

## BLUE GREEN ALGA *SCYTONEMA PSEUDOPUNCTATUM* SKUJA ON THE SURFACE OF *CINNAMOMUM* LEAVES

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Tropical rain forest 'Agumbe' is popularly known as "Cherrapunji" of the South India<sup>1</sup> receives a mean annual rainfall of 7,640 mm<sup>3</sup>. It is the home of the Agumbe Rainforest Research Station, the only permanent rainforest research station in India<sup>2</sup>. An area near Agumbe has been converted into a protected area for Medicinal Plants to help in their conservation. On 22 November 2009, plant collectors Mr. Ravi Shankar and Mr. Ganpathy observed black furry spots on the ventral surface of *Cinnamomum* leaves (Indian bay leaves), which were growing in Agumbe Reservoir forest of Shimoga district in Karnataka state of India. The plant collectors collected the leaves thinking that they are foliose lichen spots (Plate I. Fig. A).

Microscopic observations revealed that the organism is a blue green alga *Scytonema*. The filamentous organization was broad, long filaments with occasional false branching with heterocysts and the organism identified as *Scytonema pseudopunctatum* Skuja (Plate. I, Fig. B)

### Taxonomic Description

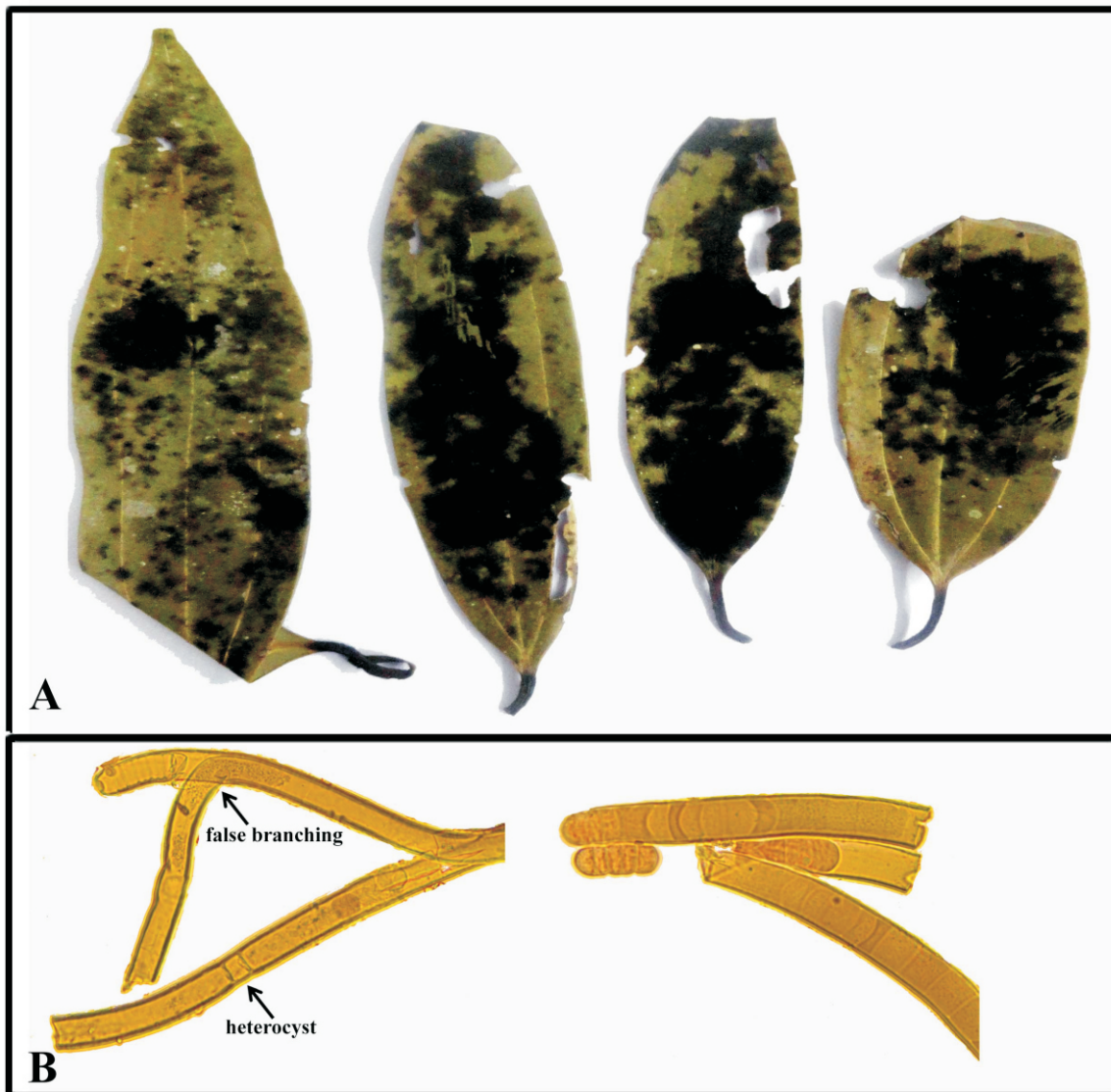
Thallus expanded, olivaceous to blackish and attached to the substratum and leaf surface, Filaments partly prostrate, mostly erect, false branched, rarely solitary, generally short, sheath moderately thick and parallel lamellation, close, yellowish brown. Cells commonly constricted at the cross- walls. Heterocysts cylindrical with rounded ends. Cells 13-18 µm broad, 10-12 µm

long, heterocysts 10µm broad and 12 µm long (Desikachary 1956)

In our observations nitrogen fixing heterocystous blue green alga (Cyanobacteria) was growing epiphyllously on the ventral surface of the *Cinnamomum* leaf. *Cinnamomum tamala* belongs to Lauraceae family, also called tejpatta or Indian bay leaves which are extensively used in Indian cuisines for its aroma and medicinal properties. The *Cinnamomum* leaf's uses and properties include being a stimulant to a slow digestion, relieve flatulence and spasms and combat intestinal infection. Respiratory and circulatory stimulus is reported as well as aiding rheumatic problems and chest infections. In all collected leaves, spots were present on the ventral surface only. Freiberg (1999) reported occurrence of phylloshere cyanobacteria *Scytonema* in a premontane rain forest of Costa Rica.

Blue green alga *Scytonema* gets full sun light and moisture from the leaf transportation process. Host leaf creates a congenial surface atmosphere for the growth of alga. This alga was not a pathogen on the host. Growth of *Scytonema* on the surface of *Cinnamomum* leaf was epiphyllous and it is the first report from Indian sub-continent.

Authors are thankful to specimen collectors Mr. Ravi Shankar and Mr. Ganpathy. Dr. D.K. Upreti is acknowledged for providing the material. Authors express their gratitude to Director for all the encouragement and necessary facilities.

A. Algal spots on the surface of *Cinnamomum* leavesB. Blue green algae *Scytonema*

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