

Name This Pest!

Worked out what this is from the last issue? Find out on the next page!



What????? This is no pest! Yet the person depicted on this bank note has had a vital role in the identification of many common urban pests. Who is he and what is his significance? Hint: this is a Swedish Kronor.

Stephen L. Doggett

Carl Linnaeus

The father of taxonomy

David Lilly



Carl Linnaeus (Carl von Linné after 1761) was a Swedish botanist, physician, zoologist and taxonomist. He was responsible for inventing and developing the system of botanical and zoological nomenclature, which is the method still used today for classifying and grouping plants and animals. Linnaeus also described many thousands of species using his system of classification and is often cited as being the “father of modern taxonomy”. His work and contribution to science today is enormous and at the time of his death he was one of the most acclaimed scientists in Europe. A selection of urban pests Linnaeus described can be seen in the table and for many other species the abbreviation ‘L.’ indicates Linnaeus as the species authority.

Linnaeus attended the University in Lund from 1727 and Uppsala from 1728 where he studied medicine and botany. In 1729 he wrote his thesis on plant sexual reproduction, *Praeludia Sponsaliorum Plantarum*, and whilst continuing his botanical studies at Uppsala University he began to doubt the current system of the time of classifying plants, known as Tournefort’s system. This prompted him to devise a new system of his own. After moving to the Netherlands and completing his doctorate (on malaria) Linnaeus published his first major work, *Systema Naturae* (1735), which introduced to the scientific community his idea of the binomial nomenclature system for classifying plants. He subsequently published several more books on the description

and classification of plants before he returned to Sweden where he began work as a physician and married his fiancée Sara Elisabeth Moræa. During this time, he also helped with the establishment of the Royal Swedish Academy of Science.

In 1741 Linnaeus was appointed Professor of Medicine at Uppsala University, and shortly thereafter, Professor of Medicine, Botany and Natural History. In this role he undertook several expeditions over the years from 1741 to 1749 tasked with looking for plants that could be useful in medicine, but which also enabled him to further explore his passion for the description of new plants and animals and their respective classification. Finally, in 1750, he was appointed the Rector of Uppsala University and in 1751 published *Philosophia Botanica* which was a complete summary of the taxonomy system he had used in his previous publications and scientific works. In 1753 he followed the publication of *Philosophia Botanica* with *Species Plantarum*, which contained over 1,200 pages, two volumes, and described over 7,300 species. *Species Plantarum* is today regarded as the foundation of botanical nomenclature, which provides names to the results of the system of taxonomy (which in itself is the process of grouping and classifying organisms).

Over the years Linnaeus continued to update and revise his first major work, *Systema Naturae*, and in 1758 the tenth edition was released. This

Species Name	Common Name
<i>Aedes aegypti</i>	Dengue mosquito
<i>Anthrenus scrophulariae</i>	Common carpet beetle
<i>Anthrenus verbasci</i>	Varied carpet beetle
<i>Blattella germanica</i>	German cockroach
<i>Blatta orientalis</i>	Oriental cockroach
<i>Cimex lectularius</i>	Common bed bug
<i>Dermestes lardarius</i>	Larder beetle
<i>Lepisma saccharinum</i>	Silverfish
<i>Monomorium pharaonis</i>	Pharaoh ant
<i>Musca domestica</i>	House fly
<i>Mus musculus</i>	House mouse
<i>Pediculus humanus humanus</i>	Body louse
<i>Periplaneta americana</i>	American cockroach
<i>Pthirus pubis</i>	Pubic louse
<i>Pulex irritans</i>	Human flea
<i>Rattus rattus</i>	Black (roof) rat
<i>Sitophilus oryzae</i>	Rice weevil
<i>Stegobium paniceum</i>	Drugstore beetle
<i>Stomoxys calcitrans</i>	Stable fly
<i>Tinea pellionella</i>	Casemaking clothes moth

edition established zoological nomenclature (for animals) and, when viewed in historical context, the grounding that *Species Plantarum* and *System Naturae* contributed to the study of the natural sciences could perhaps only be surpassed by those of Charles Darwin one hundred years later, whose ideas were in turn influenced by the work of Linnaeus.

In 1753 the Swedish King Adolf Frederick named Linnaeus a knight of the Order of the Polar Star (thus becoming the first civilian to become a knight of this order) and eight years later, in 1761, the king granted nobility to Linnaeus. From thereafter, he took the name of Carl von Linné. Linnaeus continued to work in the following years, before declining health and a series of strokes plagued his final years. It is reported that, in rather depressing irony, towards the end of his life he enjoyed reading his own works but could not recognise himself as the author.

In recent years the work of Linnaeus has received criticism for his inherent racism and use of

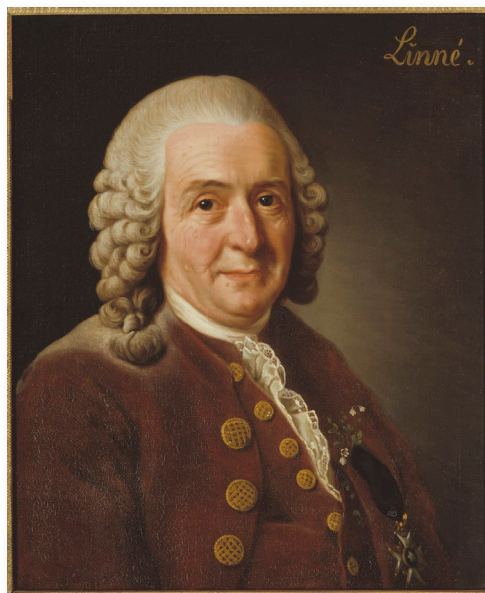
'varieties' to describe different human races and ethnicities in his works. Rightfully, his use of derogatory and negative traits ascribed to darker-skinned ethnicities should be called the racism that it was (and is). And, as with many other scientists and naturalists of the age, separating their valid scientific contribution that underpin our fields of study today versus their other ideas that were wrong and have no place in the contemporary dialogue is, and will continue to be, a complex topic.

Interesting Fact: Linnaeus's remains in Uppsala Cathedral are classified by the International Code for Zoological Nomenclature as the 'type specimen' for *Homo sapiens*. This is as a result of him basing his classification of humans on examinations of his own body.

Further reading: The life and work of Carl Linnaeus is without doubt far too detailed and full of scientific advancement and achievement for it to be adequately covered in two pages of in this magazine. Readers interested in his life and times would be encouraged to explore more detail through information freely available on the internet or via one of the several biographies published about him. ■

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Find out what this is in the next edition

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Hint: with mouthparts like that, this fly is sure to pack a punch!