

Open Peer Review on Qeios

Crickets

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Grylloidea is a superfamily of insects in Orthoptera and the Gryllidae family. It includes crickets, paquinhas, scaly crickets, and ant crickets, as well as two families known only from fossils. Crickets are black jumping insects, essentially sedentary and omnivorous. They live on agricultural land in cavities they drill with their front legs. Unable to fly, the hind wings either do not exist or are very small. They do not stray from their domains. The species *Acheta domesticus* (L.,1758) and *Gryllus* spp belong to the Gryllidae family. (Orthoptera) that live in synanthropy with the human species. It has the following characteristics of chewing mouthparts; long filiform antennae; stridulatory organs in the forewings of males; hearing organs located in the anterior tibiae; tarsi with three segments; acicular ovopositor or cylindrical, not flattened; forewings of the tegmina type and the posterior ones are membranous and folded in a fan shape under the first [1-12].

Most cricket species have crepuscular activity. Their wings make screeching sounds, a common feature on hot nights. In general, crickets are adapted to the most varied habitats. are insects of great importance economically by causing crop damage; can be raised to feed captive animals; and can still be didactic models for teaching Science. Among these insects, crickets are associated with seedling nurseries and have also received attention, given the frequent occurrence and relevance of damage caused to new eucalyptus plantations in several regions of the country. The reference to crickets as pests in forest nurseries is reported by several authors. Crickets cause damage to plants by consuming roots, stems, and leaves of young, tender seedlings. In the species of Grylus asimilis (Orthoptera, Gryllidae), both young nymphs and adults present nocturnal activity; they cut the stems and leaves and damage the root system of the seedlings [1-12].

Crickets are also capable of building galleries that damage or render unusable several bags of seedlings in nurseries., both young forms (nymphs) and adults, are nocturnal; they cut the stems and leaves and damage the root system of the seedlings. Crickets can also build galleries that damage or render unusable several bags of seedlings in nurseries. The number of instars differs considerably between species and for the same species. It is believed that these differences occur mainly due to genetic variations and environmental modifications. The authors also report that the number of instars found for most species is greater than five and that Acheta domestica can have up to 14 instars. The average duration of the nymphal phase was 68 days, ranging from 49.3 to 98 days. The viability of 14.5% verified for this phase was low, demonstrating that the experimental conditions used do not were ideal for the development of nymphs. Crickets are an important component of the macrofauna of forest litter, with a predominance of apterous or micropterous species [1-12].

Characteristics of crickets about crickets: "In many cultures, these animals are considered synonymous with good luck. In some species of crickets, such as *Platycleis affinis* Fieber 1853, males have very large testicles, representing



approximately 14% of their body mass; Breeding crickets was once a widespread hobby among the Chinese, who kept them in cages made of bamboo or wood; Many countries have cricket breeding grounds, mainly aimed at selling them to specialized restaurants and fishing stores, to be sold as bait. Wood cricket, *Nemobius sylvestris* (Bosc, 1792): During the mating season, males attract females by stridulation ("singing") and then present them with a spermatophore, that is, a sac full of sperm, which they attach to the female's genital opening. Sometimes, before transferring the large spermatophore (called macrospermatophore) to the female, the male transfers a smaller spermatophore (called microspermatophore) that does not contain sperm. The female eats the microspermatophore and then accepts the macrospermatophore, eating it too a few minutes after it is connected to her [1-12].

the hooded grasshopper, *Teratodes monticollis* (Gray, 1832): Native to Sri Lanka and India, it has a beautiful green color and an expansion on its pronotum (the upper portion of the first segment of the thorax) that resembles a hood, hence the name. The edge of the hood is marked by a beautiful yellow stripe, making it even more beautiful. However, the hooded grasshopper is not an adorable insect despite this beauty. It is known as a pest that attacks sandalwood, feeding on its leaves. However, I have not been able to find any work on the ecology or management of this peculiar creature. There is much to be done (Figures 1-2) [1-12].



Figure 1. Nemobius sylvestris (Bosc, 1792).

Source: Photograph by Brandon Woo; downloaded from BugGuide and https://orthsoc.org/sina/549admalelat.htm.





Figure 2. Teratodes monticollis (Gray, 1832).

Source: https://en.wikipedia.org/wiki/Teratodes.

References

[1] Dias MA, Costa Neto EM. ("Crickets" (Orthoptera) in the perception of residents of Feira de Santana, Bahia. Sitientibus Série Ciências Biológicas. 2005; 2: 99-114.

[2] David JADEO, ZEFA E, Fontanetti CS. Systematics, morphology, and physiology: cryptic species of *Gryllus* in the light of biocoustic (Orthoptera: Gryllidae). Neotropical Entomology. 2003; 32(1): 75-80.

[3] Gorochov AV, Mostovski MB. Apterous crickets of the tribe Gryllini from South Africa and Namibia (Orthoptera: Gryllidae). African Invertebrates. 2008; 49(1): 109-121.

[4] Ryan LG, Laufer B, Hearn L. Insect musicians & cricket champions: a cultural history of singing insects in China and Japan. 1sr ed. Tokyo: China Books. 1996.

[5] Huber F, Moore TE, Loher W (1989). Cricket behavior and neurobiology. 1st ed. Ithaca: Cornell University Press. 1989.

[6] Sperber CF, et al. Improving litter cricket (Orthoptera: Gryllidae) sampling with pitfall traps. Neotropical Entomology. 2003; 32(4):733-735.

[7] Knyazev AN. The Development cycle of the cricket *Gryllus bimaculatus* Deg. (Orthoptera, Gryllidae) under laboratory conditions. Entomological Review. 1985; 44(1): 58–73.



[8] Barbosa LR, lede ET, Santos F. Biology, damage characterization and occurrence of crickets in eucalyptus plantations. 1st ed. Colombo: Embrapa Florestas. 2009.

[9]. Oliveira CSP. Composition and diversity of the cricket fauna (Orthoptera: Grylloidea) in a forest fragment Atlantic rainfall of the State of Rio de Janeiro. EntomoBrasilis. 2013; 6(3): 184-192.

[10] Araguaia M. Grilo (Order Orthoptera) Brazil School. Available at: https://brasilescola.uol.com.br/animais/grilo.htm. Accessed on March 6, 2024.

[11] Boll PK. Wild Friday: Wood Cricket. Available at: https://naturezaterraquea.wordpress.com/tag/orthoptera/. Accessed on March 6, 2024.

[12] Brouwers NC, Newton AC. Habitat requirements for the conservation of wood cricket (*Nemobius sylvestris*) (Orthoptera: Gryllidae) on the Isle of Wight, UK.