

The language of plants



KEYSTAGE 3-4
HISTORY

< *Lindera triloba*



Your mission:
For this activity, we'd like to get your grey cells working about how and why we use Latin for plant classification.

Do you know your *Rosa rugosa* from your *Alchemilla mollis*?

Ever wondered why plants and trees always have two names? One which makes sense, and one that's in goobledygook?

Well, you can thank Essex's own John Ray for that. Inspired by the work of Gaspard Bauhin, he decided that we needed a precise, universal system for identifying plant species. Ray's system grouped plants together based on similarities and differences. He was the first to come up with a scientific definition of what a species is, but realised that we would need a way of identifying these species that wasn't rooted in a national language. Like many academics at the time, Ray was well-versed in classical languages, and thought that Latin was the perfect choice.

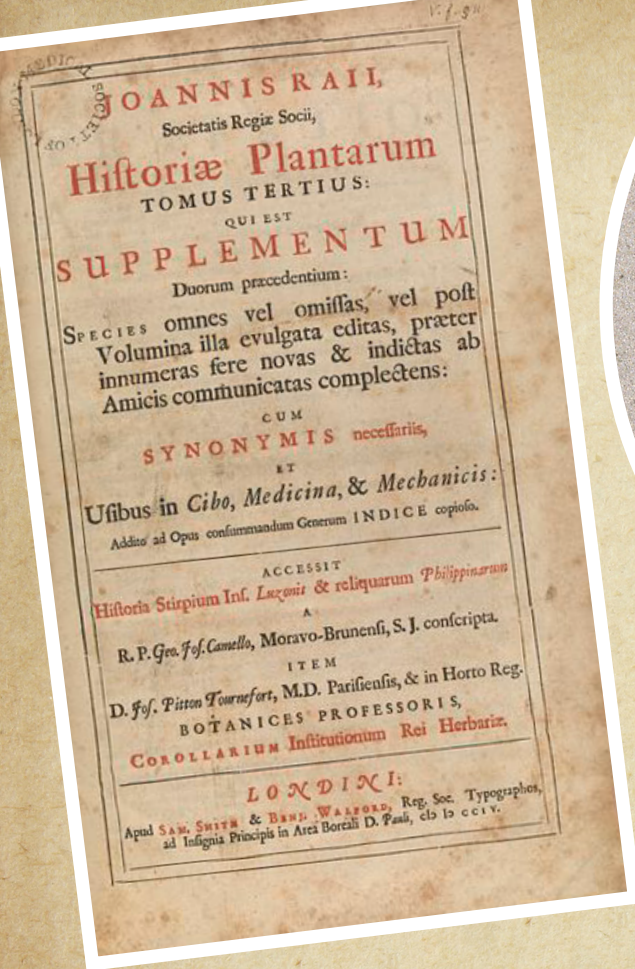
The plant name that makes sense is its 'common' name, and each plant might have several common names, like a 'cowslip' may also be called a 'marsh marigold'. On top of that, there are different local names for plants around the world. This is where Latin names are really useful. Latin names are unique to each variety of plant and helps us identify both the genus and species, making it much easier to sort them into categories. This is called classification. Latin names help scientists around the world understand each other easier, and can help ensure survival of a species and promote eco-diversity.

At **Marks Hall Estate** we have hundreds of different varieties of plants and trees, so by identifying each plant accurately using their Latin name, we can ensure we're giving each plant the attention it needs.

Introduction

Quercus rubra >





< John Ray



John Ray

John Ray, born in 1627 near Braintree, was an English naturalist widely regarded as one of the earliest of the English parson-naturalists. Ray lived and worked during the earliest days of the Age of Enlightenment. This period was known for great changes in science, literature, and religion. He published important works on botany, zoology, and natural theology. His classification of plants in his **Historia Plantarum**, was an important step towards modern taxonomy. He classified plants according to similarities and differences that emerged from observation.

Definition of species

Ray was the first person to produce a biological definition of species, in his 1686 *History of Plants*:

“... no surer criterion for determining species has occurred to me than the distinguishing features that perpetuate themselves in propagation from seed. Thus, no matter what variations occur in the individuals or the species, if they spring from the seed of one and the same plant, they are accidental variations and not such as to distinguish a species... Animals likewise that differ specifically preserve their distinct species permanently; one species never springs from the seed of another nor vice versa”





< **Quercus rubra**

Useful information

Most plants use a Latin two-name system of classification (referred to as 'binomial'). The two names represent the genus and the species of a plant.

The genus is the broader of the

two groups - think of it like a surname, like Green - it tells you what family the plant belongs to.

The species narrows it down further by telling us what type of plant it is within its genus. Think of this as a first name, like Oliver. So we can tell that the family is Green, and the family member is Oliver.

...fers the pollen to
flower on another



< **Quercus robur**

Quercus robur >





< *Acer japonicum*

Continued...

In the plant world, the genus is a noun and species is an adjective that describes characteristics. Take a maple tree for example, *Acer* is the genus for all maple trees. Within the *Acer* genus, there are several different types of maple trees. So the name of the species gives us more information - it could be about the individual species colour, country of origin, leaf shape... etc. So, an *Acer rubrum* can be recognised as a red maple (rubrum being Latin for 'red').

Occasionally there is a third level of classification added to a plant's Latin name to further describe any defining characteristics. This third name is called a cultivar or variety. Cultivar (shown as 'cv' in a plant's name) is used when a new strain of a plant has been developed by manmade means like selective breeding. Variety (shown as 'var') is used when a different strain of a plant has occurred naturally.



< Latin plant name labels >



2015 Aceraceae
Acer
japonicum
'Aconitifolium'
Asia

2017/0029 Lauraceae
 BSWJ1466
Lindera triloba
 N Asia

Salvia o. purpurascens x

Rosa rubrifolia x

Salvia officinalis purpurascens x

Lychnis c. x

Lavandula

Rosa

Geranium psilostemon x

Cotinus corymbosa x

Macleya cordata 'KP' x

Verbascum 'Gainsborough' x

Miscanthus sinensis x

Salvia o. purpurascens x

Origanum
Ascle

Origanum
Lychnis

Origanum
Ascle
Lavandula

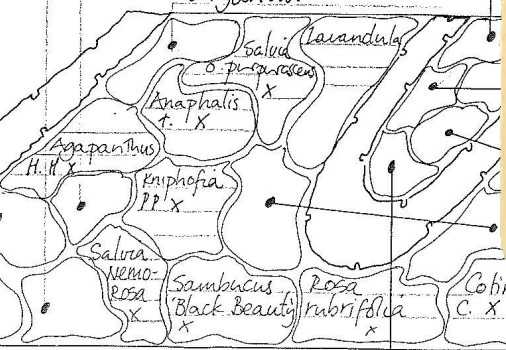
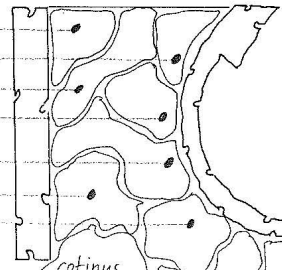
Lychnis coronaria x
Miscanthus sinensis x
Caryopteris 'HB' x

Calamagrostis
A. x
Kniphofia
Salvia
Lavandulifolia

Lychnis c. x

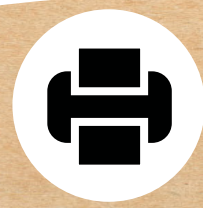
Macleya C. 'K.C.P.' x
Achillea 'M' x

Origanum



Did you know?

There are over 390,000 variations of plants on the planet. Imagine translating all of those from Latin!



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Activity 1

Different levels of classification

Here are three examples of different plants at Marks Hall Estate. In each instance can you identify the plant's genus, species and cultivar or variety (where there is one) and then have a go at translating each plant name from Latin to its common name? We've filled out an example to get you going.

Plant name:	Genus:	Species:	Cultivar or Variety	Latin name meaning:	Manmade or natural?:
Phyllostachys nigra var. henonis	Phyllostachys	nigra	henonis	Black bamboo	Natural
Agapanthus africanus cv. 'Alba'					
Acer Japonica cv. Aconitifolium					
Lindera tribola					



Agapanthus africanus cv. 'Alba'

Tips and resources:

Visit the BBC Gardeners World website for more information on plant classification and the meaning of some frequently used Latin terms, or the Gardening Know How website which also includes a useful glossary.

Activity 2

Research the Age of Enlightenment

Try to list some changes which occurred during this period, and explain in your own words how these changes helped to improve and modernise society.

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