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From Vedic Texts to Linnaean Nomenclature: Evolution of Plant Classification

1 Bhushan S. Wagh 2 Akash K. Surywanshi 3 Satish S. Tambe 4 Jagdish T. Jadhav

1 Research Scholar
Research centre in Botany, Mahatma Gandhi Vidyamandir's, Loknete Vyankatrao Hirey Art's, Science and Commerce College, Panchavati, Nashik- 422003 (Affiliated to Savitribai Phule Pune University, Pune)

Abstract

Ancient Indian Sanskrit texts from the Vedic period (2500 BC to 600 BC) offer insights into early botanical classifications, predating those of Latin and Greek scholars. They meticulously categorized plants into groups like trees, herbs, and creepers, based on their flowering and fruit-bearing characteristics. These texts not only catalogued various plant species but also documented their medicinal properties, demonstrating a sophisticated understanding of botany and pharmacology.

Meanwhile, in Europe, botanical naming began to take shape with the contributions of figures like Theophrastus, Dioscorides, and Pliny the Elder. Latin emerged as the scientific language of Europe, and the age of exploration necessitated detailed morphological descriptions of newly encountered plant species.

The evolution of plant naming methods has been a dynamic process, rooted in ancient traditions that predate even the era of Theophrastus. From the rudimentary classifications of early civilizations to the systematic taxonomy of modern botany, the study of plants continues to deepen our understanding of the natural world.

Keywords-
Botany, Sanskrit, Modern, Taxonomy.

Introduction

The study of plants and their classification has a rich history that spans cultures and civilizations across the globe. Ancient Indian Sanskrit texts from the Vedic period (2500 BC to 600 BC) provide valuable insights into early botanical knowledge, pre-dating the classifications of Latin and Greek scholars. These texts meticulously categorized plants into groups such as trees, herbs, and creepers, based on their flowering and fruit-bearing properties. Furthermore, they documented the medicinal properties of various plants, showcasing a sophisticated understanding of botany and pharmacology in ancient India.

In contrast, European botanical naming began to take shape with the contributions of renowned figures such as Theophrastus, Dioscorides, and Pliny the Elder. Latin emerged as the scientific language of Europe, facilitating communication and the exchange of botanical knowledge across regions. The age of exploration further spurred the need for detailed morphological descriptions of newly encountered plant species.

This evolution of plant naming methods reflects a dynamic process rooted in ancient traditions that predate even the era of Theophrastus. From the rudimentary classifications of early civilizations to the systematic taxonomy of modern botany, the study of plants continues to deepen our understanding of the natural world.

Charak (1 st century AD) divided plants into

a	Vanaspati	Trees with fruits.
b	Vanaspatya	Trees with flower and fruits.
c	Osadhi	Herbs that wither after fruiting.
D	Virudha	Other herbs with spreading stems.

Manu classified the plants into eight groups

a	Osadhi	Plants bearin abundant flowers and fruits but withering away after fruiting e.g. rice, wheat, etc.
b	Vansapati	Those plants which bear fruits without evident flowers eg. *Ficus*
c	Vriksha	Plants which bear both flowers and fruits, eg. Mango
d	Guchcha	Bushy herbs e.g. jasmine.
e	Trina	All types of grasses
f	Gulma	Succulent plants
g	Pratan	Creepers
h	Valli	Twiner or such plants which need a support.

Plant morphology in Athervaveda

a	Visakha	(spreading branches
b	Manjari	leaves with long clusters
c	Sthambini	bushy plants
d	Prastanavati	which expands
e	Ekasrnga	those with monopodial growth
f	Pratanavati	creeping plants
g	Amsumati	with many stalks
h	Kandini	plants with knotty joints

Parasar, living around the 1st century BC or AD, authored Vrikshayurveda, known as the Science of Medicinal Plants. This ancient text offers a comprehensive understanding of plants, covering morphology, anatomy, and classification. Parasar's classification system, considered advanced even by 1946 standards, organized plants into categories called Gana or Bibhag, resembling modern plant families. Examples include Samiganiya (akin to Leguminosae), Puplikganiya (similar to Rutaceae), Swastikaganiya (similar to Cruciferae), Tripushpaganiya (similar to Cucurbitaceae), Kurchpushpaganiya (akin to Compositae), and Mallikaganiya (akin to Apocynaceae).

Conclusion

Based on the historical documentation found in ancient Indian texts and literature, it can indeed be concluded that the study of plants, including plant taxonomy and the study of medicinal plants, was well-developed during the Vedic period (2500 BC to 600 BC). Renowned sages of that time possessed extensive knowledge of plants, including their botanical characteristics and medicinal properties. Many botanical names, commonly used today and mostly derived from Greek and Latin, have their roots in Sanskrit words. For example, "Amala"

(Phyllanthus emblica) has its origin in the Sanskrit word "Amlaki," and "Vasaka" (Adhatoda vasica) comes from the Sanskrit word "Vasa."

Based on these historical pieces of evidence and ethno-botanical studies, it can be concluded that the ancient Indian sages of the Vedic period, who extensively studied plants long before Theophrastus, are indeed the true pioneers and fathers of botany. Their profound understanding and detailed documentation of plants laid the foundation for the systematic study of botany that followed in later periods.

Discussion -

The Vedic period texts reflect an advanced understanding of botany and pharmacology in ancient India. The meticulous categorization of plants into groups based on their characteristics suggests a systematic approach to studying and documenting plant life. Additionally, the documentation of medicinal properties highlights the practical applications of this botanical knowledge, indicating its importance in early Indian society.

The evolution of plant naming methods reflects a continuous process of refinement and improvement over time. From the rudimentary classifications of ancient civilizations to the systematic taxonomy of modern botany, there has been a gradual accumulation of knowledge and understanding about plant diversity and relationships. This evolution is evident in the development of standardized naming systems, such as the binomial nomenclature introduced by Carl Linnaeus in the 18th century, which provides a universal framework for identifying and categorizing plant species.

The historical development of botanical knowledge and naming methods has significant implications for modern botany. By understanding the foundations of botanical science, researchers can better appreciate the complexities of plant diversity and evolution. Additionally, insights from ancient botanical texts and early European botanical works continue to inform contemporary studies in fields such as ethnobotany, pharmacology, and ecology.

This highlights the rich history of botanical knowledge and the ongoing quest to understand and appreciate the diversity of plant life. From ancient civilizations to modern science, the study of plants remains a fundamental aspect of our understanding of the natural world.

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