

Brief Communication

Rash caused by *Oryctes nasicornis*

Stefano Veraldi, MD*, Daniele Fanoni, MSc, and Gianluca Nazzaro, MD

Department of Pathophysiology and Transplantation, Università degli Studi di Milano, I.R.C.C.S. Foundation, Cà Granda Ospedale Maggiore Policlinico, Milan, Italy

*To whom correspondence should be addressed. Email: stefano.veraldi@unimi.it

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Abstract

We report a case of rash caused by crushing of a male of *Oryctes nasicornis* (Linnaeus 1758) (Coleoptera, “<http://it.wikipedia.org/wiki/Scarabaeidae>” \o “Scarabaeidae” Scarabaeidae), popularly known as “European rhinoceros beetle”, on the skin of an Italian tourist who developed the reaction during a trip to Turkey. The rash appeared one hour after the crushing of the insect on the skin. The patient was observed one day later, when she returned to Italy. To our knowledge, no similar cases have been reported in the literature.

Key words: *Oryctes nasicornis*; European rhinoceros beetle; skin rash; contact dermatitis; contact urticaria.

We report a case of rash caused by crushing of a male of *Oryctes nasicornis* (Linnaeus 1758) (Coleoptera, Scarabaeidae), popularly known as ‘European rhinoceros beetle’, on the skin of an Italian tourist who developed the reaction during a trip to Turkey. The rash appeared 1 h after the crushing of the insect on the skin. The patient was observed 1 day later, when she returned to Italy. To our knowledge, no similar cases have been reported in the literature.

Oryctes nasicornis (Linnaeus 1758), popularly known as ‘European rhinoceros beetle’ belongs to the order Coleoptera, superfamily Scarabaeoidea, family Scarabaeidae and subfamily Dynastinae. Over 300 species of rhinoceros beetle are known. European rhinoceros beetle is widespread worldwide, in particular the Mediterranean basin, Middle East and North Africa. We describe a case of rash caused by crushing on the skin of a male of *O. nasicornis*.

Case Report

A 47-year-old Italian woman was admitted to our Dermatology Unit due to a rash located at the right arm. The patient stated that she was in good general health and that she was not in therapy with systemic drugs. She also declared that she had just returned from a trip to Turkey, where the rash had appeared. Furthermore, the patient stated that the rash was caused by a beetle that was accidentally crushed on the skin. The rash appeared 1 h after the crushing of the insect on the skin. The patient was observed 1 day later, when she returned to Milan. She brought to Milan two beetles that she collected on her bed.

They were classified as males of *O. nasicornis* (Figure 1). Dermatological examination revealed an erythematous-infiltrated, roundish, red in colour, 11 cm in diameter, area (Figure 2: the latter was taken by one of us (S.V.), when we examined the patient the day after the crushing). The patient complained of burning sensation. General physical examination revealed anything pathological. Laboratory tests were within normal ranges or negative. A diagnosis of contact dermatitis vs contact urticaria was made.

The patient was treated with hydrocortisone butyrate cream (two applications/day for 5 days). Complete remission was observed after 3 days from the beginning of the treatment.

Discussion

Oryctes nasicornis reaches a length of 4 cm. It is characterized by a garish sexual dimorphism: males have a long curved horn on the head, while females have no horns. The horn is used for fighting other males during the mating season and also for digging.¹ Elytra are reddish-brown; the head and pronotum are slightly darker. The lower surface of the body and the legs are covered by long red-brown hair. The body is covered by a thick exoskeleton. A pair of thick wings allows rhinoceros beetle to fly, although not very efficiently, because of its large size.

Rhinoceros beetle lives in damp and shady soil. It starts its activity after the sundown and continues until the sunrise; however, it is attracted by artificial light.² When it is disturbed, it releases loud and hissing squeaks: the latter are produced by rubbing the abdomen on the wings.



Figure 1. Male of *O. nasicornis* (Linnaeus 1758) (Coleoptera, Scarabaeidae), popularly known as 'European rhinoceros beetle'



Figure 2. Rash located on the right arm

The females lay a total of 50 eggs. The larvae hatch from eggs and later develop into pupae before they reach the adult status. The adult of *O. nasicornis*, after three larval stages of 2–4-year duration, usually emerges in late May–early June, living 3 to 4 months.² In captivity, with a temperature of 25°C, the larval stage lasts 10–12 months. The larvae grow in decaying plants (oaks, willows), feeding on rotten wood. They can reach a length of 6–10 cm. Adult of *O. nasicornis* does not feed: it consumes the reserves accumulated during the larval stages. The size of the adult as well as the horn is a good indicator of nutrition.

The mammoth wasp [*Scolia* sp. (Hymenoptera: Scoliidae), in particular *Megascolia maculata*] is a parasite of rhinoceros beetle larvae. Female wasps lay the eggs inside the beetle larvae; when the eggs hatch, the wasp larvae will feed on the beetle larvae.

Some species of rhinoceros beetle, such as *Oryctes agamemnon*, are pests of date palms. In fact, larvae of this species invade the respiratory roots at the level of the soil and trunk barks.³ Coconut and oil palm crops can also be damaged. Several countries, including Tunisia, the United Arab Emirates, Oman and Saudi Arabia, are involved.²

The fungus *Metarhizium anisopliae* is a proven biopesticide for beetle infestation in crops.⁴

In some Asian regions, such as Thailand, male beetles are used for gambling fights because they naturally have the tendency to fight each other for the attention of females.

Despite a careful review of the literature, we were not able to find cases of rash caused by *O. nasicornis*. It is possible that, in our patient, the rash was caused by the contact with the horn of the beetle as well as by the contact of some irritant substances released by the insect when scratched on the skin. We have no data to support, in this patient, the diagnosis of rash caused by other arthropods (*Paederus* sp., hymenoptera, *Tabanus* sp., centipedes, ...), although it is well known that they can cause similar inflammatory reactions. Other possible diagnoses (erysipelas, fixed drug eruption) were also excluded.

Three families belonging to the order Coleoptera can cause a skin rash. Meloidae and Oedemeridae families are responsible for a distinctive vesiculobullous eruption ('blister beetle dermatosis') when the beetle is accidentally crushed on the skin. The compound contained in the body fluids of these beetles is cantharidin.⁵ The third family, Staphylinidae, includes species of the genus *Paederus*. In particular, *Paederus fuscipes*, releases pederin, always when the insect is crushed on the skin.⁶ After a few hours to 2 days, a rash occurs on the areas (usually the face, the neck and the forearms) that correspond in morphology and size to the area on which the beetle has been crushed and cantharidin or pederin has been released. The eruption is initially erythematous–oedematous. Subsequently, vesicular and bullous lesions can appear. Later, crusts and scaling develop: these eventually fall off, leaving a hyperpigmentation that can persist for some weeks. The formation of a scar is rare: it is usually the final clinical result of a deep tissue damage or a bacterial superinfection. These manifestations are accompanied by burning sensation, stinging and pain or, more rarely, by pruritus. The whole process heals spontaneously within 1–3 weeks.⁶

In conclusion, we described a case of rash likely caused by *O. nasicornis*.

Conflict of interests: None declared.

References

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