Received: 15 Oct 2026	Revised: 15 Nov 2026	Accepted: 15 Dec 2026

Review Article

AJDP
Nature has the Power to Heal

ISSN: 3048-5614

"NIGHANTU LITERATURE AND DRUG IDENTITY OVER TIME: A CRITICAL REVIEW OF NOMENCLATURE SHIFTS AND THEIR CONSEQUENCES FOR MODERN AYURVEDIC RESEARCH"

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FUNDING INFORMATION:
Not Applicable

How to cite this article:
Jalpa Gandhi, "Nighantu literature and drug identity over time: a critical review of nomenclature shifts and their consequences for modern Ayurvedic research" Asian Journal of Dravyaguna and Pharmacology. 2026;3(4):16-19.
Sri. 2026.1006.ajdp.04.05

ABSTRACT
Nighantus are the lexicons of Ayurvedic materia medica. From the Dhanvantari Nighantu, usually dated to the eighth to tenth centuries, to the Bhavaprakasha Nighantu of the sixteenth century, they compiled plant names, synonyms and properties and became the main reference for identifying drugs. Because classical texts give few morphological descriptions, identity has been carried largely by names and synonyms, and these changed over time and between regions. This review traces how nomenclature developed in the Nighantu literature, examines how shifts in names have affected drug identity, and considers the consequences for modern research. The classical corpus contains more than 12,000 distinct Sanskrit plant names across more than 200 texts, and plant identification was learned mainly through field teaching rather than written description. Nighantus organised synonyms into groups, but their synonymy sometimes conflicts with evidence in the earlier Samhitas. Several modern confusions reflect such shifts. Brahmi is now usually equated with *Bacopa monnieri*, while historical analysis indicates that classical Brahmi and Mandukaparni denoted *Centella asiatica*. The names Bala and Pashanabheda cover several species in trade. These shifts propagate into modern research when papers, databases and pharmacopoeias map a Sanskrit name to a single species without stating the textual period or authority. We propose a critical, versioned digital lexicon that links each name to its texts, periods, commentators, regional usages and accepted botanical identities, and we recommend that research papers state the textual source and authority for every identification.

KEYWORDS: Nighantu, nomenclature, synonyms, paryaya, drug identity, Dhanvantari Nighantu, Bhavaprakasha, history of Ayurveda, Dravyaguna

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INTRODUCTION

The Samhitas of Charaka and Sushruta name hundreds of medicinal plants but describe few of them in botanical detail. The task of recording names, synonyms and properties fell to a separate genre, the Nighantus, which became the lexicons of Ayurvedic materia medica.[1] Beginning with the Dhanvantari Nighantu, generally placed between the eighth and tenth centuries,[2] and continuing through works such as the Raja Nighantu and the Bhavaprakasha Nighantu,[3,4] Nighantus organised drugs into groups (varga), listed their synonyms (paryaya) and summarised their properties.

Because written descriptions were sparse, the identity of a drug has been carried mainly by its names. A recent analysis estimated that the classical corpus contains more than 12,000 distinct Sanskrit plant names across more than 200 texts, and argued that plants were learned through field teaching rather than from written descriptions.[5] When that oral tradition weakened or diverged between regions, names could drift to different plants. This review traces how nomenclature developed in the Nighantu literature, examines how shifts in names have affected identity, and considers the consequences for modern research.

METHODS

This is a critical narrative review based on historical scholarship on Ayurvedic literature, published analyses of plant nomenclature in classical texts, and case studies of drugs whose identity has shifted.

HOW NIGHANTUS ORGANISED NAMES

Nighantus typically list a drug under a principal name followed by synonyms that describe its morphology, habitat, action or resemblance to other things. The Dhanvantari Nighantu, for example, arranges 527 drugs in seven vargas, each named after its first drug, giving synonyms first and properties after.[2] Later Nighantus expanded the number of drugs, reorganised the groups and added regional names.[3,4] Synonyms serve as a descriptive code: a name meaning “frog-leaved” (mandukaparni) refers to leaf shape, one meaning “immortal” (amrita) to action.

This system has strengths and weaknesses. Synonyms carry information that can aid identification. But the same synonym may be applied to different plants, a plant may acquire new synonyms over time, and Nighantu authors may group as synonyms names that the Samhitas used for different plants. A study of Guduchi argued that Nighantu synonymy often conflicts with internal evidence in the earlier Samhitas, and proposed that synonymy be fixed using objective criteria drawn from the Samhitas themselves.[6]

CASE STUDIES OF NOMENCLATURE SHIFT

Table 1 summarises examples.

Table 1. Examples of nomenclature shifts and their modern consequences.

Name	Shift	Modern consequence
Brahmi	Classical Brahmi and Mandukaparni treated as synonyms for *Centella asiatica*; Aindri a separate plant, *Bacopa monnieri*[7]	Modern research and commerce equate Brahmi with *Bacopa*, so evidence for one plant is cited for another[7]
Guduchi	Synonyms in Nighantus partly conflict with Samhita evidence[6]	Uncertain synonymy complicates identification of classical references
Bala	Name applied to several *Sida* species	All market *S. cordifolia* in one survey were *S. acuta*[8]
Pashanabheda	Name used for plants from several families	Different species sold and studied under one name[9]

Brahmi is the clearest example. A historical analysis found that Brahmi and Mandukaparni never occur together in the Brihattrayi, that Dalhana and the Nighantus treat them as one plant, and that Aindri, which does occur alongside Brahmi, is a separate plant; it concluded that classical Brahmi was *Centella asiatica* and Aindri *Bacopa monnieri.*[7] Modern usage has reversed this, with Brahmi now generally meaning *Bacopa*. The shift matters because the two plants differ chemically and pharmacologically, and research on one is often cited in support of classical claims about the other.

Names such as Bala and Pashanabheda show a different pattern, in which a single name covers several species. Market surveys show that the plant sold under such a name may not be the one the pharmacopoeia specifies,[8] and comparative studies show that the different plants vary in activity.[9]

CONSEQUENCES FOR MODERN RESEARCH

Nomenclature shifts propagate into modern work in

three ways. First, research papers often identify a classical drug with a species without stating which text, period or authority supports the identification, so readers cannot judge whether the evidence applies to the classical drug. Second, databases that link Sanskrit names to species, such as phytochemical atlases[10] and digital libraries of classical knowledge,[11] may encode a single modern identification, giving it an appearance of authority. Third, pharmacopoeial monographs must choose one species for each name,[12] and this choice, while necessary, can obscure the historical diversity of usage.

Each of these problems can be reduced if identifications are treated as claims with a source and a date rather than as fixed facts.

A CRITICAL DIGITAL LEXICON

We propose a critical, versioned digital lexicon of Ayurvedic plant names with the following features.

- Each Sanskrit name linked to every text in which it occurs, with approximate date and region.[1]
- Synonyms recorded as given by each Nighantu and commentator, with conflicts marked rather than resolved silently.[6]
- Botanical identifications recorded with their source, date and the evidence used (textual, field, pharmacognostic, DNA).[5]
- Links to authenticated voucher specimens and reference DNA sequences where available.[8]
- Open, versioned and citable, so that changes in accepted identity are documented over time.
- Interoperable with phytochemical databases and pharmacopoeial monographs.[10,12]

We also recommend that research papers on Ayurvedic drugs state the textual source and the authority for their botanical identification, and note any known dispute.

A DRAVYAGUNA PERSPECTIVE

The Nighantus are themselves an achievement of Dravyaguna: an attempt to order a vast and growing body of knowledge about drugs. Their limitations reflect the conditions of their time, including reliance on oral teaching for identification.[5] Treating them critically, as historical documents with authors, dates and regional perspectives, is a way of respecting them rather than diminishing them. It also prevents modern research from attaching evidence to the wrong plant.

LIMITATIONS

Dating many Nighantus is uncertain, and this review draws on secondary scholarship rather than primary manuscript study. The case studies are illustrative and do not cover the full range of nomenclature problems.

CONCLUSION

Because classical texts describe plants mainly by names and synonyms, and because those names changed over time and between regions, the identity of many Ayurvedic drugs has drifted. Cases such as Brahmi, Bala and Pashanabheda show that these shifts affect modern research, commerce and regulation. A critical, versioned digital lexicon that links names to texts, periods, authorities and species, together with explicit reporting of identification sources in research papers, would make drug identity in Ayurveda transparent and traceable.

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