

Peristylus sahanii, a new species of Orchidaceae from IndiaPankaj Kumar¹, Gopal Singh Rawat¹ & Jeewan Singh Jalal¹

Summary. *Peristylus sahanii* (Orchidaceae), a new species from Jharkhand state (Chotanagpur plateau), India is described and illustrated.

Key Words. Chotanagpur, new species, Orchidaceae, taxonomy.

Introduction

The genus *Peristylus* Blume is represented by 106 species and three varieties, of which 29 species and two varieties are found in India (Misra 2007). It is distributed from the Mascarenes, tropical and sub-tropical Asia to the Pacific region (Govaerts *et al.* 2008). The identification of species within the genus is difficult due to poorly defined contrasting characters with allied genera such as *Habenaria* Willd. and *Pecteilis* Raf. The genus can be differentiated from its allies by the ascending ovary, close and parallel to the peduncle and stigmatic surfaces in the form of small protuberances on the edge of the lip and not extending as stalked appendages as in *Habenaria*. While conducting an orchid survey in the state of Jharkhand as a part of the AICOPTAX project funded by Ministry of Environment and Forests, Government of India, a species of *Peristylus* Blume was collected. This species was found to be distinct from an allied species, i.e. *Peristylus stocksii* Kraenzl. A similar species was collected by Haines (1924) but he hesitantly included it under *P. stocksii* although he did point out some distinctions in morphological characters. The present work deals with the description of the same as a new species from Chotanagpur (Jharkhand), India. The state of Jharkhand was previously represented by four species (Kumar *et al.* 2007). The present report makes it five species from the state and 30 species from India. A key for the identification of the five species from Chotanagpur is provided.

Peristylus sahanii P. Kumar, G. S. Rawat & J. S. Jalal **sp. nov.** affinis *P. stocksii* sed tubero subgloboso, inflorescentia subsecunda, floribus flavo-virentibus, bracteis floralium ovario brevioribus, labello sepalis longiore satis differt. Typus: India, Jharkhand, Latehar, Netarhat vallis, 450 m alt., 8 Aug. 2005, Pankaj Kumar 051039 (holotype WII!).

<http://www.ipni.org/urn:lsid:ipni.org:names:77104379-1>

Herbaceous, terrestrial, unbranched, erect up to 35 cm tall. Tubers 1 (– 2) (second tuber present, if the previous year's tuber persists), subglobose, 1.7 × 1.2 cm. Roots many, vermiform, 0.1 cm thick, cylindrical. Stem up to 20 × 0.3 cm. Leaves clear green, scattered towards the lower half of the plant, unequal, tapering towards the base, upper ones ovate, 8.5 × 2.5 cm, lower ones obovate, 8.5 × 3 cm. Leaf apex acute, margins undulate, leaf base sheathing the stem, veins 3. Inflorescence erect, up to 25 cm long, many-flowered. Flowers subsecund densely placed towards terminal end. Peduncle up to 15 cm long, terete, with 2 sterile amplexicaule bracts, up to 1.6 cm long. Pedicel with ovary 0.7 cm long, 0.13 cm thick. Flower pale yellowish-green, odourless. Floral bracts ovate, acute to slightly acuminate, 0.8 × 0.3 cm, pale green, shorter than ovary. Dorsal sepal, pale green, ovate-elliptic, margin entire, 0.2 × 0.15 cm. Lateral sepal oblong-ovate, oblique, 0.25 × 0.15 cm. Petals obliquely ovate-elliptic, 0.25 × 0.2 cm. Lip 0.43 × 0.35 cm, pale green, 3-lobed, succulent, continuous with column, small transverse callus near the base. Base 0.18 cm broad. Mid-lobe green, obtuse-oblong, 0.25 × 0.13 cm. Side lobes thinner and shorter than mid lobe, elliptic-oblique, 0.2 × 0.07 cm. Spur slightly shorter than ovary, 0.5 cm long, elongated, clavate with longitudinal ridge towards the lower swollen end. Column 0.1 cm long, globular. Stigmatic lobes clavate, connate to the walls of hypochile along with staminodes, not protruding outside. Ovary 0.7 cm long, sessile, close to rachis, ridged. Anther locules tending to converge at both ends, obpyriform, antherophores absent. Pollinia pyriform, caudicles very short or absent, viscidium ovoid. Figs 1 and 2.

DISTRIBUTION. Netarhat Valley, Latehar Distr., Chotanagpur, Jharkhand, India.

SPECIMEN EXAMINED. INDIA. Jharkhand: Latehar, Netarhat, 8 Aug. 2005, Pankaj Kumar 051039 (holotype WII!).

HABITAT. On shady (85% canopy cover) hill slopes of a *Shorea robusta* Roth (Dipterocarpaceae) dominated



Fig. 1. *Peristylus sahanii* A plant with inflorescence; B plant in vegetative condition; C inflorescence (front view); D inflorescence (side view); E single flower; F dissected floral whorls; G gynostemium; H pollinarium. All from Pankaj Kumar 051039 (WII). DRAWN BY PANKAJ KUMAR.



Fig. 2. *Peristylus sahanii*. A plant with inflorescence; B inflorescence (front view); C inflorescence (side view); D plants; E single flower; F dissected floral whorls. (Pankaj Kumar 051039, WII).

Table 1. A comparison of *Peristylus stocksii* and *Peristylus sahanii*.

Character	<i>Peristylus stocksii</i>	<i>Peristylus sahanii</i>
Leaves	Clustered	Scattered towards lower half of stem
Leaf apex	Acute or acuminate	Acute
Tubers	Oblong-ellipsoid	Subglobose
Inflorescence	Secund	Subsecund
Flowers	Yellow	Yellowish-green
Floral bracts	Longer than ovary	Shorter than ovary
Lateral sepal	Linear-oblong	Oblong-ovate
Dorsal sepal	Elliptic	Ovate-elliptic
Dorsal petal	Ovate-obtuse	Obliquely ovate-elliptic
Lip	Shorter than sepals	Longer than sepals
Sidelobes of lip	Spreading sideways, margin minutely retuse towards the apex	Spreading downwards, margin entire throughout.
Distribution	Concan and Mysore	Chotanagpur

forest in association with *Murdannia edulis* (Stokes) Faden (Commelinaceae); 450 m.

CONSERVATION STATUS. This species is assessed as Critically Endangered CR B1a; D following IUCN (2001).

PHENOLOGY. August – September.

ETYMOLOGY. The species name is derived from the surname of first author's father, Mr K. L. Sahani who motivated him to explore the forests of Jharkhand for the survey of orchids and although being an engineer, even accompanied him on several field trips.

NOTE. The species appears to be similar to *Peristylus stocksii* (Hook. f.) Kraenzl. (syn: *Habenaria stocksii* Hook. f.) through comparison of the type specimen with the type description of *P. stocksii* in Hooker (1890) and Kraenzlin (1898). Digital images of herbarium sheets in K (*Stocks* s.n., *Stocks* 173 and *Ritchie* 1398) were also examined to help determine the differences (Table 1). A key to the *Peristylus* species of the Chotanagpur Plateau is given below.

Key to the identification of *Peristylus* of the Chotanagpur Plateau

- 1a. Spur scrotiform or globose, flowers white or plate white
 - 2a. Lip trifid to the middle, lobules of almost equal length *P. constrictus*
 - 2b. Lip trilobed to one-fourth of the length, lateral lobules broad.
 - 3a. Tubers glabrous, leaves membranous, lip with short ciliate callus near the base *P. lawii*
 - 3b. Tubers hairy, leaves ± coriaceous, no ciliate callus on lip base
 - 4a. Basal half of the lip concave forming a pouch with a wide opening into the spur *P. affinis*
 - 4b. Basal half of the lip almost flat with a minute opening into the spur *P. goodyeroides*
- 1b. Spur elongated with broad end, flowers yellowish-green *P. sahanii*

Acknowledgements

The authors wish to thank the Director and Dean, WII, Dr C. Sathish Kumar, Coordinator, All India Co-ordinated Research Project on Taxonomy of Orchids, Dr J. R. Bhatt, Director, GOI-MOEF and Dr David Scherberich, Botanical Garden of Lyon, France for helping us in various ways. We also thank Dr Phillip Cribb, Royal Botanic Gardens, Kew and Dr J. F. Veldkamp, National Herbarium of the Netherlands for the latin diagnosis.

References

Govaerts, R., Campacci, M. A., Baptista, D. H., Cribb, P. H., George, A., Kreuz, K. & Wood, J. (2008). *World Checklist of Orchidaceae*. The Board of Trustees of the Royal Botanic Gardens, Kew. Published on

the Internet; <http://www.kew.org/wcsp/monocots/> accessed 10 March, 2008; 14:34 IST.

Haines, H. H. (1924). *A Botany of Bihar and Orissa* 5. Allard & Son & West Newman Ltd, London.

Hooker, J. D. (1890). Orchidaceae In: *Flora of British India* 6: 1 – 198. Ashford, Kent.

IUCN (2001). *IUCN Red list categories: version 3.1*. IUCN Species Survival Commission, Gland, Switzerland & Cambridge, UK.

Kraenzlin, F. W. L. (1898). *Orchidacearum genera et species* 1. Berlin, Mayer & Müller.

Kumar, P., Jalal, J. S. & Rawat, G. S. (2007). Orchidaceae, Chotanagpur, state of Jharkhand, India. *Check List* 3(4): 297 – 304.

Misra, S. (2007). *Orchids of India: A glimpse*. Bisen Singh Mahendra Pal Singh, Dehradun.