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LONGHORN BEETLES (COLEOPTERA: CERAMBYCIDAE) IN CENTRAL ISTRIA

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During a two year long faunistic survey in three localities in central Istria (Pazin, Vela Traba and Limska Draga), a total of 35 longhorn beetle (Coleoptera, Cerambycidae) species were recorded. This represents 16% of species in the Croatian longhorn beetle fauna. Though small in number, the species recorded in the research contribute to a better knowledge of the distribution of longhorn beetle species in Croatia. Two species, *Ergates faber* (Linnaeus, 1761) and *Prionus coriarius* (Linnaeus, 1758) were recorded for the first time in Istria. Faunistically the most interesting is the finding of the endangered species in the European scale, *Morimus asper funereus* Mulsant 1862, which is listed in Appendix II of the Bern convention.

Pazin, Vela Traba, Limska Draga, longhorn beetles, Cerambycidae, genus *Morimus*

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Tijekom dvogodišnjeg faunističkog istraživanja triju lokaliteta na području središnje Istre (Pazin, Vela Traba i Limska Draga) zabilježeno je ukupno 35 vrsta cvilidreta (Coleoptera, Cerambycidae) što predstavlja 16% faune Hrvatske. Iako je broj zabilježenih vrsta relativno malen, one pridonose boljem poznavanju rasprostranjenja cvilidreta u Hrvatskoj. Dvije vrste, *Ergates faber* (Linnaeus, 1761) i *Prionus coriarius* (Linnaeus, 1758) prvi su put zabilježene u Istri. Faunistički najznačajni je nalaz mrke cvilidrete (*Morimus asper funereus* Mulsant 1862) koja se smatra ugroženom vrstom i nalazi se na II. Dodatku Bernske konvencije.

Pazin, Vela Traba, Limska Draga, fauna, cvilidrete, Cerembycidae, rod *Morimus*

Introduction

The peninsula of Istria (Crkvenčić et al., 1975) is a part of the Northern Adriatic coast of Croatia. The first survey of longhorn beetles in Istria was done in the first half of 20th century (Depoli, 1926, 1940). However, this research was primary focused on the city of Rijeka and the surrounding area (named Liburnija) so most of Istria was not really covered by the research at that time. After Depoli, only a few other entomologists did sporadic research into the longhorn beetles of Istria (Müller, 1953; Demelt, 1964). Collected cerambycids in those works were labelled quite vaguely (e.g. Istria was cited as a single locality) so not many species can be assigned to a specific location. This is also the case with the work of Rene Mikšić who made a list of all the longhorn beetle species of former Yugoslavia accompanied with their respective locality data Mikšić (1963). Those collected in Istria bear only few toponyms like Rovinj or Pula and none of them in the central part of the peninsula.

The aim of this research was to give the first preliminary list of longhorn beetles found in central Istria.

Material and Methods

During the years 2007 - 2009, a faunistic investigation of longhorn beetles (Coleoptera: Cerambycidae) of central Istria was conducted in the following localities: Zarečki krov (Pazin), Vela Traba and Limska Draga (Fig 1). In Vela Traba, a village near Pazin, meadows, forests and forest clearings were visited on a daily routine. In the evening and at dusk, street lights were checked for the presence of crepuscular species. At the second location, Zarečki krov, a waterfall near Pazin, mainly meadows close to the river were investigated. The habitats at the third location, Limska Draga, forests and agricultural land covering the old river bed, were also visited. All localities were visited at irregular intervals during the research period. Each year a minimum of five field trips per locality was accomplished between March and October.

Beetles were sampled using the classical sampling methods. During the day they were collected manually or with a sweeping net from flowers, bushes and trees. At dusk, crepuscular species were manually collected on the surfaces of street lights in the vicinity of collecting sites. All specimens collected have been mounted and are kept in a private collection (Coll. Koren) in Pazin.

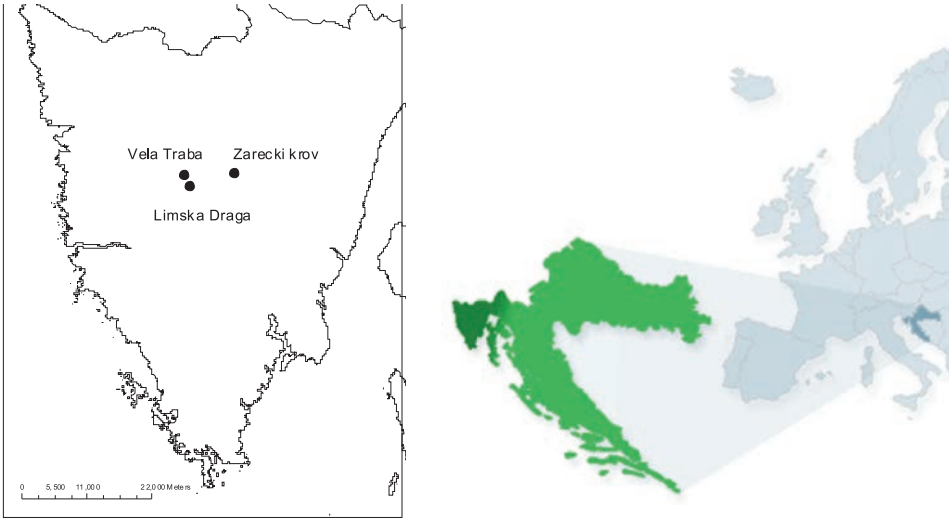

Figure 1. Map of Istria with researched localities.

Slika 1. Karta Istre s istraživanim lokalitetima

Table 1. Systematic list of recorded species and their presence at each of the investigated localities and their biogeography.

Tablica 1. Sistematika, zastupljenost i biogeografija utvrđenih vrsta na istraživanim lokalitetima.

Tribus	Species	Vela Traba	Limska Draga	Zarečki krov	Biogeography*
Prioninae	*Ergates faber* (Linnaeus, 1761)	+	+	-	CS-Eu, N-Af, W-A
	Prionus coriarius (Linnaeus, 1758)	+	-	-	M- Eu
	Aegosoma scabricornis (Scopoli, 1763)	+	+	-	M, CS-Eu, SW-As
Aseminae	*Arhopalus rusticus* (Linnaeus, 1758)	+	-	-	EuS,S-Af
Spondylinae	*Spondylis buprestoides* (Linnaeus, 1758)	+	-	-	EuS
Cerambycinae	*Aromia moschata* (Linnaeus, 1758)	+	-	-	Eu, As
	Pyrrhidium sanguineum (Linnaeus, 1758),	+	-	-	CS-Eu, N-Af, SW- As
	Cerambyx cerdo Linnaeus, 1758	+	+	-	Eu, SW- As
	Cerambyx scopolii Fuesslins, 1775	+	+	-	CS-Eu, N-Af, SE-As
	Chlorophorus figuratus (Scopoli, 1763)	+	-	-	IM- Eu, EuS
	Chlorophorus sartor (O.F.Müller, 1766)	+	-	-	CS-Eu, S-As

Table 1. continued
Tabica 2. nastavak

Tribus	Species	Vela Traba	Limska Draga	Zarečki krov	Biogeography*
	Chlorophorus varius (O.F.Müller, 1766)	+	+	+	CS-Eu, S-As
	Paraplagionotus floralis (Pallas, 1773)	-	-	+	CS-Eu, S-As
	Hesperophanes cinereus Villers 1789	+	-	-	SM-Eu, N-Af
	Hylotrupes bajulus (Linnaeus, 1758)	+	-	-	Holartic
	Purpuricenus kaehleri (Linnaeus, 1758)	+	+	-	CS-Eu
	Stenopterus flavicornis Küster, 1846	+	-	-	S-Eu, SW-As
	Stenopterus rufus (Linnaeus, 1767)	+	+	+	CS-Eu, SW-As
Lepturinae	*Pachytodes erraticus* (Dalman,1817)	+	-	-	Eu, SW-As
	Pseudovadonia livida (Fabricius, 1776)	+	-	-	Eu, SW-As
	Rutpela maculata (Poda, 1761)	+	+	+	Eu, SW-As
	Stenurella bifasciata (O.F.Mueller, 1776)	+	+	-	IM, EuS
	Stenurella septempunctata (Fabricius, 1792)	+	+	+	CS-Eu, IM
	Stictoleptura cordigera (Füsslins, 1775)	+	-	-	S-Eu, SW-As
	Stictoleptura rubra (Linnaeus, 1758)	+	-	-	Eu, As
	Strangalia melanura (Linnaeus 1758).	+	+	+	EuS
	Dinoptera collaris (Linnaeus, 1758)	+	+	+	M, S -Es
	Rhagium inquisitor (Linnaeus, 1758)	+	-	-	Eu, As
Lamiinae	*Agapanthia cardui* (Linnaeus, 1767)	+	-	-	SM-Eu
	Exocentrus punctipennis Muls. et Guillebeu, 1856	+	-	-	CS-Eu
	Dorcadion arenarium (Scopoli, 1763	+	+	-	CS-M (Eu)
	Herophila tristis (Linnaeus, 1767)	+	-	-	S-Eu
	Morimus asper (Sulzer, 1776)	-	+	-	S&M-Eu
	Phytoecia cylindrica (Linnaeus, 1758)	+	-	-	CS-Eu
	Saperda populnea (Linnaeus, 1758)	+	-	-	EuS

* Eu –Europe, EuS- Euro-Siberian region, As- Asia, Af- Africa; I-east, W-west, N-north, S-south, C-central, M-Mediterranean, Holarctic

Cerambycid beetles were classified according to Bense (1995) and taxonomic identification was performed in the works of Bense (1995), Mikšić (1971), Mikšić & Georgijević (1971; 1973) and Mikšić & Korpič (1985).

Results and discussion

A total of 35 species belonging to 6 tribes were found (Table 1). The recorded number of species amount to 16% of all known and published cerambycids for Croatia, which according to Mikšić, comes to 225 species (Mikšić, 1971). A systematic list of recorded species and their localities is given in Table 1. Biogeographic relationships were defined using Mikšić (1963) and Chatenet (2000) showing that most of the species were of south European and Mediterranean origin.

Although an unimpressive number of species was found, these new findings fill up some gaps in the distributional data for some of the species in Croatia. For example, even common and large species like *Ergates faber* (Linnaeus, 1761) and *Prionus coriarius* (Linnaeus, 1758) were found for the first time in Istria. Clearly widely distributed, they still were officially recorded only from Slavonia and Dalmatia (Mikšić, 1971).

An interesting ifinding is that of two different taxa of the genus *Morimus* in Limska Draga (Fig. 2): *Morimus asper asper* (Sulzer 1776) and *Morimus asper funereus* Mulsant 1862. *M. asper funereus* is often considered a synonym of *M. asper asper* (Mikšić & Korpič, 1985). Kaszab (1971) and Simonetta (1989) lists *M. asper funereus* and *M. asper asper* as separate species while Sama (1988) regards *M. asper funereus* as a subspecies of *M. asper*. On the WEB portal Fauna Europaea (2010) *M. asper funereus* and *M. asper asper*, are listed as subspecies of *M. asper*, and will be so treated here.

According to Mikšić & Korpič (1985) *M. asper asper* can be found in eastern Istria and on the islands of Cres and Lošinj, while *M. asper funereus* can be found everywhere, except in the Mediterranean part of the peninsula. It is interesting to note that *M. asper asper* and *M. asper funereus* were found on the same locality, Limska Draga, but 200 meters away from each other. This is the first finding of both subspecies in the same locality in Croatia. *Morimus asper funereus* is the only protected taxon of the genus *Morimus,* mentioned in Annex II

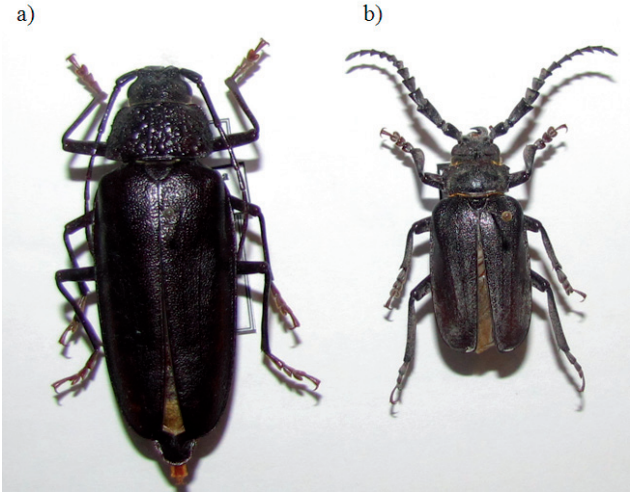

Figure 2. Newly recorded longhorn beetles for Istria

Slika 2. Novi nalazi cvilidreta za Istru

a) *Ergates faber* (Linnaeus, 1761), female, Vela Traba, June 20th, 2009, leg. T. Koren

b) *Prionus coriarius* (Linnaeus, 1758), male , Vela Traba, June 28th, 2008, leg. T. Koren

of the Bern convention (Anonymus, 1992a; 1992b). The larvae of this saproxylic, and very polyphagous species develop in old trees like *Quercus, Fagus, Acer* and *Ulmus* (Helsdingen *et al*., 1996). The removal of old trees due to modern management of the forests (Helsdingen *et al*., 1996) has caused a decrease in the amount of a suitable breeding substrate and thus a decline in populations of *M. funereus*.

Further studies should be aimed at more systematic research (using light traps, baits and rearing from wood) and more localities should be surveyed in Istria, to improve the knowledge of the longhorn beetles of Croatia.

These results should be considered as preliminary, and there is a lot of potential for new findings in central Istria. The main threats for cerambycid populations in Istria are successions of meadows caused by lack of grazing and mowing and the loss of the old trees they need for breeding. Further studies are aimed at more systematic research. Light traps and baits will be used and more localities in Istria will be included in the research. Eventually, a more complete knowledge of the longhorn beetle fauna of Croatia should be achieved.

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