Biological Nomenclature

The Latin binomial system:
In 1753 the Swedish naturalist Linnaeus introduced the binomial system of nomenclature when classifying the characters of the Swedish flora (about 5,900 species). He gave each species two Latin names, the first for the genus and the second for the species; these two names replacing often much longer common names. Such common names for the same species often differed between regions, and to add to the confusion the same common name often referred to more than one species. Linnaeus therefore brought the beginnings of order to the naming of organisms.

Latin was chosen for it was readily understood by educated people of the day and it is still understood by biologists all over the world, it is the biologists' 'Esperanto'. Biologists continue to name new species and when doing so should follow convention as laid down by International Committees on Biological Nomenclature. Historically Linnaeus ruled that generic names (‘generic’ is the adjective from ‘genus’) should be confined to ones with a Latin or Greek root. Today the root of the word used may be taken from any source but by convention, names should be treated as Latin names. Names used to honour particular people (often eminent biologists in the field, but never the namer himself or herself) therefore becomes Latinized, such as Darwinia or Banksia.

Pronunciation:
Do not worry too much. We all get it wrong (if there is a right answer anyway), but remember to pronounce every vowel
   e.g.  ac-re not acre as in an English field
cot-on-e-as-ter not coton-easter

Endings:
Endings may differ e.g. sylvaticus and sylvatica.
In Latin, nouns have a gender (male, female or neuter, usually for no apparent reason), number (singular or plural) and case (nominative, accusative, genitive, etc.). Noun endings change to reflect these, and associated adjectives must change also.
Often the generic name is a noun and the specific name (specific is the adjective of species) is an adjective
   e.g.  Apodemus sylvaticus (wood mouse) masculine
        Fagus sylvatica  beech feminine
(All trees are feminine, regardless of spelling, since they were considered so in Roman mythology).
In general, names ending in
   - us are masculine
   - is or - a are feminine
   - um or - on are neuter

Do not be too concerned; more and more modern biologists have not learnt Latin and Greek grammar, and the such connotations are flouted more and more often.

Capitals and underlining:
By convention the generic name begins with a capital letter, the specific name with a small letter (at one time the specific name began with a capital if commemorating a person e.g. Rubus Balfourianus but now usually all specific names begin with a small letter).
All Latin names are underlined (or italicised)

Changing names:
Latin names do change. All species in a genus share the same first (generic) name. If a later biologist considers one species sufficiently distinct it is placed in another genus, and hence its generic name (but not its specific name) will change. For Example: the common British barnacle Semibalanus balanoides has been previously named Lepas balanoides and Balanus balanoides.
The species name only changes if it is considered that the named species is not really the same as the first (type) specimen(s) described with that name. The Law of Homonymy states that the same name must not be used for more than one taxon [A taxon is any classification unit including a phylum, a class, a family, a genus, a species etc.].
The Law of Priority decrees that where two or more names have been proposed for the same taxon, that which was first published shall be the valid name.
Under certain circumstances the International Committee in Nomenclature may allow a long standing name to remain if to turn to a newly appreciated older name will cause too great confusion.