

## THE GREAT EUROPEAN STAG BEETLE — ITS PAST AND ITS FUTURE

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The largest of the European beetles is *Lucanus cervus*, variously known as Xuk-aliei (?) (= Deer-beetle in Russian), Stag (English), Cerf-volant (French), Hirschkafer (German), Szarvasbogár (Hungarian). This beetle is well known in Europe among the other insects not only by entomologists and zoologists, but also by the population in general. This large beetle belongs to the extensive family of Lucanidae, commonly called Stag Beetles, that contains about 800 species, although these are mainly from tropical areas. Only a few of the smaller species are known in Europe and of these *cervus* is the largest being up to 74mm in body size. It is distributed throughout the palaeartic region being particularly common from Middle Europe to the Baltic Sea basin in the North and being found especially in oak tree forests. In the USSR for example there are known some 15 species of Lucanidae, including the genera *Dorcus* (3 species), *Platycerus* (2 species), *Ceruchus* (1 species), *Sinodendron* and *Lucanus*. Apart from the last, all the species in these other genera are small beetles about 12-32mm in body size and occur especially from the Southern European part of USSR, the Crimea and the Caucasus. *L. cervus* inhabits these areas too, especially those with deciduous forests.

Similar to *cervus* is the Asiatic *L. dybowsky* Parry which inhabits the Far East tree forests. *L. cervus* is known in forests from the extreme western part of the USSR to the Volga river in the East and to the Baltic Sea area in the north, but there the beetles are rare, only a small quantity of them having been recorded from time to time in the southern part of Latvian SSR.

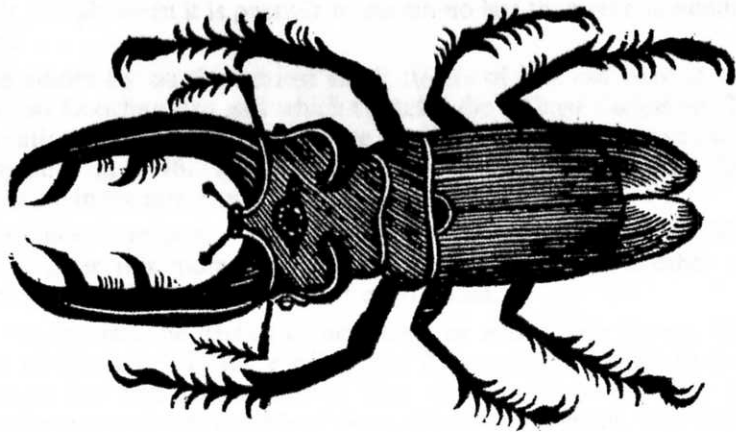
The typical biotope of this species are oak trees as has been noted in all the literature dealing with this species. The large size of *cervus*, whose large horns in the male resemble those of deer (hence the Russian name "deer-beetle") attracted the attention of naturalists many centuries ago. Indeed the essential knowledge about *cervus* is known from early times. The then very common *cervus* was known in early Rome. Gaius Plinius Secundus in his *Historiae Naturalis* wrote about them when he said that the big tree worms (larvae of *cervus*) were common and often collected by the Roman people from oak trees and were called "Cossi".

These worms were used as a delicacy at banquets being often coated first with flour. According to the writings of Teromín the big white worms with black heads were well known in the Pontian and Frigian areas (Black Sea basin and Balkan Peninsula). The inhabitants of these areas collected the larvae that lived in weak trees and the sale of larvae as a choice of food was very profitable.

The Stag beetle was first illustrated and described by Thomas Mouffet in his book *Insectorum sive Minimorum Animalium Theatrum* in 1634 (English translation, *Theatre of Insects*, 1658). Linnaeus later scientifically named this beetle as *cervus*. Alfred Brehm in his monumental work, *Brehm's Tierleben*, (10 volumes on Animal life) gave the known information about *cervus* to the end of the 19th century and noted this beetle as common throughout Europe and typical for oak trees habitats.

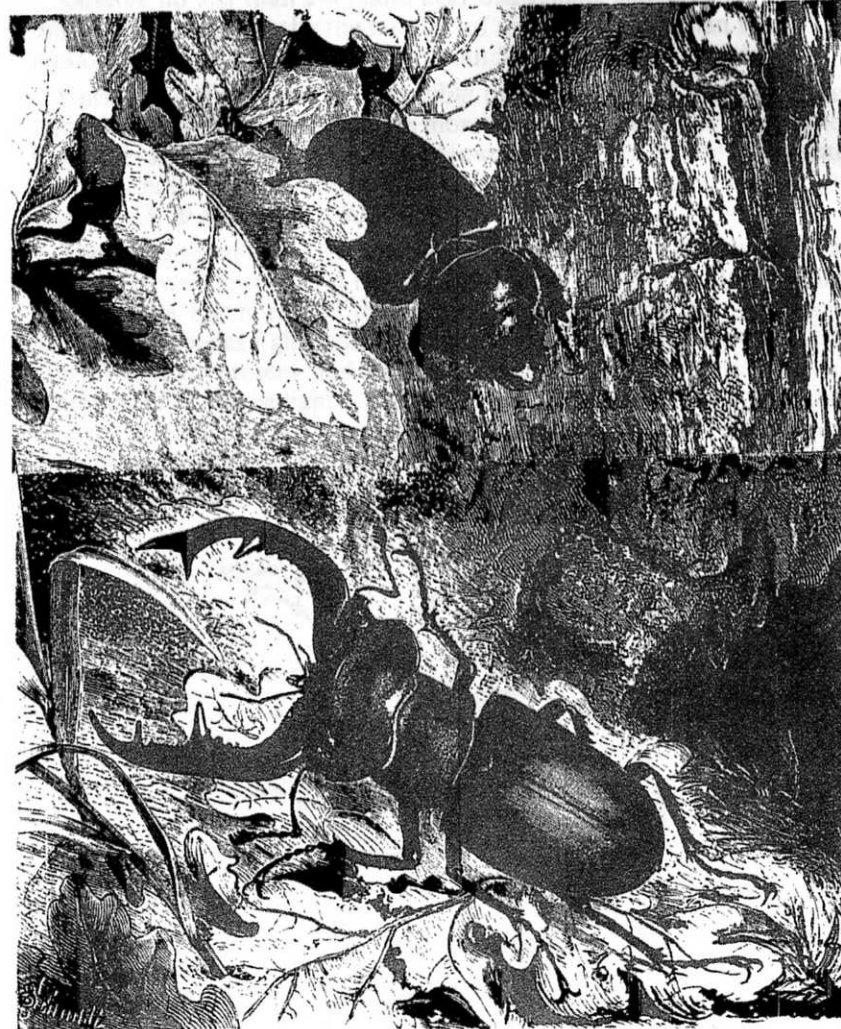
The larvae are largish, about the size of a finger, some 10.5 mm long and spend up to four years in trees especially those that are old, big and weak. The pupal state occurs in the fifth year of life and is contained in a cocoon built by the larva from a mix of soil and tree remains and can be as large as a man's fist. This stage lasts at least half a year and emergence of the flying adults takes place in June and July and the longevity of the imagos is only some three to four weeks.

In the 19th century it was observed that immense swarms of Stag beetles sometimes occurred and once a large swarm of them was seen to fly into the Baltic Sea off the Lithuanian coast. Many flying swarms were observed in Germany by Kornelius in 1867 at Elberfeld, while Haaber observed the mass flying of *cervus* in 1862 and 1867 in the vicinity of Prague in Czechoslovakia. In 1863 a large quantity of adult beetles was observed near Sonderhausen around an old big oak tree. The many other insects also present included flies and species of hymenoptera such as Apidae species.



The Stag beetle illustrated in Mouffet

Since the last century many drastic changes have taken place in the environment. The number of oak trees and the area of wild forests where they occurred have become much smaller in many areas. Industrialisation has emitted many toxic chemical preparations that have polluted the environment. The active use of insecticides have caused the disappearance of many species of animals from previously recorded habitats. These actions may be dangerous for the entomofauna that



Stag beetles illustrated in Brehm.

