



*Nalpertia bellifera* Gandhi var. *venulosa*  
Ellis & Choudhri (MS)

Fig. 1-6: 1, Twig with racemes; 2, Part of raceme;  
3, Flower bud; 4, Sepal (showing venation pattern); 5, Fruit;  
6, Androecium with disk.

sometimes extra-axillary, short, spicate cymes, bracteate, the rachis more rusty-pubescent or pubescent when young. Calyx 4-lobed, the lobes small,  $\pm 1.5 \times 1.5$  mm, broadly ovate, entire or faintly crenulate near the tip, glabrous, maroon in

colour, and strongly marked with 6-7 dark parallel lines. Petals 4, pale yellow, elliptic-ovate or broadly ovate, about 11-12 times the length of the calyx-lobe,  $\pm 2.0 \times 1.5$  mm, glabrous. Stamens 4, inserted at the margin of the slightly quadrangular disk; filaments short,  $\pm 0.5$  mm long, glabrous; anthers broadly ovoid, much broader and longer than the filament,  $\pm 1.5 \times 1.0$  mm, glabrous. Disk slightly 4-lobular, glabrous. Female flower and fruit not seen.

Holotype *ESR* 27133-A (Chendianathode, Perin R. F., Calicut District, Kerala, 18-4-1966) is deposited in CAL; isotypes *ESR* 27133 B-D and paratypes *ESR* 29528 A-D (same locality, 8-12-1967) are deposited in MIJ.

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#### A NEW SPECIES OF *Solanum* LINN. FROM GUJARAT, INDIA

*Solanum purpureilacatum* Sahni & Bhatt, sp. nov.

Herbae erectae vel decumbentes, 25-40 cm altae, parce e basi ramosae, rosulis nullis; caulis virides purpureo-tincti, nodulosi, duri, pubescentes, 8-9 mm basi diam. ramosi, ramis spicis. laminae foliorum ovatae, basi truncatae, in petiolum decurrentes, irregulariter dentatae, dentibus utrinque 2-4, parce pubescentes in pagina ambobus, praecipue in venis et marginibus; inflorescentiae in cymis corymbosis, extra-axillares, pauciflorae, pedunculatae; pedunculis 7-10 mm longis, ex angulo 90-100°; pedicelli paullo pubescentes, 4-5 mm longi, ex angulo 40-50°; flores regulares, bisexuales, perfectae; calycis 1.2-1.5 mm

longi, pamosopali, pubescentes, albe lobati, lobis 0.5 mm longis, 0.7 mm laeis, oblonga, apice retundatis, cum macula purpurea inter lobos; corollae 4.5-5.0 mm longae, 7-8 mm latae, 5-6-petala, rotata, alba, stella centrali flavo-viridi, distincte lobatae, lobis 5 (num 4), 2.5-3.0 mm longis, cum vitra medialia atrapurplea, saepe cum 2 vittis lateralibus basilibus brevibus utrinque lateri, vittis in pagina exteriori loborum magis obvis; stamina 5, 2.5-3.0 mm longi, epipetala, columnam formantia, antheris 1.5-1.8 mm longis, bavis, apice emarginatis, filamentis 1.0-1.2 mm longis basi dilatatis, immo ubique pilosis, pills elongatis, flexuosis, nigris; ovarium 1.0-1.2 mm

longum, subglobosum; styli 2.0-3.2 mm longi, rami vel paullo apice curvati, vix antheris longiores, usque 2/3 pubescentes; stigma globosa, capsata; baccae globosae, 6.0-6.5 mm diam., nitentes pullosae, juventute virides, maturitate aurantisco-rubrae, calyce

persistente reflexo subtentae; seccina 25-32, 2.0 mm diam., pallida; granulae scleroticae 2 vel 3, in pulpa maculaginae tectae.

The new species differs from allied species of *Solanum* mainly by the presence of a purple stripe



*Solanum purpurciliatum* Subris & Schall sp. nov.

Fig. 1. *Solanum purpurciliatum* Subris & Schall

on the corolla lobes. According to C. B. Heiser, Jr., of Indiana University, the plant "while not a perfect match for *S. burbanckii* Bitter is certainly very close to it" (personal communication). However, the proposed species differs from *S. burbanckii* Bitter in the following important characters:

*Solanum burbanckii*

1. Leaf-blades cuneate at the base.
2. Calyx irregular, 3-7 mm long in flower, lacking a purple spot.

*Solanum purpurciliatum*

1. Leaf-blades truncate at the base.
2. Calyx regular, 1.2-1.3 mm long with a purple spot.

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|--|---|
| 3. Filaments glabrous within                               | 3. Filaments covered with long, flexuous, glistering hairs within |
| 4. Style pubescent in the lower 1/4 of its length          | 4. Style pubescent upto 2/3 of its length                         |
| 3. Bracts black, not showing covered with a central "hoop" | 3. Bracts orange-red, shining, not covered with a "hoop"          |
| 6. Seeds dark-colored                                      | 6. Seeds pale-colored   |
| 7. Stems green above                                       | 7. Stems green present  |

Erect or decumbent herbs, 25-40 cm high, squarigly branched from the base, without basal rosettes. Stems green with a purple tinge, nodular, hairy, pubescent 8-9 mm in diameter at base. Branching crowded. Leaf-blades ovate, truncate, merging into the petiole, irregularly dentate with 2-4 teeth on each side, sparsely hairy on both surfaces, more hairy on the veins and margins. Inflorescence a cymbose cyme, extra-axillary, few-flowered, pedunculate. Peduncles 7-10 mm long, at an angle of 60-100°. Pedicels slightly pubescent, 4-5 mm long, at an angle of 20-30°. Flowers regular, bisexual, complete. Calyx 1.2-1.5 mm long, gynoecium, pubescent, deeply lobed; lobes 0.2 mm long and 0.7 mm wide, oblong with rounded apices and a purple spot in between. Corolla 4.5-5 mm long, 7-8 mm wide, gamopetalous, rotate, white with a yellowish-green star, distinctly lobed; lobes 2.5 mm long, with a dark purple median stripe, often with two short, lateral ones on either side of the median at the base, the stripes more prominent on the outer surface of the corolla lobes. Corolla lobes 5 (rarely only four). Stamens 5, 2.6-3 mm long, epipetalous, closely placed and forming a column; anthers 1.0-1.8 mm long, yellow, notched at the apex, filaments 1-1.2 mm long, dilated at base, covered with long, flexuous, glistering hairs throughout within. Ovary 1-1.2 mm long, obglo-

bous; style 3-3.4 mm long, straight or slightly bent at the tip, little exceeding the anther column, pubescent up to 2/3 its length; stigma globose, capitate. Berries 6.5-5 mm in diameter, soft in texture, globose, shining, green becoming orange-red at maturity, with a persistent, reflexed calyx. Seeds 2 mm in diameter, pale-colored, 25-30, with 2 or 3 stone grains per berry, these engulfed in a mucilaginous pulp (Plate II).

**HOOTS:** Gujarat State: Baroda District, Baroda, L. V. Palace compound, 2.10.60, *Sabota* 2762, 2783 (Herbarium, The M. S. University of Baroda, Holo-type); The M. S. University campus, behind Botany Department, 10.1.64, *Sabota* 3090, Sabarkantha District, Dammohi, Sabarmati river banks, 30.9.60, *Bhatt* 1248; Hnad, 2.1.70, *Bhatt* 1250; Kavadbrahna, on way to Padhara, 18.5.70, *Bhatt* 2586; Humphrieswar, 28.10.71, *Sabota* & *Thakur* 374.

**Flowering and fruiting:** September to March. **Chromosome number:** 2n=48.

**Distribution:** At present, noted as a rare weed in gardens and roadsides in Baroda and in cultivated fields, river banks and waste places in several localities in north and central Gujarat.

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#### DENDROBIUM BENSONIAE REICHB. F.—A NEW FIND FROM MIZO (LUSHAI) HILLS, MIZORAM

During the winter of 1967, Sri S. C. Mastai, the then Orchidarium Keeper, collected for cultivation about 400 orchids including species of *Dendrobium* and *Papilionopodium* from Mizo (Lushai) Hills, Mizoram. After a long interval, one of the *Dendrobium*s (N.O. Plant No. 881) flowered on 23rd June 1969 and after study proved to be *Dendrobium bensoniae* Reichb. f., a species originally reported from Burma.

The type locality for the species is on the mountains near Tongga, direct west of Prome in Pegu, Burma. Apart from this two more localities are known in Burma. It is also reported to occur in Northern Thailand and lower Siams [Seidenfaden & Smitinand, *Orch. Thailand* 2(2): 107, 1950] and under cultivation in the Singapore Botanic Garden (Holttum *Fl. Malaya, Orchids*, 2d ed.: 187, 1957). In India this species is being reported for the first

## ADDITIONS TO THE FLORA OF RAJPIPLA FOREST DIVISION, GUJARAT

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### ABSTRACT

In this paper 201 more specimens are listed of which 130 are dicotyledons and 81 are monocotyledons, based on collections made between 1965 and 1971 from different areas of the Rajpipla forest division. Seven additions are due to: (1) intensive exploration in all seasons and (2) two different types of vegetation: (a) the dry deciduous type in hilly regions and (b) the scrub forest type in the un-hilly plains.

### INTRODUCTION

Goode (1906-1908) has listed about 425 species occurring in Gujarat and most frequent localities (20) for their distribution are Kachhwar, Rajkot, Veraval, Porbandar etc. all now in Saurashtra, whereas casual ones are Ahmedabad, Panchmahals, Dakor, Godhra, Baroda, Broach, collorons, Surat, Dangs etc. It is, therefore, evident that Rajpipla locality is not cited even once in his flora indicating that Rajpipla Forest Ranges had not been touched at all by the botanists in the time of Goode. It remained so even upto 1965 when one of us (Singh, 1967) gave a preliminary account of the flora of Rajpipla forest division based on plants collected from Dastapada, Kokam, Dumkhal and Ghatorah. Another paper was published on the flora of that forest division by Singh and Singh (1970) based on intensive study of the places mentioned above and Sagbara, Sajpur, Kakadpada, Selamba, Gora, Kevadia and Garudeshwar, Ahuja and Patidar (1970) also published four species from this forest division. The total number of species listed for the forest division till that time was 572.

The authors have been studying the flora of Rajpipla forest division since 1965 in vicinity of the following areas: (1) *Dastapada and Sagbara forest ranges*: Dastapada, Monda, Kakadpada, Sagbara, Sajpur, Selamba; (2) *Gora forest range*: Dumkhal, Pipal, Kakaen, Surpeshwar, Kevadia, Kothi, Dhavdi, Garudeshwar, Indravarna, Piparia, Gora and Thevadia; (3) *Netrang range*: Jaghadia, Gumandev, Avdiya, Rajpardi, Netrang; (4) *Rajpipla range*: Rajpipla, Juna Raj, Poicha, Bhadam, Bharu et al. (1971) published a list of plants from Gora range. Of the 460 species listed by them 303 are dicotyledons, 61 monocotyledons and 3 pteridophytes, based on botanical excursions in 1962-1964 and 1968 in vicinity of Gora, Dhirkhadl, Zarvani, Chopli, Solpau,

Makhadl, Pipal, Samot, Singhadhadl, Dumkhal and Kusan. The families Asteraceae, Asteraceae, Balanitaceae, Cruciferae, Flacourtiaceae, Hypsocharaceae, Potamogetonaceae and Najadaceae are not represented in their list. Thus though a fairly large number of plants are now known for the Rajpipla Forest Division, there are several plants in our collections (Singh 1970, Patel 1971) which have yet to be added to these lists to make the flora of this forest division complete as far as possible. With this end in view, the present paper is prepared. The additions are obvious on two counts: (1) The unexplored areas and those cursorily explored areas have been intensively studied in all seasons; (2) There is a diversity in vegetational aspects varying from Aracia scrub forests in plains to dry deciduous forests in hilly regions.

### GEOGRAPHY AND TOPOGRAPHY

Rajpipla district is situated 21°23' and 21°30' N and 73°5' and 74°0' E on the south-east border of the Gujarat State, with Rajpipla as a taluka capital. The areas explored by us fall within this range.

Rajpipla is the terminus of Rajpipla-Ahmedeshwar narrow gauge railway line, the latter in turn being a junction on Bombay-Ahmedabad main line about 352 km north of Bombay. Gumandev, Jaghadia, Avdiya, Rajpardi are small railway stations on this narrow gauge line. Regular State Transport buses ply these stations. Similarly State Transport buses ply between Netrang and Jaghadia, which are also connected by a narrow gauge railway line. Garudeshwar, Kevadia, Gora, Poicha and Vavadi are also connected with Rajpipla by State Transport buses in all seasons. Kuthi, Piparia, Dhavdi etc. are small villages near Kevadia whereas Thevadia is about 8 km from Gora, all only to be explored on foot or by private