

# PROPOSED TITLE FOR Ph.D.

## PTERIDOPHYTIC FLORA AND MICROPROPAGATION OF SOME RET FERNS OF PUSHPAGIRI WILDLIFE SANCTUARY, KARNATAKA

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Registered at

Savitribai Phule Pune University, Pune

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AAP Project

**ANNUAL ACTION PLAN PROJECT**

**Pteridophytic Flora of “Pushpagiri Wildlife Sanctuary, Karnataka with 10% Periphery**

**2016-2020**

**D. JESUBALAN,  
Botanical Assistant  
(Date of Joining: 01.07.2015)**



**Under the Guidance**

**Dr. A. Benniamin, Scientist - D  
Botanical Survey of India  
Western Regional Centre, Pune**

# STUDY AREA

- Western Ghats is a continuous chain of 1600 km which starts from Kanyakumari in Tamil Nadu and ends with Tapti hills in Gujarat
- Pushpagiri Wildlife Sanctuary is one among 21 Wildlife Sanctuaries, located in Somwarpet taluk of the Kodagu District, Karnataka, between 12°25' to 12°40' N latitude and 75°39' to 75°45' E longitude
- The sanctuary was demarcated out of Kadamakkal Reserved Forests and was declared as sanctuary on 31st August 1987 (Karnataka Government Notification No. AHFF.173.FWL.87(1)).
- The Kadamakkal reserve forest is a part of the sanctuary. In which Pushpagiri is the highest peak in it. Kumaraparvatha is the other peak that lies within it. The sanctuary adjoins Bisle reserve forest to the north and Kukke Subramanya forest range to the west
- The sanctuary has a thick cover of evergreen forests, semi – evergreen forests and grassland shola habitat with great altitudinal variation ranging from 160 m to 1712 m above mean sea level, spread over 102.59 km<sup>2</sup>.
- The Pushpagiri Wildlife Sanctuary has also been proposed as one of the World Heritage Site

# PUSHPAGIRI WILDLIFE SANCTUARY



Courtesy: Mr. Paul Antony, RFO

# FIELD TOUR TO PUSHPAGIRI WLS

- One field tour was undertaken to different forest areas of Pushpagiri Wildlife Sanctuary from 25th September to 15th October- 2016
- Altogether collected 67 field nos from PWLS. During collection I have recorded all the details like ecology, altitude, latitude and longitude
- Identified 25 species from previous collections. Remaining identified as genus level
- Also collected 9 species from the field tour namely *Adiantum raddianum*, *Adiantum concinnum*, *Pteris biaurita*, *Tectaria coadunata*, *Asplenium nidus*, *Elaphoglossum beddomei*, *Grammits pilifera*, *Pyrrosia lanceolata* and *Doryopteris concolor* for *ex situ* conservation. 60% of plants are growing well in the garden

# TWO NEW RECORDS FOR KARNATAKA

- After critical study and perusal of literature two species namely

*Elaphoglossum beddomei* Sledge (Lomariopsidaceae), endemic to Western Ghats of India were recorded as new for the state

*Pellaea boivini* Hook. (Sinopteridaceae) new addition to Karnataka

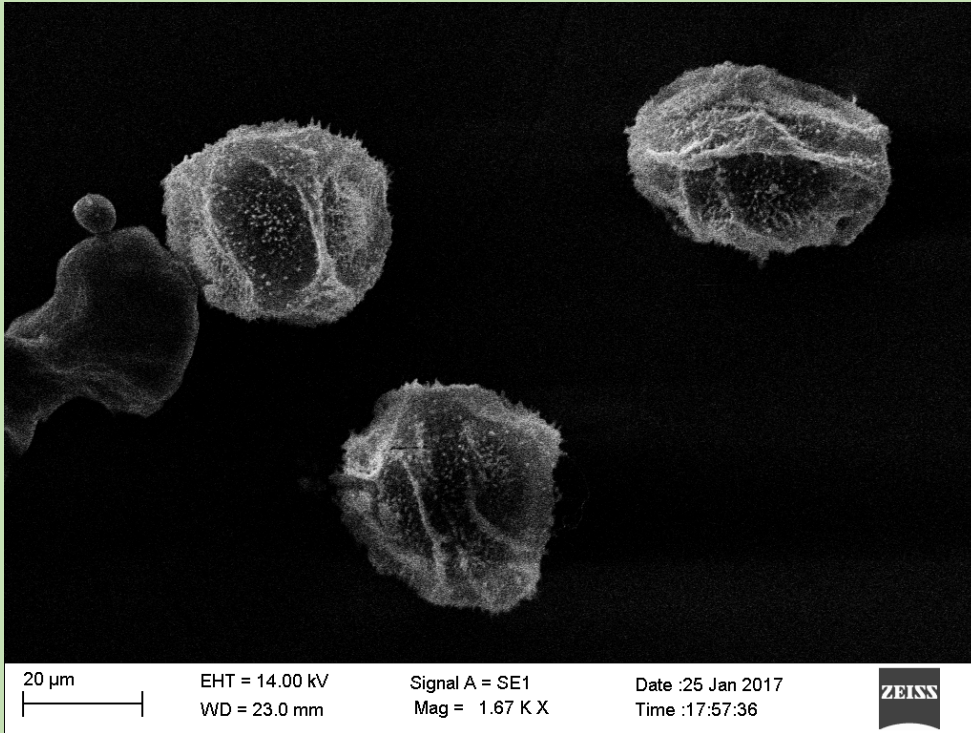
- Also spore morphology were studied for newly recorded species under Scanning Electron Microscope (SEM)



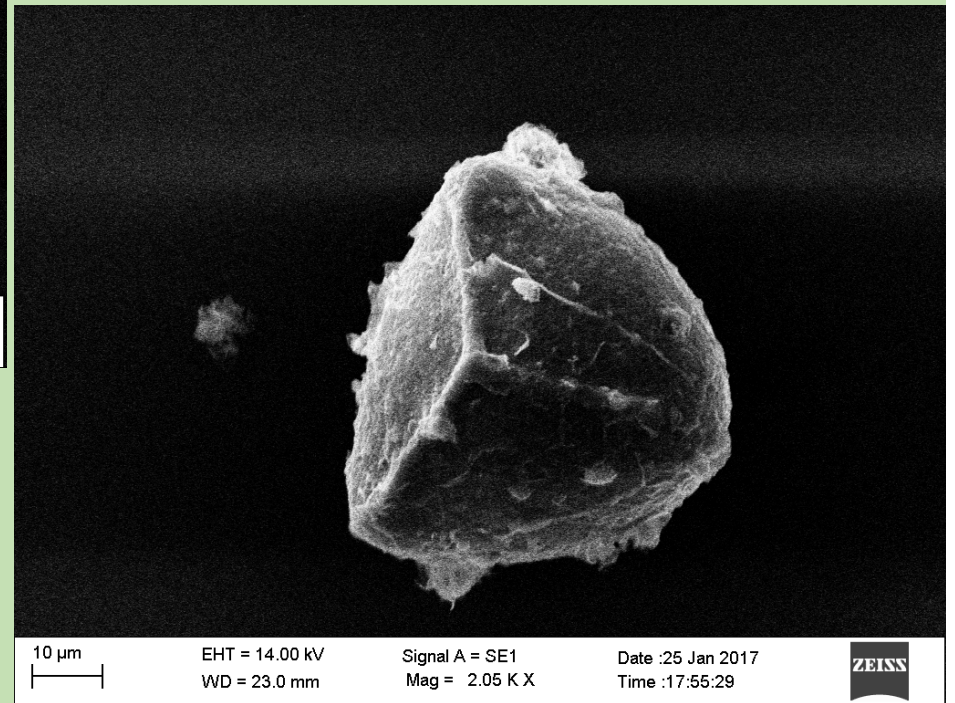
*Elaphoglossum beddomei* Sledge  
(Lomariopsidaceae)

**New Record to Karnataka**





## Spores- Thick Irregular Perine





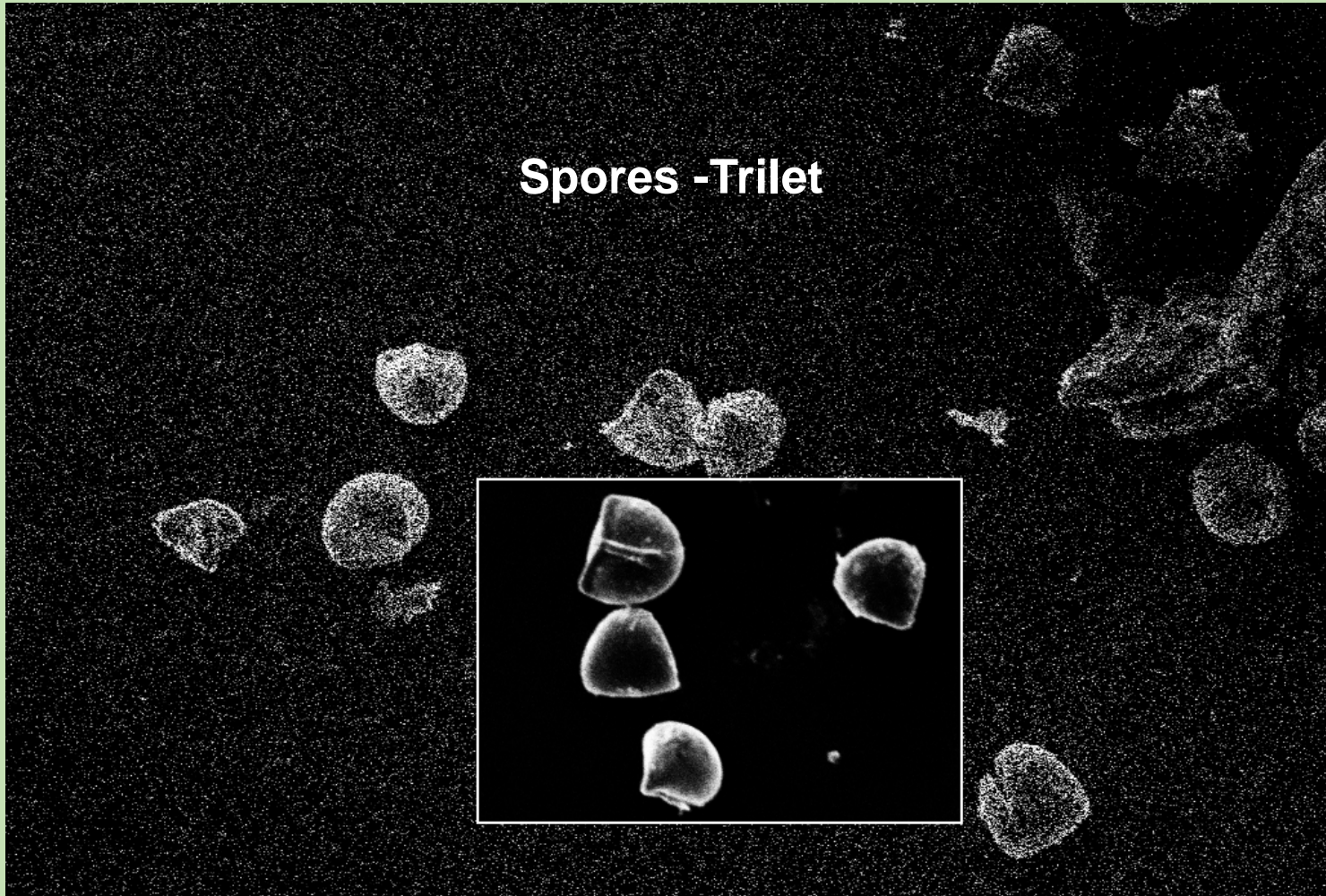


*Pellaea boivini* Hook.  
(Sinopteridaceae)

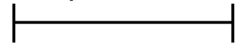
**New Record to Karnataka**



# Spores -Trilet



100  $\mu$ m



EHT = 15.00 kV

WD = 24.0 mm

Signal A = SE1

Mag = 406 X

Date :20 Oct 2016

Time :16:29:02



## OTHER OFFICIAL WORKS

- Maintenance of Dicot Herbarium (Hall 1), - Labeling and arranging the herbarium in appropriate pigeon hole, according to Flora of Maharashtra
- Documentation of Dicot herbarium (Hall 1) and Pteridophyte herbarium housed at Botanical Survey of India, Western Regional Centre, Pune for Digitalization
- Assisting in authentication of plant specimens
- Assisting students and researchers for the consultation of herbarium housed at BSI, WRC, Pune
- Assisting the scientists during educational tour visit (schools, colleges and different stakeholders) to the Laboratory, herbarium, library, museum and garden of BSI, WRC, Pune

## SUMMARY

- Numbers of project carried out : One
- Numbers of papers published : Four
- Number of New record for the state of Karnataka : Three

## FUTURE PLAN

- To develop a standard protocol for some RET ferns species from PWLS
- To conserve the RET species through Micro propagation via spore culture and tissue culture
- To develop a Data base for Pteridophytic flora of PWLS

# ACKNOWLEDGEMENTS

- The Director, Botanical Survey of India
- Dr. P. Lakshminarasimhan, HoO BSI, WRC, Pune

Thank you

