



Termites are cockroaches after all

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Research at the Natural History Museum shows that termites belong to a new family of cockroaches.

Insect experts at the Natural History Museum reveal that termites, the creatures famous for building enormous mounds and eating houses, are in fact cockroaches.

Termites have long baffled scientists as to their place in the natural world and their relationship with other insects. Although they are part of a large 'superorder' that includes cockroaches, they were classified separately in a group called **Isoptera** .

This new research puts termites into the same group as cockroaches, (Blattodea). Termites are now classed as a new family of cockroaches called **Termitidae** . Isoptera is no longer valid.

Social insects

Termite diet, social behaviour and ecology are very different from their kitchen infesting cockroach counterparts. Confusingly also known as 'white ants', termites show many behavioural similarities with ants, wasps and bees as they are 'social' insects. They produce offspring to carry out specialised tasks such as foraging, mound building, defence or reproduction.

DNA analysis

Dr Paul Eggleton, Daegan Inward and George Beccaloni carried out the **most comprehensive DNA study to date** . They studied 107 different species of termites, cockroaches and mantids, another group of animals thought to be closely related.

'The key change in the termites' evolution from their cockroach ancestors seems to be when they



Termites' diet and behaviour is very different from cockroaches but similar to ants and bees.

developed the **ability to eat wood** ,' said Paul, Museum termite expert, 'they gradually lost their characteristic egg case, and some of their offspring became sterile workers and soldiers'.

Changing appearance and behaviour

'It may seem surprising that termites are actually social cockroaches since they look so different, but it is not unusual for animals to change in appearance as their behaviour evolves over time. Perhaps the most famous social insects, ants, **evolved from solitary predatory wasps** .'

Dr George Beccaloni, the Museum's cockroach expert adds, 'It is very rare that such a major change is proposed to how a group of animals is classified by biologists. If our findings are correct the textbooks will need to be rewritten.'

The paper **Death of an order: a comprehensive molecular phylogenetic study confirms that termites are eusocial cockroaches** is published online in the Royal Society journal **Biology Letters** .

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