

Arthropod
sampling efforts at
BEF China



Herbivores and predators

in a world of arthropods

Forest food web:



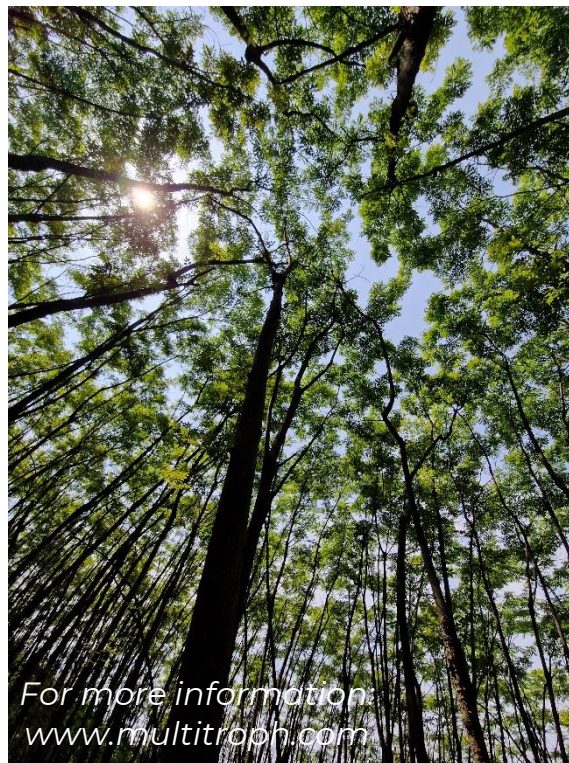
Predators – Third level

Herbivores – Secondary level

Trees – Primary level

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 stability across trophic levels.



For more information:
www.multitroph.com

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The great diversity of Xingangshan



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Aphrodisium faldermannii

Coleoptera



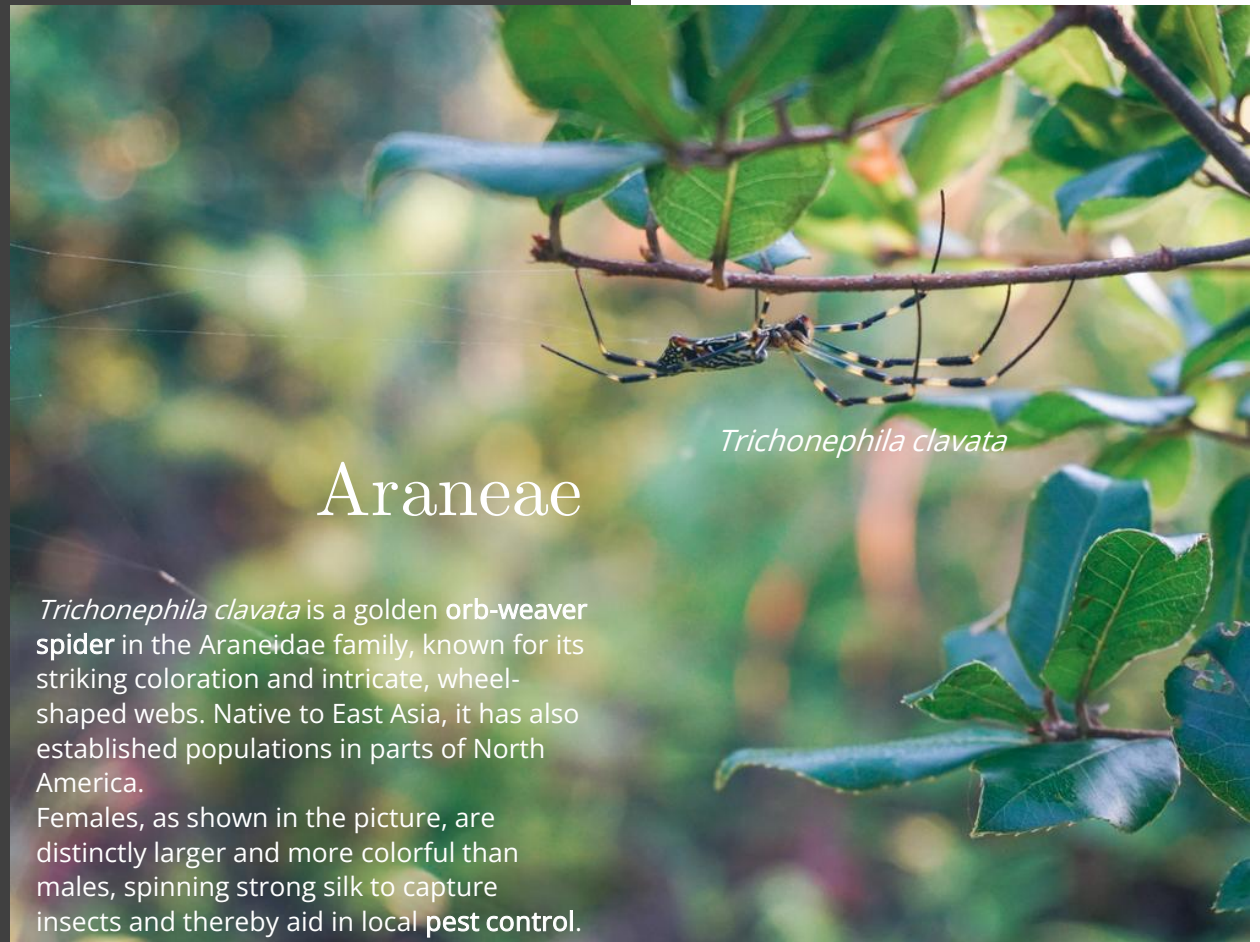
Aphrodisium faldermannii is part of the Cerambycidae family, a group of **longhorn beetles** known for their elongated antennae. This species is found in forest habitats across parts of Southeast Asia. While its larvae develop in dead or decaying wood, playing a key role in **nutrient recycling**, adults primarily feed on plant sap or nectar.

Leptobelus sauteri

Hemiptera



Leptobelus sauteri is a **treehopper** in the Membracidae family, recognized for its thorn-like pronotal extensions. Both adults and nymphs feed on plant sap using **piercing-sucking** mouthparts – a diet lacking certain essential amino acids. To compensate, these insects rely on ancient bacterial symbioses, maintained for about 300 million years in Auchenorrhyncha, to provide the missing nutrients.



Trichonephila clavata

Araneae

Trichonephila clavata is a golden **orb-weaver spider** in the Araneidae family, known for its striking coloration and intricate, wheel-shaped webs. Native to East Asia, it has also established populations in parts of North America.

Females, as shown in the picture, are distinctly larger and more colorful than males, spinning strong silk to capture insects and thereby aid in local **pest control**.

The species is annual: adults die off when winter sets in, and juveniles hatch the following spring. The number of eggs a female produces depends on her food intake – less nourishment results in fewer eggs.

Lepidoptera

Saturnia japonica, a member of the Saturniidae family, dazzles with dramatic wing patterns and an impressive wingspan of about 100 mm. The **caterpillars**, after feeding on a variety of host plants to build essential energy reserves, spin remarkably robust cocoons to safeguard them during **metamorphosis**. In stark contrast, the adult **moth** – lacking functional mouthparts – enjoys only a brief lifespan dedicated solely to reproduction.

