



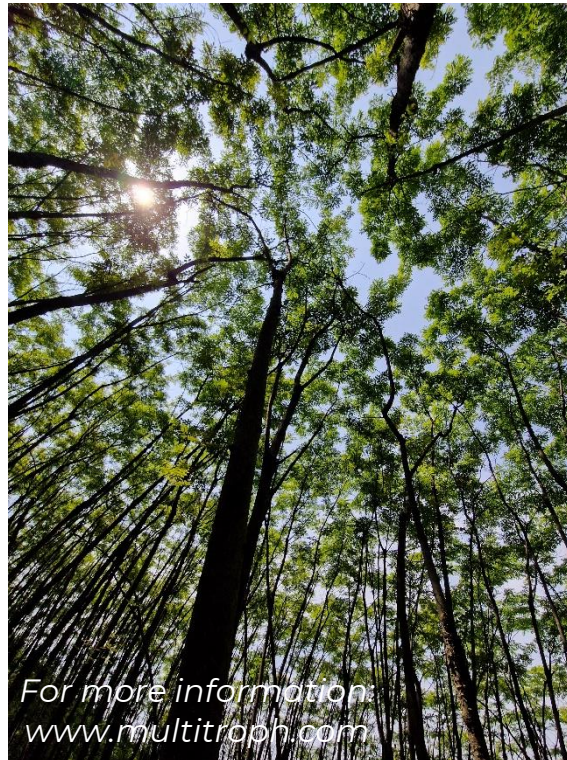
Saproxylic insects: life in dead wood

Deadwood is far more than mere remnants of fallen trees, it is a dynamic foundation of life. Saproxylic insects have evolved remarkable strategies to exploit this resource.

With their fascinating ecology, saproxylic insects are vital ecosystem engineers creating microhabitats, driving nutrient recycling, bolstering ecosystem resilience.

BEF China

Spanning 50 ha with over 300,000 planted trees, BEF-China is the world's largest biodiversity-ecosystem functioning (BEF) experiment. It is located near Xingangshan, Dexing, Jiangxi Province in southeast China. MultiTroph is a collaborative project uniting researchers from China and Germany to explore how, why and when species loss impacts ecosystem functioning across trophic levels.



For more information:
www.multitroph.com

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The great diversity of Xingangshan



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Isoptera

Termites are among the most impressive wood decomposer insects. They are social insects, organised in vast, highly efficient colonies, with different castes – workers, soldiers and reproductives.

Over 2500 species are known, mostly living in the tropics and subtropics. Their colonies can count from few hundreds to millions of individuals, and last from few years to over a century. They break down and digest the tough cellulose of deadwood with the help of symbiotic gut microbes. Termite galleries and mounds can also become bustling hubs of biodiversity, supporting a myriad of life forms.



Termite workers foraging in the leaf litter. It is not uncommon to witness also soldiers escorting and protecting them during activities outside the nest

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Coleoptera

The golden stag beetle (*Odontolabis cuvera*) is a big stag beetle notable for its sexual dimorphism, with males exhibiting very large mandibles used in competitive encounters. The larval phase lasts for several years in rotten wood, while the behaviour of adults centres on mating rituals.



The giant stag beetle (*Serrognathus titanus*) is also widely distributed in South-East Asia. Its life cycle is relatively fast, its larvae develop in



about one year in decomposing wood. Adults feed on tree juice. Male adults are also characterized by strong mandibles used in competition and defence.

Batocera lineolata is a big, dark longhorn beetle. Its larvae can excavate long, galleries in decaying wood for years.

Adults are attracted by tree lymph and fermenting fruit, and, as typical for Cerambycidae family, exhibit long robust antennae used as sensitive probes for detecting mates and environmental cues.

