

STAG BEETLE *LUCANUS CERVUS* (LINNAEUS, 1758) IN LATVIA (COLEOPTERA: LUCANIDAE): FAUNAL STATUS, PROTECTION AND USE IN FOLK ART

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The article summarizes information on the historical finds, faunistic and protection status of the stag beetle *Lucanus cervus* Linnaeus, 1758 (Coleoptera: Lucanidae), as well as its use in folk art in Latvia. The first cases known to the authors of an image of a stag beetle used to decorate palms of knitted mittens and an embroidered sweater in 2019 are described.

Key words: *Lucanus cervus*, Lucanidae, fauna, cultural entomology, Latvia.

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INTRODUCTION

According to the Fauna Europea database, *Lucanus cervus* (Linnaeus, 1758) with its two subspecies is common almost across all Europe (Vit 2019). There is one of the subspecies occurring in Latvia *Lucanus (Lucanus) cervus* subsp. *cervus* (Telnov 2004). However, there is still an ongoing discussion on the faunistic status of the species in Latvia, as well as there is a lack of a summarization of the available data so far. The authors of this article present the information about history of findings of the species in the XX - XXI centuries and offer a discussion of the status of this species in the Latvian fauna. At the same time, for the first time in Latvia, two cases of this species being used in folk art has been recorded – an original design of mittens (handmade) and an embroidered sweater use an

image of this beetle. This is a remarkable fact of Latvian cultural entomology, as so far, the use of beetle images in folk art has been rare. To date, we have only known and described one case when an image of a beetle has been used in Latvian folk art – a stylized image of a ladybug *Adalia bipunctata* (Linnaeus, 1758) (Barševska 2012, Barševska, Barševskis 2016), was used in a crocheted towel end lace, made in Latgale (Krāslava municipality, Kombuļi rural territory, Skadiņi). The ladybird has a pronounced elytral suture, two large and two small spots on each elytron, six legs and a head with two antennae.

MATERIAL AND METHODS

Primary literature, species lists and catalogues were searched and referenced. Interviews

with authors of unpublished reports and some published records as well have been made. The use of images of insects in the folk art was researched by organizing expeditions in Latvia, visiting regional museums, various cultural societies, as well as checking out social networks, such as Facebook, Instagram and more. The described mittens with a stag-beetle image were found on EmiliaMittens's Facebook.com profile and an interview with the knitter was conducted. The image of a stag beetle on an embroidered sweater was found on Facebook.com profile of Nadja Harlamova and an interview was conducted with her, too. The purchased mittens are kept at Daugavpils University Coleopterological Research Centre, Daugavpils municipality, Ilgas, Latvia.

RESULTS AND DISCUSSION

Historically, the earliest record of *L. cervus* in Latvia is a specimen (male) labelled "Riga, 1912" (ID: 1 – the observation identifiers here and below are used in the species distribution map) in a collection of insects in Moscow, which was reported in an entomology forum MolBiol.ru (pers. com. Dmitry Telnov).

The following data on *L. cervus* in Latvia can be found in an article (Saars 1930) by entomologist Ansis Sārs (also Hanss Saar). In his short description of behaviour of the insects, A.Sārs has mentioned that this species "*was not a rarity*" in Bolvi (nowadays – Balvi) oak forests (ID: 2), some specimen were found in Gaujiena (ID: 3) and Skrīveri (ID: 4). The same article states data about morphology and biology of the species, as well as information that the species has disappeared from Gaujiena together with its oaks, but on summer 1929 both female and male specimens have been observed multiple times in Skrīveri "*on the way to the lake*" (eventually it is the road from Skrīveri to the Lake Lobe). However, this information has never been republished in any works of other entomologists, possibly because of the low availability of pre-war periodicals during the Soviet era, the large

amount of diverse information, or the reliance on the summarization of all known data in the works of the previous authors.

In the Red Data Book of the Latvian SSR published in 1985 (Andrušaitis 1985), *L. cervus* was included in the Category 0 as a possibly extinct species and the only finding was nearby Auce (ID: 5), where one specimen was observed according to unpublished material by a forest scientist and forest entomologist Gints Ozols (1932-1988).

In the Red Data Book of Latvia (Spuris 1998) of 1998, *L. cervus* was moved to the Category 1 as a threatened species. This publication notes the aforementioned find in the vicinity of Auce and indicates that, according to unverified information, the species has been found in Latvia (pers. com. A.Barševskis), in Ikšķile (ID: 6; pers. com. L.Kalviņa) and in an oak stand in Barkava (ID: 7; pers. com. N.Savenkovs). However, during the interview on 07.12.2019 with the authors of this article, the entomologist



Fig. 1. *Lucanus cervus* specimen caught in 1969, in Ieriķi. Currently kept in Alūksne Museum. Photo: Mārtiņš Kalniņš

Nikolajs Savenkovs, pointed out that this finding in the vicinity of Barkava was never mentioned as an existing finding of species (possibly it was referred to as the place where the species could be eventually searched for because of the relatively large oak stands). The personal statement by Arvīds Barševskis mentioned in the same publication, refers to a published material on a collection of students of Daugavpils Pedagogical Institute (now – Daugavpils University) in 1960s, when this species was found in the Medumu neighbourhood (ID: 8), and 2 specimens were collected, as well as a report by herpetologist Mihails Pupiņš on a live beetle in Medumi (ID: 9) and unverified reports on species observations in the vicinity of Šedere (ID: 10), Eglaine (ID: 11), Dviete (ID: 12) and Aizkraukle (ID: 13) (Barševskis 1993).

Historically, the most recent finding of *L. cervus* in Latvia, for which a specimen is available, is the finding by Aldis Verners – in 1969, when a male of this species flew through a window in a house in Ieriķi (ID: 14). According to Aldis Verners, there were also two female beetles, but

no conclusive data (records or specimen) were available (pers. com. A. Verners). The captured specimen is kept in the Alūksne Museum (Fig. 1). The most recent finding was on 01.06.2006, when 1 male was found near an old clear dead common ash (*Fraxinus excelsior*) by J. Ceriņš in Rozula parish, Lake Ruckas W, near Īvanti house (ID: 15). This specimen has not been checked by specialists. It was caught by forestry staff and identified on base of the comparative specimens and drawings (Telnov et al. 2006).

L. cervus has been repeatedly mentioned in various publications on species identification, fauna of Latvia or certain specially protected nature territories (c.f. Kalniņš et al. 2007), etc., however, they do not contain specific information on species finds or even references to any sources of information.

The findings mentioned in this article are divided into relatively safe, and questionable observations (Fig. 2). Relatively safe observations are those that have a specimen (ID: 1, 8, 14), or they have been observed by an entomologist (ID: 2, 3, 4,

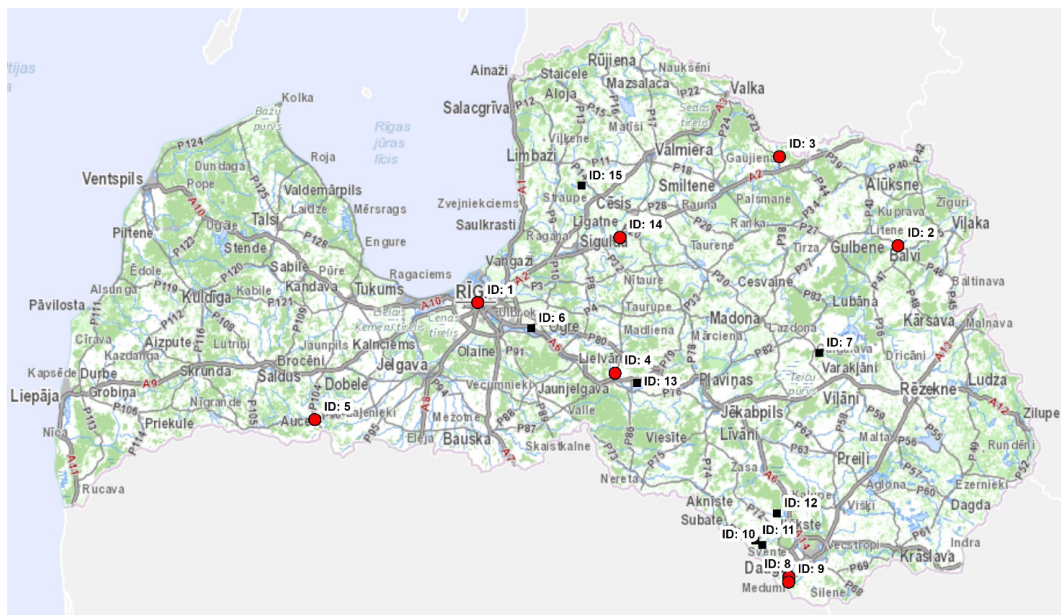


Fig 2. Distribution map showing known sites of records for *Lucanus cervus* in Latvia. Red dots are marked with higher confidence (all more than 40 years old), but with black squares – low reliability or erroneously published information.

5), or the author of the report has demonstrated their ability to recognize the species (ID: 9). In several cases not included in this article, checking other reports on *L. cervus*, it was established that the species was confused with *Oryctes nasicornis* (Dynastidae) or *Dorcus parallelipipedus* (Lucanidae). The findings of stag beetles from which the specimens are still available, are over forty years old. Given that the beetle of this species is a large, relatively easily identifiable, and may also be frequently observed during the day, it is likely that it has now disappeared from the Latvian fauna. The potential habitats of *L. cervus*, such as the oak alley in Ieriķi and the oak trees in the vicinity of Medumi, are still there, but there are no data on whether these areas have the dead oaks or stumps necessary for the development of the species. Potential habitats of the species, such as the 9160 Sub-Atlantic and Medio-European oak or oak-hornbeam forests of the *Carpinus betuli*, are also relatively widespread habitats in Latvia. At the same time, the area of 6530* Fennoscandian wooded meadows has significantly decreased (Auniņš 2013).

In the view of the fact that this species is found in Lithuania (pers. com. V.Tamutis) and Belarus (pers. com. A.Semenyak & O.Borodin), it is necessary to conduct research in the southern part of Latvia, e.g., Auce, and Medumi, from where there are about 40 years old, but fairly reliable (including specimens in collections) data on the location of this species. Also, during the “Animal of the Year 2000” campaign organized by the

Latvian Museum of Natural History, when *L. cervus* (Savenkovs 2000) was the animal of the year, no new data on this species were obtained. Likewise, *L. cervus* would be worth searching in areas where oaks, such as the Pededze River basin, are found in relatively large and long-lived areas.

In 2019, the author Z.Barševska managed to notice an image of this species used in Latvian-made mitten patterns (Fig. 3) on social networks. The authors got in touch with the knitter Laura



Fig. 3. The mittens knitted by Laura Riekstiņa with an image of a stag beetle on the palm part of the mitten. Photo: Arvīds Barševskis.



Fig. 4. The sweater knitted and embroidered by Nadežda Harlamova with an image of a stag beetle. Photo: Nadežda Harlamova.

Riekstiņa, who lives in Riga (Latvia), but was born in Saldus (Kurzeme – one of historical counties, the division which is still in use today). She has been knitting mittens since 2012. At first, she made traditional Latvian folk ornaments, but later decided to experiment by drawing individual patterns and visualize them in her knitted items. In 2018, L. Riekstiņa decided to start knitting something completely different – plant (floral) and animal (zoomorphic) motifs. The knitter searched for ideas, inspiration, and found a photo of a stag beetle on Pinterest.com that seemed to be drawable i.e. available for geometrical stylizing and adjustable to fit into the mitten's palm part as a central pattern. It resulted in creation of several creative design variations of the group of mittens shown in the picture, using colored (polychromatic) wool yarn and modifying the image of a stag beetle (entomomorphic pattern) in modern mittens.

In 2019, another needlework was found on Facebook, where an image of a stag beetle had been used. That was an embroidered stag beetle on a knitted sweater by Nadežda Harlamova (Jēkabpils, Latvia). The author of the sweater is a biologist and an excellent knitter and, as she had admitted during the interview, she had always wanted to create a sweater with an image of a moth. However, embroidering a moth turned out to be a complicated process, so the knitter saw an image of a stag beetle and embroidered it on her sweater. The process of embroidery was not simple and had to be repeated several times until this needlework was made. (Fig. 4).

Both of these examples are the cases we are aware of and that have been described, where a beetle occurring in Latvian nature is a source of inspiration for geometric, but realistically recognizable stylization and visualization of a popular handicraft technique and practically used traditional textile. Reflections of past values in the 21st century folk art can be attributed to quotations of tradition, ancient symbolism and mentality, because, as Janīna Kursīte has written, “the power of the earth was attributed to beetles” (Kursīte 2018). The history of the recorded and described case demonstrates non-

traditional aspects of the cultural development of the 21st century, including interdisciplinary entomoculturalism. We have also found that in both cases the master craftswomen have used images found on the internet for their inspiration, which indicate that the role of the internet in 21st century has been increasing in finding new patterns used in the folk art.

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