. After critical analysis and careful scrutiny of floristic works undertaken by Gamble (1915-36), Chakravarty (1982), Saxena and Brahmam (1994-96), Haines (l.c.), Mooney (l.c.) Hooker(1885), Singh ,Chauhan & Mondal (2000), Singh *at al* (2001) and Singh, Singh & Singh (2002) , it was revealed that *Gymnopetalum cochinchinensis* (Lour.) Kurz and *Gynostemma pedata* Bl. The voucher specimens were properly processed and housed in Herbarium, P.G Department of Botany, North Orissa University. Photographs of specimens have been taken in the field. The correct botanical nomenclature, diagnostic characters, ecological notes, place of occurrence in Similipal, distribution, specimens examined etc. of these taxa have been described.

RESULTS AND DISCUSSION:

***Gymnopetalum cochinchinensis* (Lour.) Kurz. in J. As.soc. Beng.40:57.1871; Clarke in Hook. f. Fl.Brit.Ind. 2:611.1879; Haines, BBO. 3:389.1922 (Repd. ed. 389.1988). Chakravarty, Fasc. of Fl. Ind., Cucurbitaceae, 53.1982. *Bryonia cochinchinensis* Lour. Fl. Cochinch. 595.1790**.

Fig.1.*Gymnopetalum cochinchinensis* (Lour.) Kurz.

Slender herbs; Stems spreading, scabrid. Leaves 3-5 lobed, 4-12 x 3-10 cm, deeply cordate at base, margin distantly denticulate, scabrid above hirsute below; lobes ovate deltoid, acuminate. Tendrils slender, filiform, bifid. Male flowers in axillary long peduncled 3-6 flowered racemes ; bracts foliaceous often laciniate ; calyx tube *ca*. 2.5 cm , lobes spreading; corolla white, lobes oblong–

ovate ; stamens 3 , filaments *ca*. 0.5 mm long, free; anthers connate; pistillode 1-3. Female flowers axillary , solitary; peduncles *ca*. 4 cm long, ovary ovoid-oblong ; stigmas 3; ovules numerous. Fruits indehiscent, 4-6cm long, acute at both ends, sharply 10 ribbed. Seeds compressed *ca*. 8 mm long, thick.

Flowering and Fruiting: August-October.

Distribution: India (Assam, Bihar,Tripura,U.P., Meghalaya, A.P.and Odisha, Rare, in moist-deciduous forests. Baniabasa , Similipal ,1613; Podadiha , Similipal, 1683)

Burma, Srilanka, Malesia, India, China, Philippines.

Specimens examined: Central National Herbarium, Kolkata.

Chakravarty- 181436; Deb- 563274; Anderson, CNH ACC.NO 181458; G. King, CNH ACC.NO 181459

***Gynostemma pedata* Bl. Bijdr. 23. 1825; Clark in Hook.f.Fl.Brit.Ind. 2:633.187; Chakravarty, H.L. Fasc. Ind .Cucurbitaceae, 56, 1982**

Slender, climbing herbs; stem puberulous; tendrils mostly simple. Leaves pedately 3-5 foliate, rachis 3.5-5 cm long; leaflets ovate-oblong, crenulate-dentate, acute; unequal. Male flowers in axillary panicles, minute; peduncles branched, sulcate; calyx lobes 5; stamens 5, filaments connate below. Female flowers: calyx and corolla similar to male ones; ovary 2-3 celled. Fruits globose, *ca* 9 mm across, glabrous, puberulous; Seeds compressed, verrucose.

Fig.2. *Gynostemma pedata* Bl.

Flowering and Fruiting: June-July

Distribution: India (Assam, N.W. Himalaya, Uttrakhand, Tripura ,Sikkim and Odisha, rare, grows on moss covered tree trunks in partial shady conditions at higher altitude of the Similipal Meghasini, 1965.)

Burma, Bangladesh, Bhutan, China, Srilanka,

Specimens examined:. Central National Herbarium, Kolkata

Panigrahi, 11358 (21.07.78); Mukherjee, 3403(29.08.1948); Balkrishnan, 39578 (31.08.1964); A. Meebold, 3184 (Oct. 1905); Clarke, 13322 (04.09.1870).

ACKNOWLEDGEMENTS:

The authors are thankful to the Director, Botanical Survey of India, Kolkata for providing the Herbarium and Library facilities and Head, P.G. Department of Botany, North Orissa University, Takatpur, Baripada, Odisha for for valuable suggestion & encouragement. We are also thankful to the RCCF-cum-Field Director Similipal Tiger Reserve, Bhanjpur, Baripada for granting permission during the study.

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