

DENTICULATED MAGICIAN

SCIENTIFIC NAME: **SAGO PEDO**

CONSERVATION STATUS: **Least Concern - LC**

FACT FILE

- CLASS: INSECTA
- ORDER: ORTHOPTERA
- SUBORDER: ENSIFERA
- FAMILY: TETTIGONIDAE
- SIZE: 100-120MM
- DENTICULATED: SERRATED



The denticulated magician *Saga pedo*, known in French as *Magicienne dentelée*, is one of the most remarkable insects of the Mediterranean region. It belongs within protected Mediterranean dry grasslands, where it is considered a flagship species of open steppe habitats.



EUROPE'S LARGEST PREDATORY BUSH CRICKET

PHYSICAL DESCRIPTION

Saga pedo is Europe's largest bush cricket, reaching lengths of 100–120 millimetres including the ovipositor, which can measure up to 35 millimetres. Adults are bright green with pale longitudinal stripes along the body, long slender legs and extremely long antennae often exceeding body length. Wings are present but reduced, and the species is essentially flightless. Nymphs hatch at around 10–15 millimetres and grow through six to seven instars before reaching adult size. Eggs are approximately 8 millimetres long and slightly curved, laid individually in soil using the long ovipositor.

LIFE CYCLE AND REPRODUCTION

A defining feature of the denticulated magician is parthenogenetic reproduction: populations consist entirely of females capable of producing viable eggs without fertilisation. Eggs are deposited in loose soil in late summer and remain dormant until hatching the following spring. Juveniles emerge in spring and develop through successive nymphal stages over several months, reaching full size by mid-summer. Adults are present primarily from July to October, completing a univoltine life cycle, though the exact timing can vary with local temperature and vegetation conditions.

HABITAT AND ECOLOGY

The species inhabits dry, open Mediterranean grasslands, including meadows, steppe-like slopes, garrigue and lightly grazed pasture. Habitat requirements include abundant herbaceous vegetation for cover, open patches of sunlit ground for thermoregulation, and undisturbed soil for egg-laying. The mosaic of short grasses and open soil allows both effective hunting and protection from predators. Traditional low-intensity grazing by sheep or goats maintains these conditions by preventing scrub encroachment and preserving open sun-exposed patches essential for adult activity.

DIET AND PREDATORY BEHAVIOUR

Unlike most orthopterans, the denticulated magician is carnivorous and an active predator. It hunts nocturnally, feeding mainly on other orthopterans such as grasshoppers and smaller bush crickets, as well as large insects including beetles and caterpillars. Prey is captured using strong forelegs and mandibles, and hunting activity typically occurs at night when temperatures are cooler. This predatory role makes the species an important regulator of insect populations in Mediterranean grassland ecosystems.

BEHAVIOUR AND DISPERSAL

The denticulated magician is primarily nocturnal, remaining hidden in vegetation during the day to avoid predation. It exhibits limited movement, generally staying within the immediate habitat patch. Flightlessness and site fidelity restrict dispersal, making isolated populations highly vulnerable to habitat fragmentation. The species relies on camouflage and stillness for protection during daylight hours and short hops are its primary means of movement rather than sustained travel.

DISTRIBUTION AND POPULATION TRENDS

While *Saga pedo* is geographically widespread across the Mediterranean and parts of central Europe, populations are sparse and highly localised. In France, significant populations persist in the Luberon and surrounding areas, but habitat fragmentation and loss have caused declines elsewhere. Populations are vulnerable to stochastic events, with recolonisation difficult due to the species' limited mobility. Genetic diversity is low in isolated populations because of the parthenogenetic reproductive system.

THREATS

The main threat to the denticulated magician is habitat loss and degradation. Abandonment of traditional grazing leads to scrub and woodland encroachment, shading out herbaceous vegetation and reducing prey availability. Conversely, intensive mowing, overgrazing or mechanical soil disturbance can directly destroy eggs, nymphs and sheltering adults. Chemical pollution from pesticides and herbicides further reduces prey populations and habitat quality. Climate change, particularly prolonged droughts or extreme heat, may alter vegetation composition and soil moisture, affecting both development and survival.

CONSERVATION MEASURES

Conservation strategies focus on preserving and managing remaining dry grasslands, maintaining extensive low-intensity grazing regimes, and preventing habitat fragmentation. Protected areas, including Natura 2000 sites, play a crucial role in safeguarding populations. Monitoring programmes track distribution, abundance and habitat quality, while public awareness campaigns encourage local engagement and support for traditional pastoral practices. Legal protection under the EU Habitats Directive prohibits deliberate capture or destruction and requires maintenance of suitable habitats.

ECOLOGICAL IMPORTANCE

As a large nocturnal predator, the denticulated magician occupies a unique ecological niche in Mediterranean grasslands. It helps regulate populations of other invertebrates and serves as an indicator of healthy open steppe ecosystems. Its conservation is closely linked to maintaining traditional agricultural practices and preserving landscapes that support a wide range of Mediterranean flora and fauna. Protecting *Saga pedo* ensures the survival of not only the species itself but also the broader ecological and cultural integrity of its habitat.