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NEW RECORD **ZOOS' PRINT JOURNAL 19(9): 1623-1624**

GYMNEMA KHANDALENSE SANTAPAU – A RARE AND LITTLE KNOWN ENDEMIC RED LISTED MEDICINAL PLANT FROM NILAKKAL FOREST, KERALA

P.S. Udayan, K.V. Tushar, Satheesh George and Indira Balachandran

Centre for Medicinal Plants Research (CMPR), Arya Vaidya Sala, Kottakkal, Malappuram District, Kerala

web supplement

A botanical survey was conducted in Nilakkal forest near Sabarimala of Pathanamthitta District ($09^0$16'-$09^0$24'N & $76^0$47'-$77^0$04'E), Kerala, to collect medicinal plants for the establishment of a germplasm bank at Kottakkal, Malappuram District. During the survey an interesting species of *Gymnema* was collected. Critical studies have confirmed it as *Gymnema khandalense*. The specimens have also been compared with the specimens housed in the herbarium of Kerala Forest Research Institute, (KFRI), Peechi. This species was so far known only from the type locality in the Khandala forests of Western Ghats in Maharashtra collected by Santapau in 1944-45. After a period of 34 years, Kothari and Moorthy could collect the plant in 1979 from Raigad District of Maharashtra State. Sasidharan (1996) reported this species from Vazhachal forests of Thrissur District, Kerala, extending its distribution further towards southern Western Ghats, which clearly shows its disjunct distribution and a new report from south India. Nayar and Sastry (1990) included this species in the *Red Data Book of Indian Plants* and placed it under rare and threatened category. A brief description with ecological notes is provided for better understanding of this endemic and little known taxon.

Gymnema khandalense
Sant., Kew Bull. 1948: 486. 1949 & Rec. Bot. Surv. India 16:52. 1967; Kothari & Moorthy, J. Bombay Nat. Hist. Soc. 80: 259. 1983; Nayar & Sastry, Red Data Book Indian Pl. 3: 37. 1990; Sasi. & Sivar., Fl. Plants of Thrissur Forests 289. 1996. *Bidaria khandalense* (Sant.) Jagtap & Singh in Biovigyanam 16 (1): 62. 1990 & Fasc. Fl. India 24. 1999.

Specimens examined: Three mature individuals were observed, 20.xi.2003 and 29.xi.2003, Nilakkal to Pampavalley (Attathode), forests near Sabarimala, Pathanamthitta District, Kerala State, ± 300m, coll. P.S. Udayan *et al*., 02101 and 02113.

Distribution: Endemic to the Western Ghats of Maharashtra (Khandala Ghat of Pune District; Masadi forests in Roha of Raigad District; Kolhapur District) and of Kerala (Vazhachal of Thrissur District).

Description: Large climbing shrubs; mature stem corky, ca. 6cm in diameter; young stem lenticellate and tender stem pubescent. The latex is milky white when cut. Leaves opposite, broadly elliptic-ovate, acute-acuminate at apex, truncate at base, subcoriaceous, densely tomentose below and sparsely above, 8-12.5 x 5-8cm; lateral nerves five or six pairs; petiole terete, densely tomentose, 3-3.5cm long. Flowers slightly fragrant, puberulous, in axillary umbellate cymes, 0.8-1cm; peduncles ca. 1 cm long; pedicel about 0.7cm long. Calyx lobes oblong, acute, yellowish-green, 1-1.2mm long, outer surface and margins pubescent. Corolla yellow, campanulate, to 3-3.5 x 1-1.2mm; lobes fleshy, triangular, prominently pubescent on inner surface and ciliolate along margins. Corona of five hairy, fleshy processes arising from and adnate to the corolla tube, alternating with the corolla lobes. Ridges of the corona slightly protruding the corolla tube. Translators five, ca. 0.3mm the pollinia yellow and the corpusculum red. Gynostegium about 2mm long. Fruits not collected (Image 1[w]).

Flowering: October-December

Biotic association: This endemic climber is rare and found to grow near moist and shady localities of semi evergreen forests. It is seen growing on *Macaranga peltata* (Roxb.) Muell.-Arg. along with straggling *Acacia pennata* (L.) Willd. Other associated climbers are *Sarcostigma klenii* Wight & Arn., *Piper argyrophyllum* Miq., *Anamirta cocculus* (L.) Wight & Arn., *Miquelia dendata* Bedd., *Mikania micrantha* Kunth, *Thunbergia mysorensis* (Wight.) Anders., *Chonemorpha grandiflora* (Roth) M.R. & S.M. Almeida, *Strychnos colubrina* L., *Tetrastigma sulcatum* (Lawson) Gamble *etc* and shrubs like *Dendrocnide sinuata* (Blume) Chew, *Dichapetalaum gelonioides* (Roxb.) Engl., *Clerodendrum viscosum* Vent., *Leea indica* (Burm.f.) Merr., *Nothopegia beddomei* Gamble and trees such as *Xanthoxylum flavascens* Roxb., *Canarium strictum* Roxb., *Grewia tiliifolia* Vahl, *Antiaris toxicaria* Lesch., *Myristica malabarica* Lam., *Knema attenuata* (Wall. ex Hook.f & Thoms.) Warb., *Alstonia scholaris* (L.) R. Br., *Prunus ceylanica* (Wight)

[w] See Image 1 in the web supplement at www.zoosprint.org

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Miq., *Pterygota alata* R. Br., *Aglaia eleagnoidea* (Juss.) Benth., *Diospyros bourdillonii* Brand., *Pterospermum diversifolium* Blume and *Mallotus tetracoccus* (Roxb.) Kurz, *Lepisanthes tetraphylla* (Vahl) Radlk., and *Bambusa bambos* (L.) Voss. The common herbs associated with the plant are *Cyathula prostrata* (L.) Blume, *Sida acuta* Burm. f., *Synedrella nodiflora* (L.) Gaertn. and *Curcuma zedoaria* (Christm.) Rosc.

Medicinal uses: Leaves may possess the same medicinal properties as that of *Gymnema sylvestre* (Retz.) R. Br. ex Schult., which is widely used in the treatment of diabetes and in cases of poisonous bites.

Remarks: This endemic species is assigned as an Endangered Red Listed Medicinal plant based on the Conservation Assessment Management Plan (C.A.M.P.) workshop conducted by Foundation for Revitalisation of Local Health Traditions, (FRLHT), Bangalore and Zoo Outreach Organisation (ZOO), Coimbatore. The "Fascicles of Flora of India" (24) Jagtap and Singh (1999) did not mention the presence of this species in Kerala and named this species as *Bidaria khandalense* (Sant.) Jagtap & Singh. Critical study of the floral characters shows that the key is representative to *Gymnema* and not to *Bidaria* (In *Gymnema* flowers, the fleshy coronal ridges are produced beyond the sinus of corolla lobes and pubescence of internode is not in two lines whereas these characters are opposite for *Bidaria*). This species is easily recognised by its ex-foliating stem bark, which is unique with golden hairs prominent below the leaves. Swarupanandhan collected the plant from Moozhiyar forest of Kollam District 314A (Ecological Number) 1981 and kept unidentified for a longtime due to the absence of flowers (vegetative condition). Sasidharan has recorded only one plant from Vazhachal (5497, 04.xi.1989 ca. 325m), which is currently under threat due to the proposed dam construction. According to him, the flowering is so sporadic that the plant flowered only once in five years and also it is very common in Nelliyampathi forest of Palakkad District. We observed only three mature individuals. Six voucher specimens of this species are deposited in the herbarium of Centre for Medicinal Plants Research, (CMPR), Arya Vaidya Sala, Kottakkal, Malappuram, Kerala.

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FAUNA OF PROTECTED AREAS - 11

SPIDERS OF PENCH TIGER RESERVE, MADHYA PRADESH

Pawan Gajbe

Zoological Survey of India, Central Regional Station, 424, New Adarsh Colony, Kamla Nehru Nagar, Jabalpur, Madhya Pradesh 482002, India

Pench Tiger Reserve (PTR) (21^{0}38'-21^{0}50'30"N & 79^{0}9'-79^{0}22'30"E) located in Chhindwara and Seoni districts of Madhya Pradesh covers an area of 757.907km^2 and derives its name from the Pench River flowing almost through the centre of the Reserve. The Central Regional Station of the Zoological Survey of India conducted faunal surveys in PTR from June to December 2001. In the course of this research study, some spiders were also collected. A list of the identified spiders is provided.

A review of available literature and the draft management plan of PTR reveals that nothing substantial is known about the spider fauna of PTR. Hence, the species listed in Table 1 are first records to the fauna of PTR. The identification was based on a small collection of spiders and due to this, the status of each species could not be determined. Approximately, 50% species were found to be previously undescribed and hence, identified to generic level only. Family Araneidae was found to be the dominant group with 10 species under four genera while families Hersilidae and Agelenidae were represented by only one species. The numbers of genera and species represented by each family are listed in Table 2.

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Table 1. List of spiders occurring in Pench Tiger Reserve

Suborder: Labidognatha

Hersiliidae
Hersilia savignyi Lucas

Tetragnathidae
Leucauge decorata (Blackwall)
Nephila pilipes (Fabricius)
Tetragnatha sp.

Araneidae
Argiope aemula (Walckenaer)
Argiope trifasciata (Forskal)
Argiope pulchella Thorell
Eriovixia excelsa (Simon)
Larinia sp.
Neoscona bengalensis Tikader & Bal
Neoscona biswasi Bhandari & Gajbe
Neoscona mukerjei Tikader
Neoscona platnicki Gajbe & Gajbe
Neoscona sp.

Lycosidae
Lycosa wroughtoni Pocock
Pardosa sp.
Trochosa sp.

Pisauridae
Dolomedes sp.
Pisaura sp.

Oxyopidae
Oxyopes pankaji Gajbe & Gajbe
Oxyopes shweta Tikader
Oxyopes sp.
Peucetia sp.

Agelenidae
Tegenaria sp.

Gnaphosidae
Callilepis sp.
Gnaphosa sp.

Thomisidae
Ozyptila jabalpurensis Bhandari & Gajbe
Thomisus sp. 1
Thomisus sp. 2
Tmarus sp.

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