



## GENUS CHOMATRICHA PREUSS FROM MANUDEVI FOREST DIST .JALGAON, MAHARASHTRA (INDIA)

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### Abstract

*During the floristic study of the myxomycetes of this region author come across a number of myxomycetous species. In the present paper three species of the genus Chomatricha Preuss are being described for the first time from this region i.e.1. Chomatricha longa Peck. 2. Chomatricha longipila Nann. Brem. and 3. Chomatricha typhoides (Bull) Rost.*

**Key Words:** *Myxomycetes, slime moulds.*

### Introduction

The Myxomycetes or 'the true slime – moulds' are the fungi like organisms, possess an assimilative phase of free living, multinucleate, mobile mass of protoplasm called as the plasmodium, and a sporulating phase consisting of a mass of spores typically borne in a simple or complex membranous or tough, non-cellular spore case. In addition to spores, often there is a system of free or netted threads forming a capillitium or pseudocapillitium. Manudevi forest the region under investigation is very rich in biodiversity-constitute the districts Jalgaon. The study of myxomycetes was practically neglected from this region. Hence, it was felt to undertake the study.

### Materials And Methods

The present work is based on myxomycetous floristic exploration from the region. An extensive and intensive field work was undertaken to collect the maximum number of specimens of myxomycetes. Visits to different localities were made frequently. Localities for visit were selected so as to cover the maximum representation of the area under investigation. Repeated visits were made to some of the localities for the collection of the specimens. Specimens were collected

along with their natural substrates. For the preservation of specimens, empty cigarettes boxes found to be very suitable, convenient, easily available, easy to handle and economical. Paper trays of the proper size were prepared so as to get it fit inside the box tray. As per the spreading of the specimen, its natural substrate was cut into suitable size and glued with the fevicol adhesive in the centre of the paper tray. Each box was provided with field notes of respective specimen. The accession number was written on the specimen box and on the paper tray also, and entered in accession register .After observation; specimen boxes were stored and placed in 'Generic' boxes provided with naphthalene ball to prevent insect entry. Generally specimen boxes were carried to the field to preserve the specimen intact. Sometimes because of heavy collection, specimens were brought to the laboratory on their natural substrate, in a special handling basket, so as not to disturb them. Then they were preserving.

In rainy season, the collected specimens were dried in the incubator or and oven at 40'o c. But sun drying was found to be most suitable for maintaining natural characters. Artificial drying sometimes leads to the shrinkage of weak

and flaccid stalk, hardening of wet sporangia and cracking of peridium. All the specimens were identified and confirmed with the help of Martin and Alexopoulos (1969) sometimes, Lister (1925), Hagelstein (1944), Farr (1976), were followed. Monographs on Indian Myxomycetes of Thind (1977), Lakhanpal and Mukerji (1981), were of almost indispensable for final confirmation. Concerned literature in this regards were also studied.

### Results And Discussion

#### 1. *Comatricha Longa* Peck

*Anna. Rep. N. Y. State Mus.* 43, 70, 1890.

Martin G.W. & C. J. Alexopoulos, **The Myxomycetes**, p. 231-232, 1969.

#### (FIG. 1)

Fructification sporangiate, stipitate, gregarious into a clusters, black, 5.4-14.9 mm in total height. Sporangia long, cylindrical with obtuse apex, bent or drooping, mostly sleeping on the substratum, 1.8-10.10 mm long. Stipe very short, erect or bent, black, shining, cylindrical, smooth, solid, opaque, 3.6-3.9 mm long. Hypothallus common to a patch, dark brown to black, shining, thin, membranous.

Peridium early evanescent. Columella continuation of the stipe, thin, slender subulate, black, tapering and flexuous upward, ending for below the apex of sporangium and ending into branches mostly apical portion without columella. Capillitium, arising from the entire columella, thick and anastomosing near columella forming a lax network with many, pointed free ends, black to violaceous brown. Spores black to dark brown in mass, deep violaceous brown under transmitted light, globose, 8.3-9.7  $\mu\text{m}$  in diam., profusely or uniformly verrucose or warted, warts arranged in lines forming reticulations of small meshes.

#### Collection Examined :

NVC/ 311, 312, 313, 314,, Aug. 2017, Manudevi Dist.- Jalgaon. On dry leaves and decaying wood.

**Distribution : India :** M. S. (Chimankar, 1993; Tembhrune, 2011) ; U. P. (Thind & Sohi, 1952) ; W. B. ( Thind & Dhillon, 1964).

*Comatricha longa* Peck, is distinguished by its drooping or pendent, black sporangia ; short stipe ; early evanescent peridium ; sparse or narrow capillitium, hypothallus dark brown to black and profusely and uniformly verrucose reticulate spores. *Comatricha longa* Peck is compared with *C. irregularis* Rex. However *Comatricha longa* Peck, is characterized by its sporangia drooping on the substratum, hypothallus common to a patch, spores deep violaceous brown under transmitted light with complete reticulation, Where as *C. irregularis* Rex, is marked by its sporangia bent or drooping above, hypothallus well developed, spores brown to dark brown under transmitted light with incomplete reticulation.

#### 2. *Comatricha Longipila* Nann.-Brem.

*Acta. Bot. Neerl.* 11: 31. 1962.

#### (FIG. 2)

Fructification sporangiate, stipitate, scattered to loosely gregarious, coffee brown to black, 0.7 – 1.7 mm in total height. Sporangia cylindrical or oval with obtuse apex, 0.59 – 1.3 mm long. Stipe thin, long, straight or bent, cylindrical, black, smooth, solid, opaque, 0.17 – 0.46 mm long. Hypothallus rotate, dark brown, smooth, thin, membranous, transparent. Peridium early evanescent, persistent at the base of sporangium only as a collar, thin, membranous, papery, transparent ; dehiscence irregularly. Columella is a continuation of stipe and concolorous to stipe, tapering upwards, reaching near the sporangial cavity. Capillitium abundant, arising from entire columella, thin, filamentous, dichotomously branched and anastomosed, with cross bars, ends pointed and free. Spores dark brown in mass, pale reddish brown under transmitted light, globose, 6.9 – 9.7  $\mu\text{m}$  in diam., minutely warted.

**Collection Examined :** NVC/ 325, 326, 327, 328, Sept. 2018, Manudevi, Dist. Jalgaon. On dry decaying wood.

**Distribution : India :** M. S. (Chimankar, 1993; Tembhrune, 2011)

*Comatricha longipila* Nann.-Brem., is characterized by its fructification scattered to gregarious ; sporangia

cylindrical or oval ; stipe thin, black, smooth ; peridium persistent at the base of sporangium only as a collar ; columella tapering upwards ; capillitium thin with cross bars, ends pointed and free ; spore minutely warted or spinulose. *C. longipila* Nann.-Brem. can be compared with *C. fimbriata* G. Lister & Cran. However *C. fimbriata* G. Lister & Cran., is characterized by its sporangia globose ; stalk subulate, fibrillose ; capillitium scanty ; spores minutely spinulose but paler and smooth on one side. The species is being described for the second time from the flora of India.

### 3. *Comatricha Typhoides* (Bull.) Rost.

In Lister, *Mycetozoa*, 120, 1894.

Martin, G. W. & C. J. Alexopoulos, **The Myxomycetes**, p. 239-240, 1969.

#### (FIG. 3)

Fructification sporangiate, stipitate, scattered to gregarious, dark violaceous brown to black, 2-3.3 mm in total height. Sporangia, cylindrical to ovate-cylindrical, straight or curved, 1.2-1.8 mm long, 0.12-0.21 mm in wide. Stipe short, stout, slender, erect, black, solid, silvery shining, 0.8-1.5 mm long. Hypothallus dark brown, rotate, thin, membranous. Peridium evanescent, thin, membranous, dehisces irregularly.

Columella is a continuation of stipe, narrow and flexuous above, reaching upto the top of the sporangium where it ends into few branches. Capillitium abundant, arising from the entire length of columella, primary branches thick, stout, dark brown, broader at the base, dichotomously branched, anastomosing towards the periphery, forming coarse net of large irregular meshes, with many free ends. Spore-mass coffee brown, pale violaceous or reddish brown under transmitted light, globose, 6.9-8.3  $\mu$ m in diam., warted, warts in groups forming clusters.

**Collection Examined** :NVC/ 317, 318, 319, 320, Oct.-2018; 321, 322, 323, 324 Sept. 2017, Manudevi, Dist.- Jalgaon. On dead and decaying wood.

**Distribution** : **India** : Assam (Agnihotrudu, 1957) ; H. P. (Thind &

Mann., 1960 ; Thind & Sekhon, 1962 ; Thind & Lakhanpal, 1965) ; Gujrat (Salunkhe, 1995) ; M. P. (Kharat, 2000) ; Karnataka (Indira, 1963) ; M. S. (Chinmankar, 1993; Tembhone, 2011) ; Orissa (Ghosh & Dutta, year of collection not given) ; U. P. (Thind & Sohi, 1952 ; Thind & Manocha, 1956).

*Comatricha typhoides* (Bull.) Rost., is distinguished by its species elongated, cylindrical to ovate cylindrical sporangia ; hypothallus membranous ; peridium fugacious ; capillitium stout, primary branches thick with secondary branches forming coarse net of large irregular meshes ; spore warted, warts arranged in groups forming clusters. *Comatricha typhoides* (Bull.) Rost., can be compared with *C. aequalis* Peck. However *C. aequalis* Peck is characterized by its fructification dark brown, hypothallus brown, spore dark purplish brown in mass and uniformly, warted.

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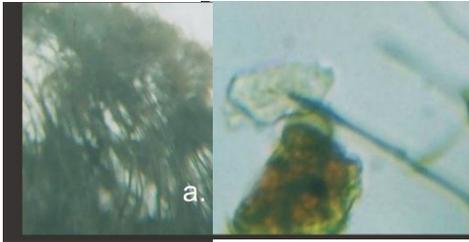
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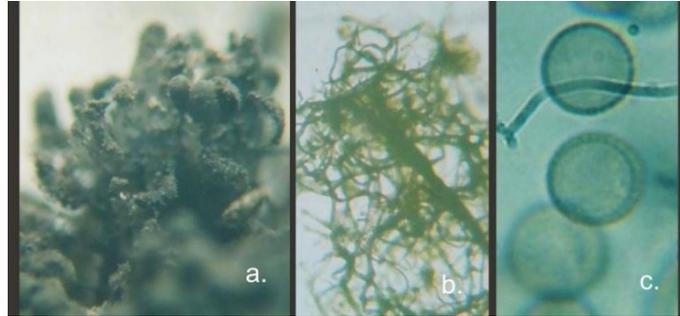
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1. *Chomatricha longa* Peck  
a. Habit b. Capillitium & Spores



2. *Chomatricha longipila* Nan. Brem.  
a. Habit b. Capillitium c. Spores



3. *Chomatricha typhoides* (Bull.) Rost.  
a. Habit b. Capillitium & Spores