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Genus *Lecanidion* from India

R.S. Deshmukh[1*], R.R. Rakh[2], S.M. Dalvi[2], A.M. Khole[1], G.H. Balde[2] and S.S. Bodke[2]

[1]*Department of Botany and Zoology, B. Raghunath College, Parbhani, India*
[2]*Department of Microbiology Botany and Zoology, Shri G. B. Mahavidyalaya, Purna (Jn.), india*
[3]*Department of Botany, Yeshwant Mahavidyalaya, Nanded, (M.S.), India*

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*Corresponding Author

Tel : +91-9922758556
Fax : +91-9922758556

Email: ravindra.rakh@rediffmail.com

Abstract

The present paper deals with the taxonomic position of the genus *Lecanidion* Endl. and its distribution in India. The genus is at present represented by 9 species in India with the inclusion of 3 new species by authors viz. *L. caesalpinae* sp. nov., *L. devigiriana* sp. nov., and *L. euphorbae* sp. nov. Out of 9 species 6 species are reported from Maharashtra state.

Key Words: *Lecanidion* Endl., India, *L. caesalpinae* sp. nov., *L. devigiriana* sp. nov., and *L. euphorbae* sp. nov.

Introduction

Many species of the genus were described under the generic name *Patellaria* by Fries. However Butler [1] has invalidated the genus *Patellaria* Fr. and merged it in Endlerian genus *Lecanidion* raised in 1830. Clements and Shear [2] have considered it as member of order *Pezziales* of *Discomycetes* class. Butler [1] treated it in the family *Patellariaceae* of order *Dothiorales*. Luttrell [4] placed it in family *Patellariaceae* and shifted family *Patellariaceae* to order *Hysteriales*. However wide opening of the Ascocarp and Excipulum formed by parallel hyphae suggest its inclusion in the family *Helotiaceae* of the order *Helotiales* as suggested by Dennis [3].

The genus *Lecanidion* is characterized by having apothecia superficial, cupulate, disciform to ovoid opening by longitudinal cleft, black, carbonaceous, membranous to somewhat hard, usually separate. Excipulum formed by growing paraphyses at the apex. Asci cylindrical, bitunicate, pedicillate, 8 – spored. Ascospores hyaline, elliptic, fusoid, many celled, transversely septate; paraphyses many, hyaline, septate, and branched at the tip.

Material and Methods

Specimens were collected on dead stems of *Caesalpinia bonducella*; on decorticated wood of *Acacia Arabica* L. at Kinwat; and collected on dead stems of *Euphorbia tirucali* L. at Navagarh, Dist. Parbhani, by Leg U. K. Talde, R. S. Deshmukh and R. R. Rakh. The transverse sections of apothecia were prepared and observed under microscope and by using Camera Lucida sketch of specimens made.

Observations

Description of the species

1. *Lecanidion atratum* (Hedw.) Fr. Comb. nov.(= Patellaria atrata (Hedw.)Fr.) *on Zizyphus mauritiana* Lam.

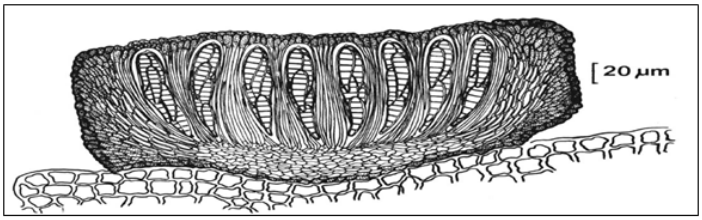

Figure 1: V.S. of Apothecium of *Lecanidion atratum*

2. *Lecanidion caesalpiniae* sp. nov.

Apothecia black, superficial, discoid, separate, measuring from 165-195 × 750-915µm, wall thin. Asci clavate, 8- spored,

many, bitunicate shortly stipitate to almost sessile, measuring from 108-122.4 × 14.4-18 µm, and paraphysate. Paraphyses branched at the tips, black, forming excipulum. Ascospores hyaline, fusoid to ellipsoidal transversely multiseptate, biserate and measuring from 32.4-39.6 × 7.2-10.8 µm (Fig. 2).

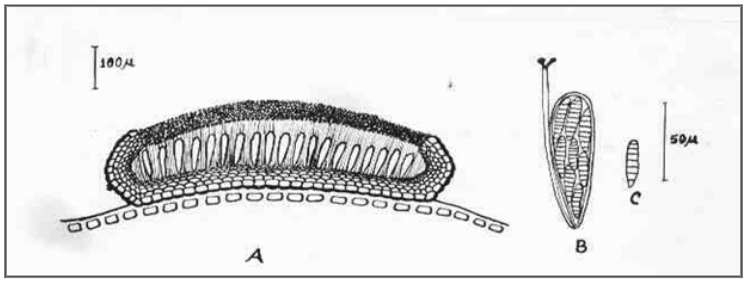

Figure 2: *Lecanidion caesalpinae* sp. nov. A) V.S. of Apothecium B) Ascus C) Ascospores

3. *Lecanidion combretii* (Tilak and Srinivasulu) comb. Nov. (= *P. combretii* Tilak and Srinivasulu).
4. *Lecanidion coorgicii* Anahosur.
5. *Lecanidion devigiriana sp.* nov.

Apothecia dark-black, superficial and based on a slightly raised foot, flattened, separate, measuring from 300-550 × 75 - 150 µm, apothecial wall thin. Asci 57-95 × 11.4 – 19 µm, many, arising from basal layer, cylindrical – clavate, sessile, bitunicate, 8 – spored, paraphysate, paraphyses branched at the tips and forming excipulum above the asci; Ascospores fusoid to obovate, larger at the upper end, 5-7 septate, irregularly biserate, measuring from 30.4 – 38 × 5.7 - 7.6 µm, hyaline (Fig. 3).

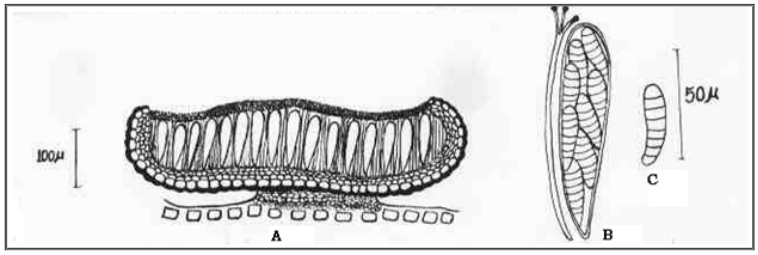

Figure 3: *Lecanidion devigiriana sp.* nov. A) V.S. of Apothecium B) Ascospores C) Ascus

6. *Lecanidion euphorbae* sp. nov.

Apothecia black, superficial, separate, discoid, raised in the centre, measuring from 135- 180 × 450 -540 µm in diameter. Asci many, clavate, stipitate, bitunicate, arranged in a layer on the exposed hymenium, measuring from 72 – 80 × 7-8 µm, 8- spored, paraphysate, paraphyses separate and branched, tip enlarged and black forming an excipulum. Ascospores hyaline, transversely septate, fusoid, biseriately arranged, measuring from 15 – 22.8 × 3.5 - 4 µm (Fig. 4).

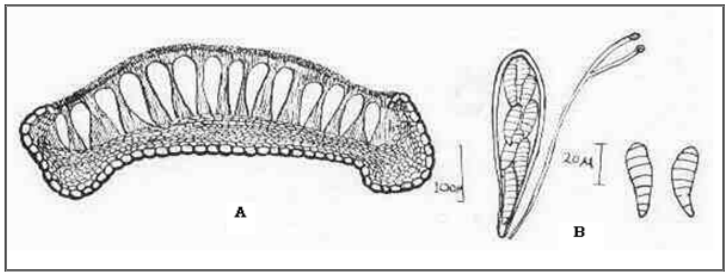

Figure 4: *Lecanidion euphorbae* sp. nov. A) V.S. of Apothecium B) Ascospores and Ascus

7. *Lecanidion glycomidis* (Tilak and Srinivasulu) comb. Nov. (= *Patellaria glycomidis* Tilak and Srinivasulu).
8. *Lecanidion ipomoeae* (Ramchandra Rao) comb. nov. (= *Patellaria ipomoeae* Ramchandra Rao).
9. *Lecanidion lantanae* (Ramchandra Rao) comb. nov. (= *Patellaria lantanae* Ramchandra Rao).

Discussion

The genus was established by Endlicher (1930). While Fries et al. described its several species under the name *Patellaria*. Butler invalidated genus *Patellaria* and made synonym of the *Lecanidion*. Butler's view was supported by Luttrell [5], Dennis [3] and Muller and Arx [5].

The genus is at present represented by 9 species in India with the inclusion of 3 new species by authors viz. *L. caesalpinae* sp. nov., *L. devigiriana* sp. nov., and *L. euphorbae* sp. nov. Out of 9 species 6 species are reported from Maharashtra state (Ramchandra Rao, [6]; Tilka and Srinivasulu [7].

A comparative account of the *Lecanidion sp.* is given in following table 1 and key for identification of Indian *Lecanidion sp*.

Species	Apothecia	Asci	Ascospores
L. atratum (Hedw.) Fr. *on Zizyphus mauritiana* Lam.	330—570 µm × 180—225 µm	95—144 µm × 11.4—15.2 µm	22.8—30.4 µm× 5.7—7.6 µm
L. caesalpiniae sp. nov. on *Caesalpineae bonducella* Flem.	750—915 µm × 165—195 µm	108—122.4µm × 14.4—18µm	32.4—39.6µm × 7.2—10.8µm
L. combretii Tilak and Srinivasulu on *Combretum ovulifolium* Roxb.	395—450 µm × 150—275 µm	100--120 µm × 16—20 µm	30.5—76 µm × 5.5—7.6 µm
L. coorgicii Anahosur. on *Grevillea robusta* Cunn.	900—1190 µm × 180---200 µm	62—71.4 µm ×12—16 µm	29.4—32.4 µm× 3—5 µm
L. devigiriana sp. nov. on *Acacia arabica* L.	300—550 µm × 75—150 µm	57—95 µm × 11.4--19 µm	30.4—38 µm × 5.7—7.6 µm
L. euphorbae sp. nov. on *Euphorbia tirucali* L.	135—180 µm × 450--540 µm	72--80 µm × 7.5--8 µm	15—22.8 µm × 3.5—4 µm
L. glycomidis Tilak and Srinivasulu on *Glycomidis pentaphylla* Corr.	300—450 µm × 250--275 µm	57—90 µm × 15.2--19 µm	42—90 µm × 5.5—9.5 µm
L. ipomoeae Ramchandra on I*pomoea sp.*	930—1015 µm × 225-375 µm	88—96 µm × 12—16 µm	31--40 µm × 6—8 µm
L. lantanae Ramchandra Rao on *Lantana camara* L.	525—600 µm × 150—300 µm	68--76 µm × 15—20 µm	25—34 µm × 4—6.4 µm

Key to the Indian species of Lecanidion

A: Apothecia up to 550 µm in diameter.

1. Asci up to 95 µm

X: Ascospores up to 30 µm in length. --- *L. euphorbae.*

Y: Ascospores up to 30—40 µm in length. --- *L. devigiriana*.

Z: Ascospores up to 40—90 µm in length. --- *L. glycomidis*.

2. Asci 95—120 µm in length.

X: Ascospores up to 30 µm in length. --- *L. atratum*.

Y: Ascospores 30—76 µm in length. --- *L. combretii*.

B: Apothecia from 550 µm—1 mm in diameter.

1. Asci up to 76 µm in length --- *L. lantanae*.
2. Asci up to 76—95 µm in length --- *L. ipomoeae*.
3. Asci more than 95 µm in length --- *L. caesalpiniae*.

C: Apothecia more than 1 mm in diameter. --- *L. coorgicii*.

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