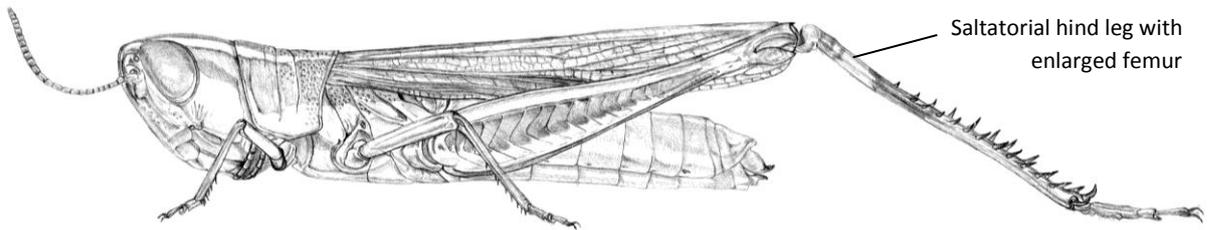


Order Orthoptera



Common names: grasshoppers, katydids, bush crickets, mole crickets, crickets, locusts

Simple diagnosis. Most species of Orthoptera can be recognised by the enlarged pronotum (= anterior dorsal shield of the thorax and elongate saltatorial (= jumping) hind legs, with the fore and middle legs are much smaller in size. They also have biting and chewing mouthparts and paired long rows of spines on the hind tibia, and leathery forewing with extensive venation, usually held flat over the abdomen when at rest, and the females have a well-developed ovipositor (= swordlike egg laying organ).

Technical diagnosis. Orthopterans are medium to large size insects, usually with a cylindrical body, and some species are brightly coloured, whereas other species are camouflaged. Structurally they can be recognised by the enlarged pronotum with the lateral extensions over the pleural (= lateral thoracic segments) sclerites and many species possess elongate saltatorial (= jumping) hind legs, with enlarged femora. However, both these latter two characters can be lost in burrowing forms. Orthopterans have a hypognathous (= directed vertically) head with mandibulate (= biting and chewing) mouthparts, multisegmented antennae, of varying length, ranging from very short to very long, and if so long, they are longer than the body. Also, the mesonotum and metanotum are short,



Oxya velox



the eyes are well-developed and three ocelli. Are present The fore- and middle legs are usually gressorial (= walking) and smaller than the hind legs. In burrowing species, the forelegs can be fossorial (= modified for digging) or more or less raptorial (= modified for catching prey). The hind tibiae have longitudinal rows of spines on dorsal surface, tarsi 1-4 segmented. The forewings are leathery, with extensive venation, the hindwing is membranous with well-developed venation and anal region. However, wings can be distinctly shortened. Abdominal cerci are unsegmented and the female ovipositor is well-developed. The nymphs are similar to adults in overall morphology.

What can they be confused with? Some leaf-mimicking or stick-mimicking orthopteran species can be confused with stick insects (Phasmatodea). They also have: an elongate and large body, forewings leathery, and hindwings a large anal region. However, the Phasmatodea can be recognised by the shorten pronotum, that does not extend over the pleura, the elongate mesonotum, gressorial legs, not modified for jumping or digging, and the head is typically prognathous (= directed forwards).

Biology. There are both diurnal and nocturnal species. They are usually herbivorous, and some species (e.g., locusts) can cause significant damage of crops. Some species are predaceous or omnivorous. The order is well known for its sound producing behaviour (= stridulation).

Diversity in Papua New Guinea. Orthoptera are distributed all over the world, but are best represented in tropics. There are more than 20,000 species. The New Guinea fauna is poorly known except for the larger species (Miller 2007).



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