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Fibraurea darshani, A New Species of Menispermaceae from the Western Ghats, India

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Abstract

A new species, *Fibraurea darshani* Udayan & Ravikumar, is described and illustrated. The species differs from its closely allied species, *F. tinctoria* Lour., in having non-tendrilliform young shoots, cream-coloured stem with watery sap, coriaceous leaves with prominent reticulations and truncate base; inflorescences arising always from leafless older stems, flowers in umbellate racemes with shorter peduncles and pedicels; triangular ovate tepals with three inner lobes, longer filaments; ellipsoid ovary with one ovule and shorter infructescence.

Keywords: Fibraurea darshani, New Species, Menispermaceae, The Western Ghats

Introduction

The genus *Fibraurea* Lour. with its two species *viz.*: *F. tinctoria* Lour. and *F. recisa* Pierre. is mostly restricted to East and South East Asia including Andaman & Nicobar Islands (Forman, 1985; Kubitzki *et al.*, 1993; Pramanik, 1993; Mabberley, 2005). *F. tinctoria* is known from North East India and Andaman & Nicobar Islands. While documenting the flora of the Charmady Medicinal Plants Conservation Area (MPCA) in Karnataka part of the Western Ghats, the authors collected an interesting woody climber. It turned out to be a new species of *Fibraurea*. It is described and illustrated.

Fibraurea darshani Udayan et Ravikumar, sp. nov. Fig. 1

Caules cremei ubi secantur, innovationes non cirrhiformes. Latex verrucosus in sicco. Folia ovata ad elliptico-lanceolata coriacea basi truncata apice acuminata reticulatione prominenti. Petioli 2-8 cm longi. Inflorescentiae semper e caulibus vetioribus efoliatis. Flores 30-60 in racemis condensate umbellatis inodorati in vivo. Pedicelli ad 2 mm longi. Tepala triangulariter ovata. Antherae ovatae apice rotundato.

Type: INDIA, Karnataka, Dakshina Kannada district:

Charmady Medicinal Plants Conservation Area,± 480 m, 7 February 1997, *Udayan & Ravikumar 9895ô* ô (Holotype, FRLH; Isotypes, K, MH); ± 550 m, 12 January 1998, *Udayan & Ravikumar* 13701 °; ± 480 m, 28 February 2002, *Udayan* 6569 (Paratypes, FRLH, MH); ± 500 m, 18 December 2003, *Udayan et al.* 2168 (Paratype, CMPR). **Kerala**, Kozhikkode district, Kakkayam, *Udayan et al.* 3370 (Paratypes, CMPR); Thrissur district, Vellanipacha, ± 250 m, 8 January 2005, *Udayan et al.* 2491 (Paratypes, CMPR); ± 550 m, 3 April 2004, *Udayan et al.* 3372 (Paratype, CMPR, MH).

Fibraurea darshani is allied to *F. tinctoria* but differs in having cream coloured stem with watery sap; young shoots non-tendrilliform; coriaceous leaves with prominent reticulations and truncate base; inflorescences arising always from the node of leafless older stems, flowers in umbellate racemes with shorter peduncles and pedicels; triangular ovate tepals with 3 inner lobes; longer filaments; 1 ovuled ellipsoid ovary and shorter infructescence.

Woody dioecious climbers, branches with prominent leaf scars; bark smooth, shining, papery, peeling off in scales. *Stem* up to 6 cm thick, cut surface with several

prominent concentric rings, exudation watery, colourless. *Leaves* alternate, often 2 or more in older stems, ovate to elliptic-lanceolate, 5.5-13.5 x 2-4.5 cm, coriaceous, glabrous, acuminate at apex, truncate at

base, entire; basally 3 nerved, lateral pair intramarginal, running up to the tip of lamina, distinctly looping along the margin; lateral nerves 4-7 pairs; petiole slender, slightly swollen and geniculate at



Figure 1. *Fibraurea darshani* Udayan et Ravikumar – a. Male flowering twig; b. Male inflorescence; c. Male flower; d. Stamen; e. Leaf base enlarged; f. Female flowering twig; g. Female flower; h. Fruits.

base, 2-8 cm long, often drying blackish at least at swollen base. Flowers monoecious. Male inflorescence: a condensed umbellate raceme on old stems; 6-10 cm long; peduncles 4-8 cm long; flowers 30-60, rarely distichous; pedicels 1.5-2 mm long, puberulous; bracts 3, minute; perianth sepaloid (3 + 3), outer 3 minute, c. 0.5 mm long; inner 3, triangular-ovate, c. 3 mm long, glabrous, reflexed at anthesis, greenish-yellow, puberulous; petals absent; stamens usually 6, rarely 5 or 7, each c. 4 mm long; filaments broad, columnar, c. 3.5 mm long, glabrous, whitish-yellow; anthers ovate, c. 0.5 mm long, partially immersed in the column, whitish-yellow turning black. Female inflorescence: a compound elongated racemes on old stems, up to 12 cm long; peduncles c. 6 cm long; female flowers many, pedicel about 1 mm long, glabrous; bracts 3, minute, c. 0.5 mm long; perianth lobes 3, triangular-ovate, c. 2.5 mm long, greenish-yellow, glabrous; staminodes 6, subulate, c. 1.5 mm long; carpels 3, ellipsoid, c. 1.5 mm long; stigma sessile, 3-cleft. Infructescences up to 15 cm long. Drupes 3 together, oblong, terete, c. 2 x 1.5 cm, yellow to orange-red, on knob-like carpophore with terminal stylar scar; fruiting pedicels 1.5-2 cm long; seeds oblong, sub-ellipsoid, dorsally convex, ventrally narrow-grooved lengthwise, reniform in cross section; endocarps 1-2 cm long, hard, rigid; endosperm abundant, horny.

Flowering & Fruiting: January-April.

Habitat: Semi evergreen forests, 250-550 m.

Etymology: This species is named in honour of Mr Darshan Shankar, Director, Foundation for Revitalisation of Local Health Traditions, Bangalore for his contribution towards revitalizing the local health traditions in India and conserving medicinal plants.

Notes: The profuse flowering of the male plant was observed only after fifth year of continuous field observations. This robust liana reaches the top canopy of host trees such as *Tetrameles nudiflora* R. Br., *Ficus beddomei* King, *Vateria indica* L., *Elaeocarpus tuberculatus* Roxb., *Harpullia arborea* (Blanco) Radlk. and *Kingiodendron pinnatum* (Roxb. ex DC.) Harms. When in flower, it is devoid of leaves (February) and leaves are produced gregariously soon after flowering. So far, only four male plants were noticed in the study area and two more in Subramanya Temple MPCA in the same district. No female plant has been recorded from this locality. Recently, the authors collected female plants with flowers and fruits from Calicut and Thrissur districts of Kerala.

Table 1. Morpholo	gical differences	between Fibra	iurea tinctoria L	our. and F. darshani
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Characters	F. tinctoria	F. darshani	
Stem	 c. 5 cm thick, yellowish inside when cut; not prominently lenticellate; young shoot tip tendrilliform. 	<i>c</i> . 6 cm thick, cream coloured inside when cut; prominently lenticellate; young shoot tip not tendrilliform.	
Inflorescence	Axillary or ramiflorus; flowers in panicles, sweetly scented; peduncles 10-38 cm long; pedicels about 5 mm long.	Always arising on older leafless stems; flowers in condensed umbellate racemes, not scented; peduncles 6-10 cm long; pedicels up to 2 mm long.	
Tepal	White or yellow. Outer lobes 3; inner lobes 6, broadly elliptic, c. 4 mm long.	Greenish-yellow. Outer lobes 3; inner lobes 3, triangular ovate, <i>c</i> . 3 mm long.	
Stamen	Filaments up to 2.5 mm long; anthers elongate, narrowly rounded at apex.	Filaments <i>c</i> . 4 mm long; anthers ovate, bluntly rounded at apex.	
Ovary	Ovoid, 2 ovuled.	Ellipsoid, 1 ovuled.	
Infructescence	Up to 55 cm long.	Up to 12 cm long.	
Endocarp	2-2.5 cm long.	1-2 cm long.	

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