Life & times

THE FOCUS ON SURVEYS IN THIS EDITION OF *MAMMALS UK* IS A REMINDER OF THE IMPORTANCE OF GIVING ANIMAL SPECIES THEIR CORRECT AND UNAMBIGUOUS TITLE. PTES SURVEYS OFFICER **DAVID WEMBRIDGE** PONDERS THE NAMING OF NAMES.

The zoologist Desmond Morris memorably distinguished humankind as the naked ape: 'There are one hundred and ninety-three living species of monkeys and apes. One hundred and ninety-two of them are covered with hair. The exception is a naked ape, self-named *Homo sapiens*.' It is not only that we are hairless that is notable, but also that we have given ourselves a name: that we are a talking ape. Language is not unique to humans, but in comparison to any other species we do it in spades. We categorise the world – divide it up into the familiar and the new, recognising one thing as a variant of another – and as we do so, we build and learn an astonishing lexicon.

As our vocabulary grows, so it contains our view of the world – our thoughts run with the grain, and along the cleavage planes of our native language. Edward Sapir, an anthropologist and linguist, said: 'The worlds in which different societies live are distinct worlds, not merely the same world with different labels attached.' In other words, our descriptions of the world – embedded in our language and culture – mould our perception of it; the names we use aren't passive labels – they change how we see things.

A rose...

And names abound, particularly in our description of nature. Even within a single country, a flurry of local colloquialisms and folk-names particular to dialects or regions can make it difficult to know what animal or plant is being referred to. 'A rose is a *rosa* is a *růže* is a *ruusu*...' Or it would have been if Gertrude Stein had written in Spanish, Czech and Finnish. Either way, we still don't know whether she meant a dog rose or Christmas rose or a guelder rose. What is needed is a name that we can all agree on, be it for a rose, a rodent or a reindeer. That achievement, for biology at least, is claimed by the Swedish naturalist Carl Linnaeus, also known as Carolus Linnaeus and Carl von Linné.

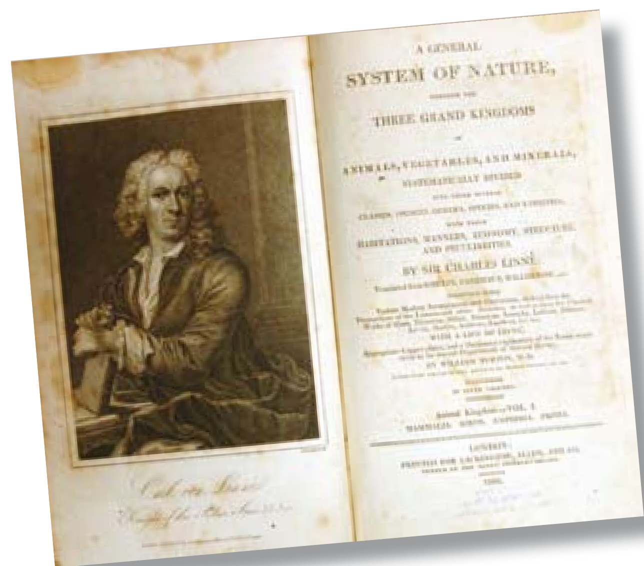
Today Swedish children know Linnaeus by yet another name: the Flower King. However his influence stretches much further afield than botany. In his great books *Species Plantarum* and the tenth edition of *Systema Naturae*, published in the 1750s, he sought to bring order to the whole of the plant and animal kingdoms, as a tribute to creation. His efforts were the starting point of the biological nomenclature used today. Consider our own species name, *Homo sapiens*. The two-part

The Swedish taxonomist Carl Linnaeus, who in the mid 18th century developed a system of scientific nomenclature used for all living organisms.

moniker (by convention italicised and Latinate) is the tip of a long tail of names, but it is sufficient on its own to identify us uniquely among living species. The hierarchy of names, ending with that of species (*sapiens*, without a capital) and rising through genus (*Homo*), family (Hominidae), order (Primates), class (Mammalia), and phylum (Chordata) to kingdom (Animalia), identifies groups that each envelop the one below and can share (with others of equal rank) the group above, attesting a unique place in the grand scheme of things.

Gavin Broad is a curator at the Natural History Museum, responsible for the management of some of the tens of millions of specimens preserved there in drawers, boxes and jars: 'Species names can be descriptive, evocative, honorific, erudite, jokey or nonsense. Sometimes they can be confusing. Perversely the black-headed gull's species name is *ridibundus*, meaning 'laughing', whereas the laughing gull's name is *atricapillus*, meaning 'black-headed'. Vagaries creep in, but even after 250 years, the system provides a common nomenclature, used by professional and amateur naturalists the world over.

Still smaller divisions than that of species are sometimes recognised for distinct types such as the Skomer vole – a variety or subspecies of bank vole, or the Irish hare – a subspecies of mountain hare. Distinguishing these types can require subtle discernment, while on the whole, most 'species' form a natural and intuitive unit of classification. Both Gertrude Stein and I would recognise an elephant as distinct from a rhino, even though, in the absence of Linnaeus, we might not agree on their names.


A GENERAL
SYSTEM OF NATURE,
THREE GRAND KINGDOMS
ANIMALS, VEGETABLES, AND MINERALS,
BY SIR CHARLES LINNÉ

The 10th edition of Linnaeus' book, Systema Naturae laid out his vision for the naming of nature. Much the same system is used to this day.

How many species are there? The number described currently stands at about two million; the number of living species in total, largely unrecorded and un-named, is thought by most biologists to be between five and 30 million. For those that are known, over 99% are recognised only by a scientific name and a brief description of specimens in a museum. Another 250 000 species are known from fossils.

...by any other name

What's in a name? Linnaeus provided a vocabulary for the living world; but the grammar – to use the evolutionary biologist Steve Jones' phrase – can be attributed to Charles Darwin. Linnaeus' taxonomy classifies organisms by their similarities, placing like with like. Similarities tend to follow relationships, and in the light of Darwin's idea of descent from a common ancestor, classification does something more than label things, it says something about the relationships between them. It can explain.

As evolutionary relationships are better understood, so classification and names change. Gavin Broad explains: 'We are finding many novel relationships, which means that we need sometimes to change the names. As we learn more about the genetics of widespread species, we are discovering that many traditional, well-known species in fact comprise populations with distinct genetic histories, that have been reproductively isolated for hundreds of thousands, or millions, of years.' He cites the example of New World monkeys, which in recent years have doubled in the number of recognised species. 'The increase is down to conservation policy as much as it is to advances in molecular taxonomy. International conventions seek to protect species, not subspecies, or populations. Hence the need to say whether or not a population on an isolated island has in fact been isolated from a similar-looking population for a million years.' In recognising the genetic uniqueness of populations – in giving them their own name – we change our understanding of the world and importantly how we act to conserve its diversity.

The arrangement of species into higher groups – genera, families and so on – is less clear cut than that of the idea of a species. The principles of classification follow a natural logic but the categories above 'species' are of our own making. Questions as to whether groups should be lumped together or further divided mean there is art in taxonomy, as well as a lot of science; it is a judgement call, entangled with our perception of the world, with how we think and talk about its parts.

The global extinction crisis means that classifying the world's biodiversity is of unprecedented importance. The loss of an unrecorded species goes unheard and unseen. Biodiversity supports 'healthy' ecosystems, and only by naming the organisms that make up that diversity, and recording them, can we recognise its value.

In it together

Taxonomy and classification have given us a place in the natural world; they have given us a family alongside our cousins, the great apes, and our more distant relations in the class Mammalia. Perhaps, as the ecologist and author Jared Diamond has suggested, we should better recognise this kinship in our name and should consider ourselves a third species of chimpanzee, joining the genus *Pan*. *Pan sapiens* would stand beside *Pan troglodytes* and *Pan paniscus*, the chimpanzee and bonobo or pygmy chimpanzee. Would that change how we view ourselves or our place in the living world?

Find out more...

Recommended books

The Diversity of Life Edward O. Wilson 1992: A passionate and eloquent account of biodiversity and its value.

Dry Store Room No. 1: The Secret Life of the Natural History Museum Richard Fortey 2008: a personal memoir of the Museum, its collections and curators. For a review, see the Winter 2009 issue of *Mammals UK*.

Online

The Species 2000 and Integrated Taxonomic Information System (ITIS) ***Catalogue of Life*** aims to catalogue every known species by 2011. The 2008 edition of the Annual Checklist contains 1 105 589 species. www.catalogueoflife.org/annual-checklist/2008/

'Humour,' Richard Fortey writes, 'is a delicate matter in nomenclature'. This hasn't deterred some taxonomists, however. The website of Doug Yanega, home of ***Curious Scientific Names***, lists several hundred playful and interesting taxonomic epithets, along with assorted links to entomology, ecology, biodiversity and other sites. In its own words: 'There are some enterprises in which a careful disorderliness is the true method. This is one of them...' http://cache.ucr.edu/~heraty/yanega.html

Diary

August...

01 NIGHT TIME EDIBLE DORMOUSE WALK, TRING £15/19 Once a Roman delicacy, the introduced edible dormouse is flourishing in this area. We'll be listening for the distinctive calls of these nocturnal tree-dwellers in the hope of a glimpse! Leaders Brian and Sian Barton have been observing the edible dormouse for years.

12 PRICKLES HEDGEHOG HAVEN, BROMLEY £18/22 A perfect event for young hedgehog fans! Meet a hedgehog with experienced carer Mavis Righini, the perfect person to tell you all about them. Children must be accompanied, adult ticket included in price.

September...

2 DORMICE IN SEVENOAKS £10/14 Visit the 500 acre woodland at Toys Hill, a Site of Special Scientific Interest and an Area of Outstanding Natural Beauty. You'll assist National Trust warden Paul Naden with a dormouse box check and hopefully see some of the creatures themselves.

19 BRIDDLESFORD DORMICE, ISLE OF WIGHT £12/16 Join us at our own reserve for a rare chance to see dormice in their natural setting. Learn about the ecology of this rare mammal and the management of the woodland from PTES dormouse officer Ian White. Look out for red squirrels too!

26 BATS IN SAVERNAKE FOREST £18/22 Join Steve Laurence of the Wiltshire Bat Group in the afternoon to check the bat boxes funded by PTES. Then after dark watch as the bats are caught and examined at the old railway tunnel - the site has previously yielded 11 species! Stay as long as you like into the night!

October...

10 DEER OF THE NEW FOREST £60/65 A unique opportunity to join naturalist Martin Noble for a dawn to dusk experience watching deer in this ancient hunting forest. Includes a visit to the New Forest Otter and Owl Centre.

Prices shown are for supporters and guests respectively. For more details, or to order a copy of our exciting 2009 events brochure, call Zoe on 020 7498 4533 or visit www.ptes.org.