

# The Science and Story Behind Botanical Nomenclature: A Deep Dive into 100 Flowers and Their Names

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Botanical nomenclature is more than a system of classification; it is a linguistic tapestry that weaves together history, geography, mythology, and evolutionary science. The names we assign to flowers act as a cognitive bridge between human observation and the biological reality of the natural world. Drawing from the framework established in Diana Wells' seminal work, **100 Flowers and How They Got Their Names**, this article provides a technical and historical analysis of how floral identity is constructed. By examining the transition from ancient folk taxonomy to the rigorous Linnaean binomial system, we can uncover the underlying logic that governs the naming of garden favorites.

## The Historical Framework of Plant Taxonomy

Before the standardization of botanical names, plants were often identified by long, descriptive Latin phrases known as polynomials. These names served as both a title and a description, which became increasingly unwieldy as new species were discovered during the Age of Exploration. The transition to the **binomial nomenclature** system, popularized by Carl Linnaeus in the 18th century, revolutionized the biological sciences by providing a concise, two-part name for every organism: the **Genus** and the **Specific Epithet**.

### The Pre-Linnaean Era

In the pre-Linnaean era, plant names were deeply rooted in utility and folklore. Herbalists and early physicians named plants based on their perceived medicinal properties—a practice known as the **Doctrine of Signatures**. This philosophical framework suggested that a plant's physical appearance (e.g., the shape of its leaf or the color of its flower) was a clue to its healing properties. For example, the *Digitalis* (Foxglove) was named for its finger-like blossoms, while *Hepatica* was named for its liver-shaped leaves, believed to treat hepatic ailments.

### The Linnaean Revolution

Carl Linnaeus introduced a hierarchical system that categorized plants based on their reproductive organs (stamens and pistils). While his sexual system of classification was eventually replaced by more phylogenetic approaches, his **Binomial System** remains the global standard. This technical shift allowed for a universal language in botany, ensuring that a *Rosa gallica* in France was recognized as the same species in England or Japan.

## Core Mechanics of Botanical Etymology

The names of the flowers explored by Diana Wells and illustrated by Ippy Patterson typically fall into four technical categories of etymology: Commemorative, Descriptive, Mythological, and Geographic. Understanding these categories is essential for anyone engaged in horticulture, botanical research, or technical writing within the life sciences.

### 1. Commemorative Naming (Eponyms)

Many of our most common garden flowers are named after the botanists, explorers, or patrons who discovered or introduced them to the Western world. This process involves **Latinizing** a person's surname by adding suffixes

such as *-ia* or *-ii*.

- **Abelia:** Named after Dr. Clarke Abel, a physician and naturalist who accompanied the British embassy to China in 1816. The name serves as a historical marker of colonial botanical exploration.
- **Zinnia:** Named in honor of Johann Gottfried Zinn, a German botanist who published the first detailed description of the eye's anatomy and wrote extensively on the flora of Germany.
- **Fuchsia:** Named for Leonhart Fuchs, a 16th-century German physician and one of the three "founding fathers" of botany.

## **2. Descriptive Etymology**

Descriptive names focus on the morphological characteristics of the plant. These names often utilize Latin or Greek roots to describe color, shape, texture, or habit.

| Botanical Term | Root Meaning   | Example Flower | Descriptive Significance                        |
|----------------|----------------|----------------|-------------------------------------------------|
| Digitalis      | Digit (Finger) | Foxglove       | Refers to the finger-like shape of the corolla. |
| Campanula      | Little Bell    | Bellflower     | Describes the bell-shaped floral structure.     |
| Gladiolus      | Small Sword    | Gladioli       | Refers to the sword-shaped foliage.             |
| Trifolium      | Three Leaves   | Clover         | Indicates the trifoliate leaf arrangement.      |

### 3. Mythological and Symbolic Origins

The intersection of classical literature and botany is profound. Many flowers derive their names from Greek and Roman deities or legendary figures, reflecting the cultural context of the Renaissance naturalists who classified them.

- **Narcissus:** Derived from the Greek myth of the youth who fell in love with his own reflection. Technically, it may also relate to the Greek word *narke* (numbness), referring to the plant's narcotic properties.
- **Iris:** Named after the Greek goddess of the rainbow, signifying the vast spectrum of colors found within the genus.

## Technical Analysis: The International Code of Nomenclature (ICN)

The naming of plants is not an arbitrary process but is governed by the **International Code of Nomenclature for algae, fungi, and plants (ICN)**. This set of rules ensures that every taxonomic group has only one correct name. Key principles include:

### The Principle of Priority

The valid name for a plant is the earliest name applied to it, starting from the publication of Linnaeus's *Species Plantarum* on May 1, 1753. If a plant is later found to have been named twice, the earlier name takes precedence, and the newer name becomes a **synonym**.

### The Type Method

Every name must be associated with a **type specimen**—a physical plant sample preserved in a herbarium. This specimen serves as the permanent reference point for the name, ensuring that even if taxonomic classifications change, the name remains anchored to a physical biological entity.

## Case Study: The Evolution of Naming in "100 Flowers"

Diana Wells' work highlights how names evolve from vernacular speech into formal science. Let us analyze the case of **Baby Blue Eyes** and **Silver Bell** to understand the divergence between common names and scientific accuracy.

### Case A: *Nemophila menziesii* (Baby Blue Eyes)

The common name "Baby Blue Eyes" is an evocative, descriptive term that aids in consumer marketing and folk identification. However, the scientific name *Nemophila menziesii* provides specific data. *Nemophila* comes from the

Greek *nemos* (woodland) and *philos* (loving), indicating the plant's natural habitat. The specific epithet *menziesii* honors Archibald Menzies, the Scottish naturalist who first collected the plant in the late 18th century. This dual identity allows the plant to exist in both the emotional world of the gardener and the data-driven world of the botanist.

### Case B: Halesia (Silver Bells)

The *Halesiagenus*, commonly known as Silver Bells or Snowdrop Trees, demonstrates the commemorative tradition. Named after Stephen Hales, an 18th-century clergyman who made pioneering contributions to plant physiology (specifically the study of transpiration), the name bridges the gap between theology and the emerging field of experimental botany.

## Practical Implementation: How to Decipher Plant Names

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For professionals in landscaping, agriculture, or research, the ability to decode botanical names is a critical skill. By recognizing common Latin and Greek suffixes, one can infer the growing requirements and characteristics of a plant without prior knowledge of the species.

### Step-by-Step Decoding Workflow

1. Identify the Genus: The first word (capitalized) usually tells you the broad group (e.g., *Rosa*, *Lilium*).
2. Analyze the Specific Epithet: The second word (lowercase) often describes a trait. Look for suffixes like:-  
folius (leaf)
3. -florus (flower)
4. -ensis (originating from a place)
5. -officinalis (medicinal or used in shops)

## Comparative Evaluation: Common Names vs. Scientific Names

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The following table evaluates the functional differences between vernacular (common) names and scientific nomenclature as discussed in botanical literature.

| Feature             | Common Names (Vernacular)                                       | Scientific Names (Binomial)            |
|---------------------|-----------------------------------------------------------------|----------------------------------------|
| Precision           | Low (One name may refer to many species).                       | High (Unique to one species).          |
| Stability           | Variable (Changes by region and culture).                       | High (Governed by international code). |
| Language            | Local dialects/Modern languages.                                | Latinized (Universal).                 |
| Information Content | Subjective/Emotional.                                           | Taxonomic/Historical/Descriptive.      |
| Example             | Bluebell (refers to <i>Hyacinthoides</i> or <i>Mertensia</i> ). | <i>Hyacinthoides non-scripta</i> .     |

## Troubleshooting Nomenclature Confusion

One of the primary challenges identified in technical botany is the **homonym** and **synonym** problem. This occurs when:

- Homonyms: The same name is accidentally given to two different plants. The ICN resolves this by rejecting the later name.
- Synonyms: A single plant species is given different names by different researchers. The Principle of Priority dictates that the earliest published name is the "accepted" name.

For the gardener reading Diana Wells' accounts, understanding that a flower's name might have changed over the centuries is vital. These changes are rarely arbitrary; they usually reflect new genetic data or the discovery of earlier records that clarify the plant's true lineage.

## The Synthesis of Art and Science in Botanical Identification

The inclusion of illustrations by **Ippy Patterson** in the source material underscores a vital technical point: botanical names are inextricably linked to visual representation. In the history of science, the **Iconotype** (an illustration used as the type specimen) was often the only record of a species. Technical writers must recognize that a name without a visual or physical reference is taxonomically incomplete. The detailed drawings in *100 Flowers* serve as a modern continuation of the tradition of botanical art, where accuracy in depicting the number of petals, leaf arrangement, and reproductive structures is paramount for correct identification.

## The Broader Implications of Botanical Etymology

The study of how flowers got their names is not merely a pursuit for historians or hobbyists; it is a fundamental aspect of biodiversity documentation. As we move into an era of genomic sequencing, the traditional names based on morphology and history are being tested. Yet, the binomial system remains the bedrock of communication. Whether it is the *Abelia* honoring a forgotten doctor or the *Zinni* reminding us of an 18th-century anatomist, these names preserve the human narrative within the scientific record.

By understanding the mechanisms of botanical nomenclature, we gain a deeper appreciation for the rigor of the natural sciences. Every flower in our garden carries a title that is the result of centuries of exploration, debate, and discovery. As Diana Wells eloquently demonstrates, to know the name of a flower is to begin to know its story, its

origin, and its place in the grand hierarchy of life. For the technical professional, this knowledge ensures precision; for the enthusiast, it adds a layer of profound meaning to the simple act of planting a seed.

**Tags:** [#Botanical Nomenclature](#) [#Flower Etymology](#) [#Diana Wells](#) [#Plant Taxonomy](#) [#Horticultural History](#)











