ADDITIONS TO THE DICOTYLEDONOUS FLORA OF GOA

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ABSTRACT

The flora of Goa is relatively underexplored as compared to other neighbouring states. The present paper adds 31 dicotyledonous species belonging to 26 genera and 15 families to the flora of Goa.

The modern botanical history of India started with the publication of Coloquios dos Simples e Drogas da India by Garcia da Orta (1563). Though this work originated from Goa, no major publications on floristics of Goa followed this for the next three centuries. The first major floristic work on Goa, "Flora de Goa e Savantvadi" was published by Dalgado (1898) to commemorate the completion of 400 years of Portuguese' entry into India. Occasional small publications that followed Dalgado's work have contributed much to the floristics of Goa, as they mostly dealt with economically important plants. Subsequent to the liberation of Goa from Portuguese rule, Vartak (1966) published "Enumeration of Plants of Gomantak, India" followed by "Flora of Goa, Diu, Daman, Dadra and Nagarhaveli" by Rao (1985 - 86).

In spite of the existence of all the Floras mentioned above, Goa's floristic wealth is not completely known. Dalgado, who brought out the first floristic account of the area was a medical officer based in Savantvadi. He frequently quotes in his book the areas around Savantvadi or "Nas Gates" (i.e. our Ghats) as localities. There is no means to find out whether the species dealt by him are really from Goa except in specified cases. Vartak (i.e.) also included the areas outside the territory of Goa state. He frequently refers to the locality as Ghats. Both, the publications quoted above do not provide any keys or descriptions of the plants. Rao (i.e.) provided keys and nomenclature in his account, but included large number of species for Goa, either based on Dalgado (i.e.) or based on assumptions. The recent studies by Kulkarni and Janarthanam (1995) added ten species of the family Scrophulariaceae to the area of study. Hence the floristic studies in Goa assume greater significance. The present paper adds 31 dicotyledonous species to the Flora of Goa.

The specimens were collected, processed according to standard herbarium procedure and incorporated into the Herbarium after identification and proper labelling. Identity of specimens is confirmed at BSI, BLAT and MH by comparing with authentic specimens. All the specimens are deposited in the Herbarium of Department of Botany, Goa University. Unless specifically mentioned, all the specimens were
collected by either one or more of the authors. Though reference to Dalgado (l.c.), Vartak (l.c.) or Rao (l.c.) is given in few places, the species are included here due to one of the following reasons:

a) The specimens were recorded by them outside the territory of Goa state. b) The locality is either not mentioned or mentioned generally as Ghats.

c) The species are included by Rao (l.c.) based on assumption or included by him on the basis of Dalgado (l.c.) which in turn does not provide any clue to its collection in Goa.

MALPIGHIACEAE


A woody climber, leaves opposite; inflorescence terminal, flower white, fragrant; petals clawed, crumpled; fruits 3-winged.

Exsiccatia: Chorla Ghat, Alt. 370 m, 7.3.97, 589.

Note: Found along the slopes in ghat area.

RUTACEAE


A shrub usually armed; leaves elliptic; fruit a berry, globose.

Exsiccatia: Chorla Ghat, Alt. 370 m. 7.3.97, 595.

Note: Found along the slopes in ghat area.

OLACACEAE


A climbing shrub, old wood with curved thorns; flowers white, in axillary racemes.

Exsiccatia: Chandranth, 30.1.97, 545.

Note: Branches usually projecting out from the bushes.

HIPPOCRATEACEAE


A climbing shrub; inflorescence a raceme; flower buds conical.

Exsiccata: Dudhsagar, 15.1.97, 505.

Note: Found in moist deciduous forests.

CELASTRACEAE


A large shrub or a small spreading tree; leaves alternate, minutely serrate along the margins; inflorescence an axillary cyme; capsule globose; seeds reddish brown.

Exsiccate: Chorla, 8.11.96, 319.

Note: A common plant in moist deciduous forests.

RHAMNACEAE


A thorny shrub, thorns recurved; leaves ovate with short petiole; fruits globose, purple, fleshy.

Exsiccate: Chorla ghat, Alt. 300 m, 8.11.96, 325.

Note: Found growing on cut surfaces and open slopes of Ghats.

CERATOCYCLEAE


An annual herb; flowers yellow; pods oblique-globose, single seeded.

Exsiccate: Taleigao Plateau, Goa University Campus, 12.8.96, 20.

Note: Common under forest soils.


A sub-erect, densely pubescent herb; flower yellow; pods oblong, glabrous with persistent style.

Exsiccate: Chorla ghat, Alt. 300 m, 8.11.96, 325.

Note: Found growing on cut surfaces and open slopes of Ghats.


A moderate sized deciduous tree; flowers crimson red in colour, in densely crowded racemes.

Exsiccate: Taleigao Plateau, Goa University Campus. 8.2.97, 558.

Note: Common in open areas.

An erect silvery white herb; leaves linear, acute; flowers axillary, red. Pods globose, apiculate with white hairs.

**Exsiccata:** Taleigao Plateau, Goa University Campus, 23.9.96, 176.

**Note:** Found on lateritic plateaus.


A diffuse annual herb; leaves trifoliolate; corolla salmon red in colour.

**Exsiccata:** Lolium, 24.8.96, 68.

**Note:** Common on open lateritic plateaus.


A climber with prominent calyx; calyx membranous, large, papery, covering golden yellow corolla.

**Exsiccata:** Chorla, Alt. 460 m, 7.3.97, 587.

**Note:** Common on trees and bushes along open hill slopes.


Annual climber with pubescent pods.

**Exsiccata:** Goa University Campus, Taleigao Plateau, 23.9.96, 166.

**Note:** Common on bushes of open plateaus.

**LYTHRACEAE**


An aquatic annual herb; leaves orbicular, sessile; flowers pink with exserted stamens.

**Exsiccata:** Carambolim lake, 2.12.96, 431; Chorla campus, 4.1.97, 456.

**Note:** Common in temporary pools and lakes; Endemic to Western Ghats.


A gregarious annual; leaves linear-lanceolate; calyx tube bright pink; petals 3; stamens inserted.

**Exsiccata:** Taleigao Plateau, Goa University Campus, 13.9.96, 148.

**Note:** Common in flooded rice fields and temporary ponds; Endemic to Western Ghats.


An aquatic herb; leaves in whorls of 4-10, linear, acute; flowers pink; stamens included.

**Exsiccata:** Lolium, 24.8.96, 78.

**Note:** Abundant in temporary pools and ponds.

**RUBIACEAE**


A large armed climbing shrub; fruit globose; seeds rugulose.

**Exsiccata:** Chorla, Alt. 360 m, 24.10.96, 271.

**Note:** Very common in open areas of Ghats.
LOBELIACEAE


A rare herb with hollow stem; flowers in terminal raceme; filaments connate to form a tube.

*Exsiccat*: Chorla, Alt. 430 m, 8.11.96, 317.

*Note*: Ocasional along the open slopes.

APOCYNACEAE


A liana; leaves opposite, sub-cordate; flowers in axillary racemes, large, white in color, fragrant.

*Exsiccat*: Anjunem Dam, 29.6.97, 693.

*Note*: Large, showy, white flowered liana; usually along the streams on tree canopies during monsoons.


A small shrub; leaves whorled, lanceolate; flowers in dense racemes; corolla spreading, twisted, white.

*Exsiccat*: Chorla, Alt. 460 m, 29.6.97, 691.

*Note*: Found in forest areas of Ghats.


A small shrub; leaves whorled; flowers white; fruits red.


*Note*: Introduced and naturalized; common along roadsides and in open areas.

ACANTHACEAE


An undershrub; flowering bracts large, brown, membrandrous with purple veins.

*Exsiccat*: Sanquelim, 16.3.97, 621.

*Note*: Found along the stream on the rocks.


An erect herb; leaves pinnatifid; flowers purple.

*Exsiccat*: Anjunem Dam, 29.6.97, 693.

*Note*: Rare; on hill slopes.


A large shrub; stem winged; leaves lanceolate, petiole winged; flowers in axillary and terminal spikes, white in colour.

Exsiccate: Nirankarichi Rai, 20.2.97, 576.

Note: Rare; found near the stream; endemic to Western Ghats.

LAMIACEAE


An erect pubescent herb; stem angled; flowers pinkish, in cymes.

Exsiccate: Cotigao, 21.1.97, 519; Chandranath, 30.1.97, 546.

Note: Most common as an undergrowth in forests.

ARISTOLOCHIACEAE


An undershrub; leaves lanceolate, trinerved; flowers solitary, axillary, purple in colour; capsules linear.

Exsiccate: Dhalbali, near Ponda, 12.1.97. Urmila 491.

Note: A common undergrowth in forests.

EUPHORBIACEAE


A straggling shrub; leaves softly stellate, glandular pubescent; flowers minute, pistillate in panicles, staminate in racemes.

Exsiccate: Cotigao, 21.1.97, 516.

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REFERENCES


