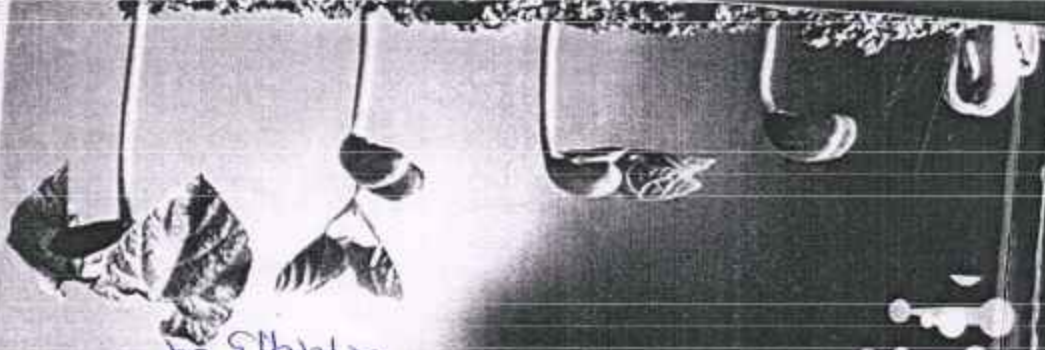


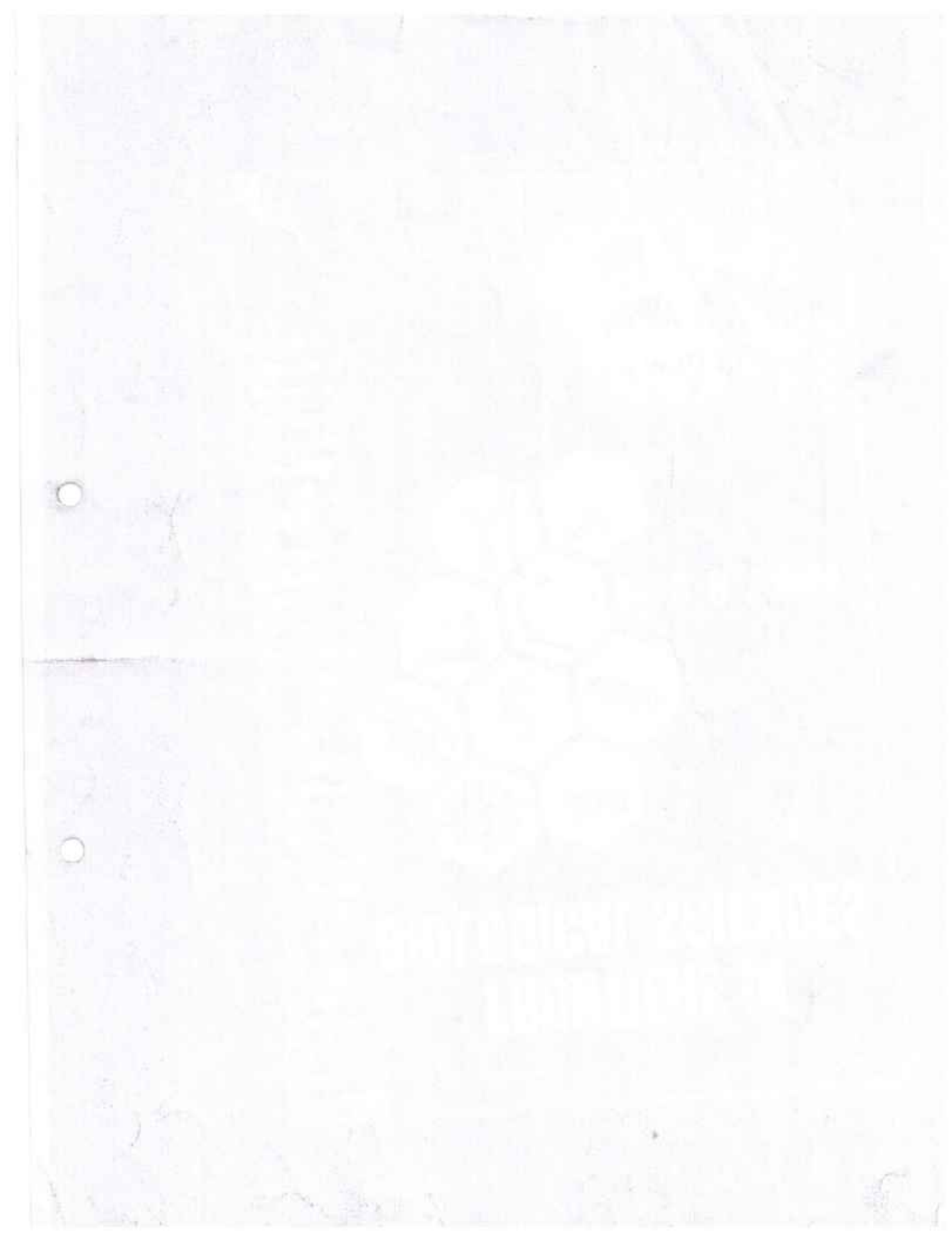
# FRONTIERS IN BIOLOGICAL SCIENCES

DR. S. G. YADAV



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TAXONOMY & DIVERSITY OF LOPHARIA FROM  
KINWAT (NANDED) DISTRICT MARATHWADA,  
MAHARASHTRA.

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**Abstract :** Lopharia is the genus form order Aphyllophorales with more than 13 species. Fruit bodies of Lopharia are crust like to effused reflexed. Only a valid sp. Have been reported from India. But the present study reports 03 sp. The sp. are each described and the fruit bodies, spores, cuts are illustrated.

**Key words :** Aphyllophorales – polyporaceae – Marathwada – Kinwat and Nanded Districts.

**Introduction :** The genus Lopharia S.S., Typified by *L. lirelliosa* Kalchbr and Macown (Radium mirabile berk and broome), is characterized by a dimittic hyphal system with clamped generative hyphae, large basidia and Basidiospores and large, encrusted, hyaline, thick walled cystidia (Hjortstamana Ryarden 1990, Boidin and Gilles 2002, Bernicchia and Garjon 2010). Hjortstum and Ryvarden (1990) accepted only *L. cinerascens* (Schwein) G cunn. and *L. mirabilis* (Bark and broome). Pat and Boidin and Gilles (2002) additionally accepted *L. Pseudocinerascens* Boidin and Gilles. Waden (1975, 2010) adopted a broad interpretation of Lopharia that included species of porostereum pilat. A few phylogenetic studies that have included Lopharia S.S. and porostereum spadiceum (pors.) It Jortstem and Ryvarden (generic type) showed that they are distinctly related (Ko et al. 2001, Yoon et



et al. 2007, Wu et al. 2007, Jang et al. (2010). Both genera are included in the polyporales with Lopharia in the polyporaceae and poroderam in the phanerochaetae (Justo et al. 2017).

**Materials and methods :** Collection of the samples was done

from various locations from Parbhani and Nanded district.

For the morphological details, thin, hand sections were taken from cuts, contexts from the tube layer of each sample respectively spores were isolated from a block and

the hyphae, the sections materials was treated with 10% KOH, washed with water and stained with 1% phloxine. These

sections were again washed with water and finally stained with cotton blue. All the preparations were semi permanent. The

slides were observed under Bausch & Lomb compound microscope having a combination of 10x eyepiece is 10x, 45x

and oil immersion (ie. 100x) objectives.

The spores were observed under olympus Bx-40 at 100x objective with phase contrast and the dermis sections at

40x objective of the same photographs were taken using Olympus Bx-40 attached with photomicrography unit.

#### Results :

An artificial key was prepare to differentiate the

collected sp for the segregations and assignment of correct taxonomic identy to the samples keys of different authors viz,

Bakshi (1971), Steyer (1972, 1980), Ryvarden and Johnsen (1980), Gilbertson and Ryvarden (1986), Aotlich and Wright (1999) and Ryvarden (1995, 2000) were used.

#### Key to species :

1. Hyphal system monomitic --- 2
1. Hyphal system dimittic with skeletal hyphal --- 4
2. Spores longer then 10 cm, cystidia, thick - walled, skletocystidia absent - C. Cimerascens.





2. Spores upto 8cm long; thick walled cystidia present or absent, skelecystidia always present - 3
3. Thick - walled cystidia present; spores broadly ellipsoid to aoid, upto 6 cm wide, cuticle on abhymenial side - L. Papyracea.
3. Thick walled cyastidia absent; spores ellipsoid, upto 4 cm broad; cutical on the abhymenial side absent l. Fulva.

### Species description :

*Lopheria cinerascens* (schw) cum. trans. Roy. Soc. N.Z. 83:622, 1956; *Thelephora cinerascens* schin. Trans. polyporal Fungi Amer. Phil soc. 4 : 1832.

Basidiocorps : coriaceous, often resupinate and effused up to 120 x 30 mm, some times refluxed, refluxed portion 2-10 mm. Upper surface : strigose hairy; brownish grey to greyish black, concentrically sulcate, often lateraly confluent. Margin : thin loosely adnate, paler entire; hymenial surface : Cinnamon to violaceous, brown smooth to some what rough with cystidia, context upto 50 cm thick, excluding the hairy covering, subhyalms to pale ferruginous, cutical bearing tomentum on the abhymenial side, hyphal congitudinally interwoven, thick walled, developing zone with numerous cystidia.

Hypal system : Dimintic; generative hyphae: upto 4 cm wide, septate, clamps absent, thin walled such-hyaline skeletal hyphae : upto 5cm wide thick walled, unbranched brown, tomentum hyphar unbranched, dark brown, thick walled; Cystidia : Large subconical to subfusiform, thick walled 100-150 (200) x 12-20 cm emerging up to 70 cm beyond hymenial layer, heavily, encrusted, often brownish at the base; Basidia 12-20 x 4-6 cm, 4 spore; spores 10-12 (11) 6-7 cm, white, broadly ellipsoid, smooth, thin walled nonamyloid.

Habitat : at on coniferous branch unknown rot.





Specimens examined : on dead woods of *nelonix regia* (mu - 436).

**Remarks :** Asia, East Africa, Thailand, Indonesia, Japan, Pakistan, Brazil, India.

*Lopharia papyracea* (Jungb) : Reid Kew Bull. P. 131, 1957; *thelepho papyracea* (Jungb) Fl. cryd. Java Ins. 36 : 1838; *sterium percome* Berk and Br. J. Cinn Soc. Land 14 : 65, 1873. Basidio carp : Coriaceous, resupinate to effused - reflexed, widely effused upto 150 x 50 mm 300-600 cm thick; upper surface : yellowish to cinnamon, brown, smooth, occasionally cracking irregularly on drying; margin; thick, loosely adnate to after reflexed, concolorous; context; brown, composed of compactly arranged parallel hyphae, forming a dark brown cutical on the adhymental surface.

Hyphal system : dimitic; generative hyphae; upto 4 cm wide, branches separate thin walled hyaline, skeletal hyal upto 4 cm wide; cystidia 4-90 (10) x 10-15 cm, sup-fusiform projecting 45 cm out of the hymonium, thick-walled, heavily encrusted; selecto cystidia; present as the elongation of the skeletal hyphae which curve into hymenium; light brown - thick - walled; Basidia : not sear; spores : 7-8-5 x 4-6 cm, avoid to broadly ellipsoid, thin - walled smooth non amyloid.

Habitat : On rotting hard wood stump : unknown rot specimens examined : on rooting hard wood stump of lagers *troetmia reginae* (MU-12)

Remarks : Japan, New Zealand, Australia, Indonesia, south east Asia, Europe, America, Mexico, India, USA, Brazil, Asia, Kenya, Poland.

*Lopharia fulva* (Lev.) Boidin Bull. Soc. Linn. Lyon 28 : 2013, 1959; *thelephora fulva* lev. Ann. Soc. Nat. Bot 5 : 149, 1846; *sterium schomburgkii* Berk. J. Linn. Soc. Bot. 13 : 168, 1873. Basidiocarps : annual, resupinate, effused reflexed to pileate, membranous, adnate resupinate patches, often arising as small orbicular colonies which may coalesce later and



become widely effused, upto 1mm, thick reflexed portion, upto 20 mm long and broad, flabelliform to umbonate; upper surface: camel brown to medium brown, tomentose azonate to concentrically zonate; hymenial surface: greyish brown, smooth to some what rough; context: pale brownish, composed of compactly arranged hyphae, not forming cuticle on the abhymenial side.

Hypal System: dimitic; generative hyphae; upto 4.5 cm wide branched septate, thin walled, hyphae; skeletal hyphae; 5-6 cm wide unbranched, walls brownish, thick-walled, cystidia: absent, skelecto cystidia present as the prolongations of skeletal hyphae curving into the hymenium, uncrusted or minutely incrusted especially near the apices only: Basidia; 30-40 x 6-7 cm, clavate, 4-spored; spores: 7-7.5 (8) x 3-4 cm, ellipsoid thin walled smooth, non amyloid.

Habitat: On rooting hard wood stump: unknown rot.

Specimens examined: On rotins, hard wood stamp of layers

Troemia reginae.

Remarks: Indonesia, Japan, America, Austria, Europe, Brazil, Mexico, U.S.A., India, Pakistan, South Africa.

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