

# **MODULE 7**

## **AIM**

The aim of this module is to provide students with the introduction to biological classification.

## **CONTENTS AND OBJECTIVES**

- Introduction
- History of classification
- R. H. Whittaker's five kingdom classification-
  - ✓ Kingdom Monera
  - ✓ Kingdom Protista
  - ✓ Kingdom Fungi
  - ✓ Kingdom Plantae
  - ✓ Kingdom Animalia

# BIOLOGICAL CLASSIFICATION

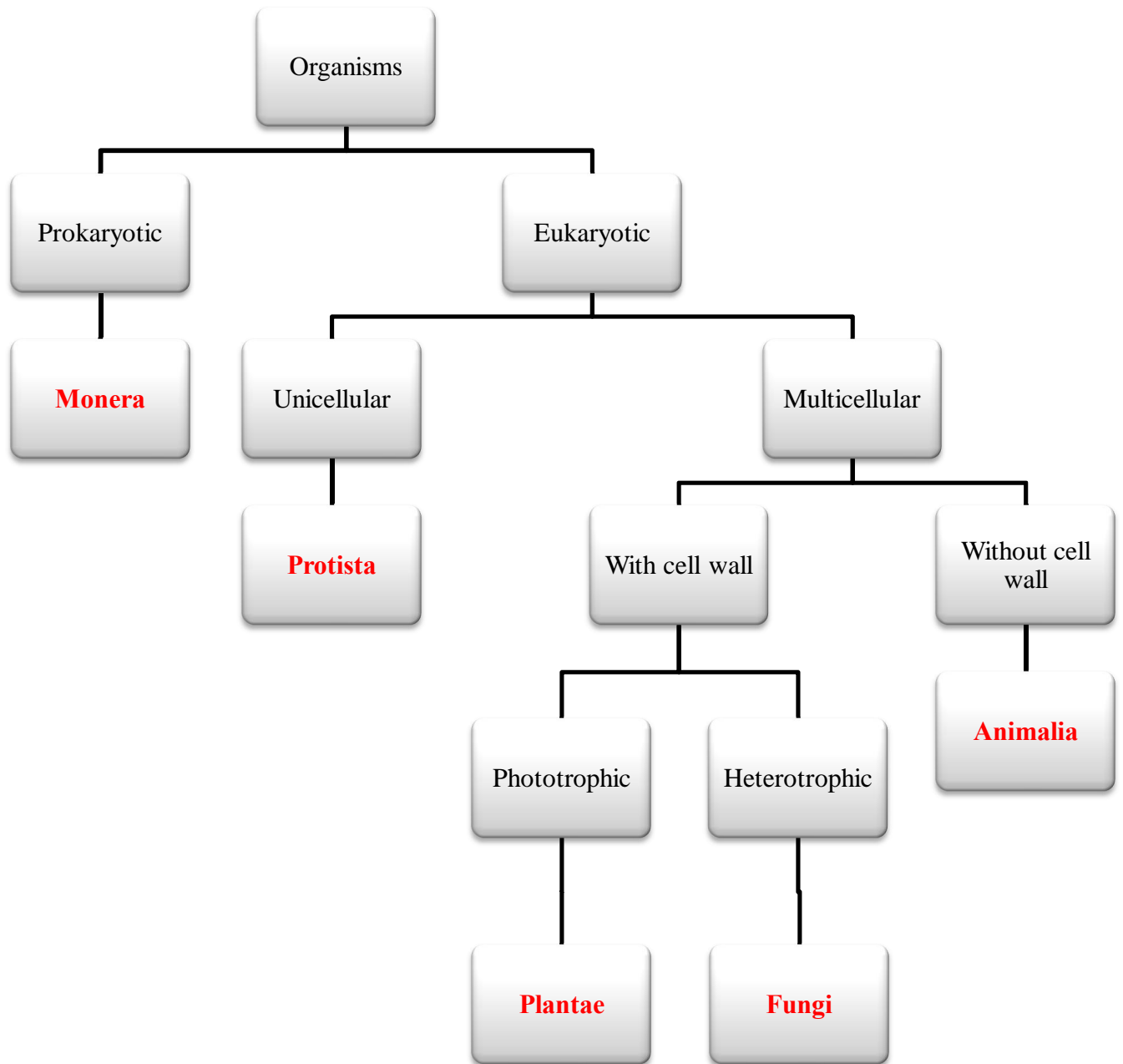
## INTRODUCTION

- The earth is home to a large number of organisms.
- Living organisms are fascinating because of their huge diversity.
- A handful of soil is populated with more than the human population on the earth.
- Since ages, humans have been making constant efforts to identify new organisms and their relationship with others.
- It is difficult to draw the relationship between different organisms without grouping and classifying them based on certain properties.
- Moreover, there is a need to devise a method to study all the organisms because it is difficult to study them individually. This process is known as **classification**.

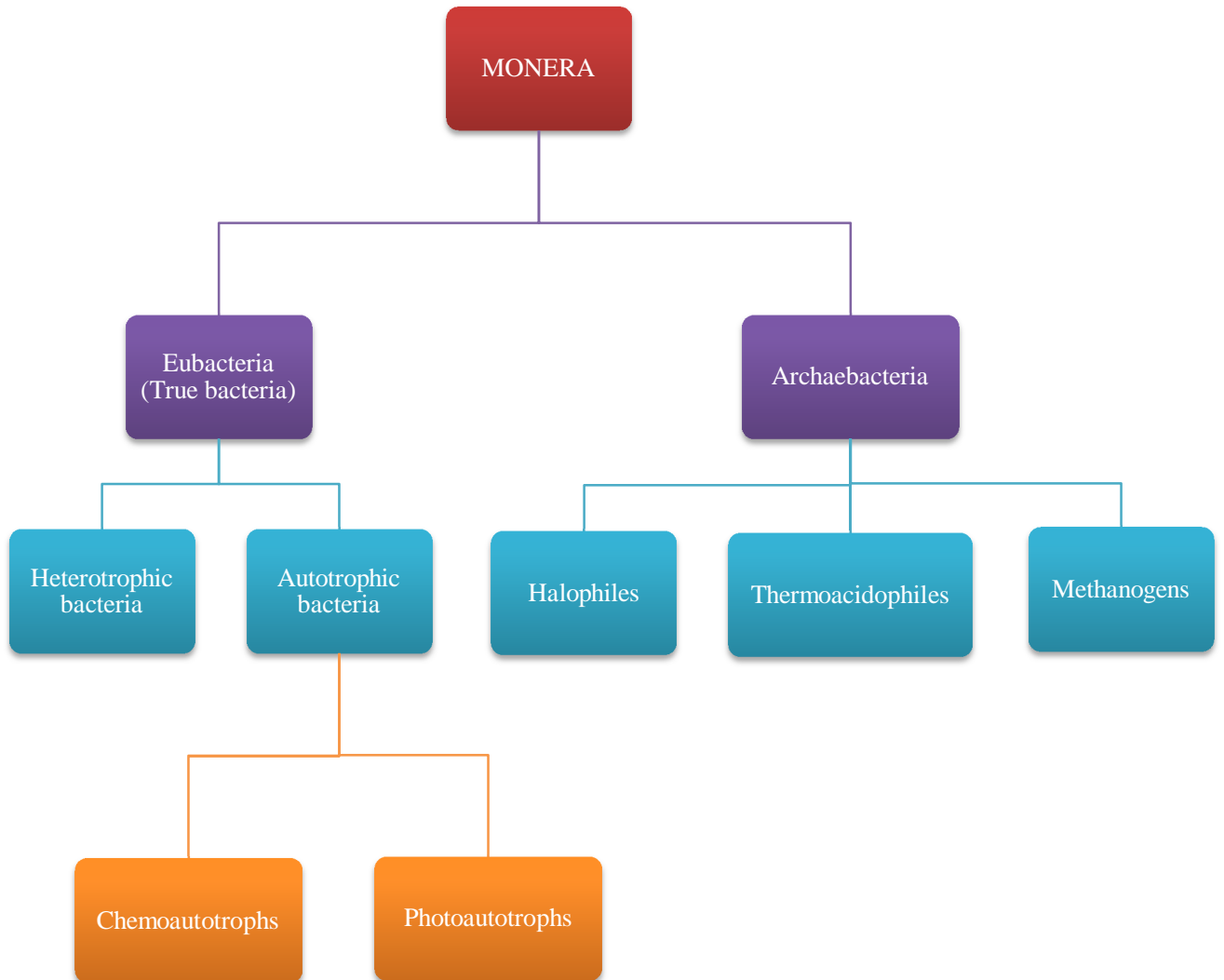
## HISTORY OF CLASSIFICATION

- Classification is the grouping of organisms into different taxa based on their similarities and evolutionary relatedness.
- In the earlier days, morphological differences between the organisms were the criterion used by **Aristotle** to group them. He described approx. 520 species of animals. But as more and more organisms were identified, this kind of classification was found to be ineffective.
- **Theophrastus**, a Greek peripatetic philosopher and pupil of Aristotle, classified plants into herbs, shrubs and trees. After the invention of printing press in 1400, **Herbals** were printed in which he emphasized the plants with medicinal use.
- Later, **Carl Linnaeus** attempted to classify the organisms into **two kingdoms**, namely, Plantae and Animalia. Although this type of classification was easier to do, it failed to distinguish unicellular organisms from multicellular, prokaryotes from eukaryotes and photosynthetic organisms from non-photosynthetic.
- **R.H. Whittaker** (1969) grouped the organisms into **five kingdoms**- Monera, Protista, Fungi, Plantae and Animalia. The properties used by him to distinguish the five kingdoms are given in the table below.

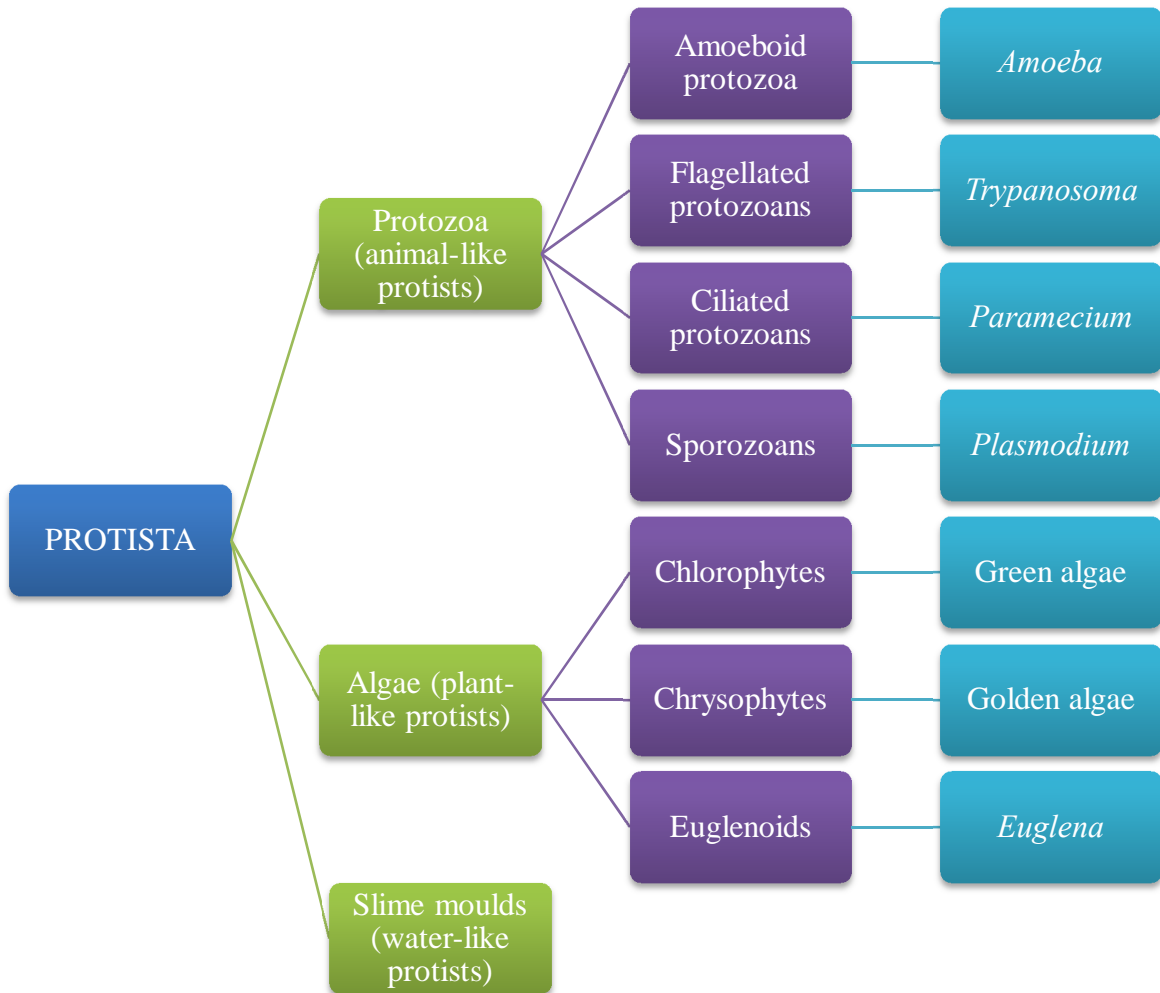
ROBERT H. WHITTAKER (1969)



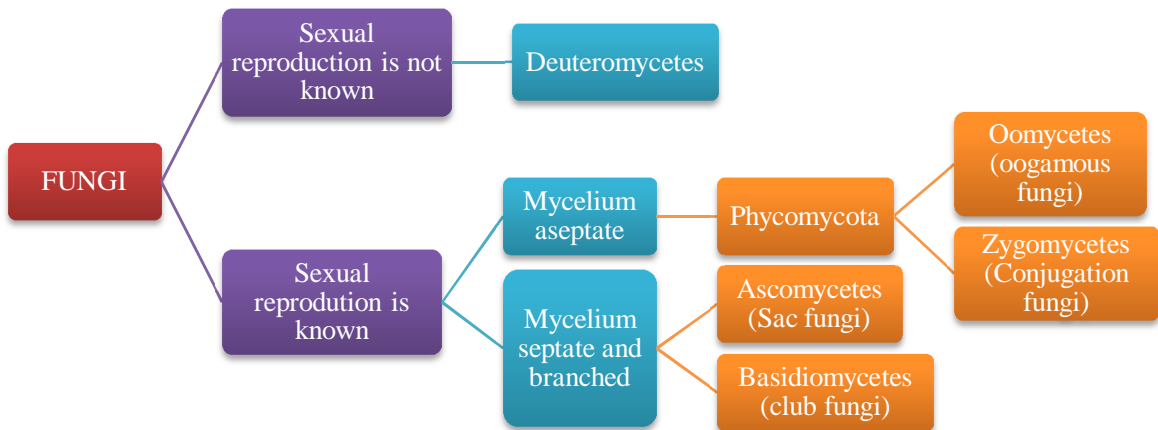
# 1. KINGDOM MONERA



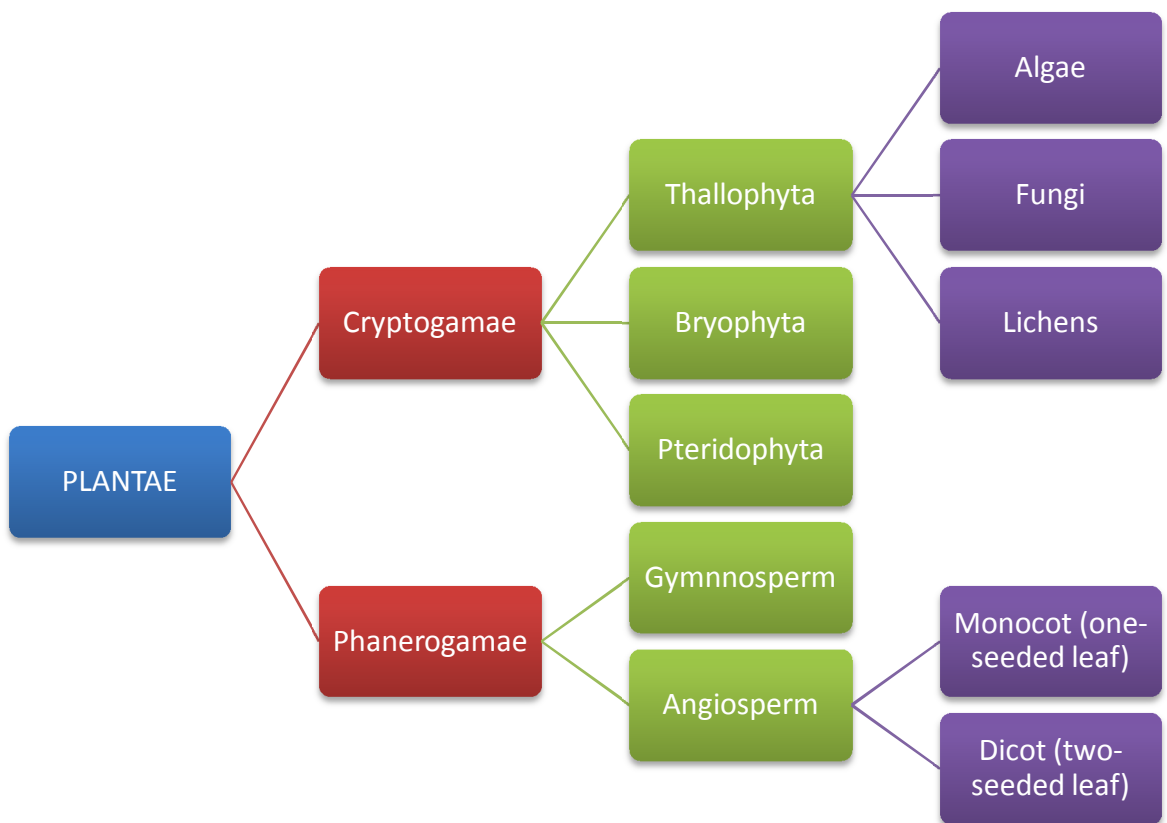
## 2. KINGDOM PROTISTA



### 3. FUNGI



### 4. KINGDOM PLANTAE



## 5. KINGDOM ANIMALIA

