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THE FAUNA OF DUNG BEETLES (SCARABAEIDAE: APHODIINAE, SCARABAEINAE AND GEOTRUPIDAE) OF KONAVLE REGION, SOUTHERN CROATIA

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Dung beetle fauna of the Konavle region (south-eastern Croatia) was surveyed during several field trips organized between 2012 and 2013. Most specimens were collected by hand on vertebrate dung at 12 localities. A total of 31 species were recorded, 20 of which represented the first records for the area. From the literature we gathered 17 additional species, raising the number of species known to occur in the Konavle region to 48. The most interesting record is the second record of *Onthophagus sericatus* for Croatia. Several other rare species were also recorded, including *Caccobius histeroides*, *Onthophagus opacicollis*, *Onthophagus fissicornis* and *Typhaeus lateridens.*

Key words: dung beetles, diversity, *Onthophagus sericatus*

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Tijekom nekoliko terenskih izlazaka organiziranih tijekom 2012. i 2013. godine na području Konavala (jugoistočna Hrvatska), istraživana je fauna koprofagnih skarabeja i kotrljana. Većina vrsta je sakupljena rukom na izmetima kralježnjaka na 12 istraživanih lokacija. Ukupno je zabilježena 31 vrsta, od kojih njih 20 predstavlja prve nalaze za istraživano područje. Zajedno sa 17 nalaza dodatnih vrsta iz literature, broj zabilježenih vrsta koprofagnih skarabeja i kotrljana na području Konavala povisuje se na 48. Najzanimljiviji je nalaz vrste *Onthophagus sericatus*, koji predstavlja drugi nalaz ove vrste u Hrvatskoj. Osim toga, zabilježeno je i nekoliko drugih rijetkih vrsta, uključujući *Caccobius histeroides*, *Onthophagus opacicollis*, *Onthophagus fissicornis* i *Typhaeus lateridens.*

Ključne riječi: koprofagni skarabeji i kotrljani, raznolikost, *Onthophagus sericatus*

INTRODUCTION

Dung beetles are traditionally defined as coprophagous members of the Coleopteran subfamilies Aphodiinae Leach, 1815, Scarabaeinae Latreille, 1802 and the family Geotrupidae Latreille, 1802 (Halffter & Matthews, 1966). They are an important component of dung fauna, and in many areas they are the dominant insect species present on vertebrate dung. Dung beetles exhibit a wide range of ecological, morphological and behavioral adaptations that have helped them in becoming established in almost all regions of the world. Dung beetles have many important ecological roles in the ecosystem: burial of nitrogen-containing and nutrient-containing dung, reduction of breeding sites for

pestiferous flies and the improvement of the permeability and holding capacity of soil to water (Hanski & Cambefort, 1991).

There is increasing concern about dung beetle conservation for, in addition to the general decline in almost all orders of insects, dung beetles are additionally threatened by several particular dangers worldwide, at both the population and the community level (Lumaret, 1994; Samways, 1994). In many areas, dung beetles survive mainly by using the dung of domestic ungulates. One of the most harmful effects on dung beetle communities that feed on such faeces are the veterinary treatments, especially the anti-parasitic compounds in the faeces of domestic livestock. In particular, there is the usage of ivermectin, a broad-spectrum veterinary drug, which leads to a reduction in species diversity and an increase in species dominance (Wall & Strong, 1987; Lumaret *et al*., 1993). However, changes in species composition of dung beetles can be observed only by long term monitoring programs, which are nonexistent in Croatia.

After the works of Mikšić (1958, 1965, 1970) no systematic research was carried out in Croatia, with rare exceptions of limited faunistic studies (e.g. Koren *et al*., 2011). This means that almost all knowledge of the dung beetle fauna of Croatia originates from historical records, which are in most cases half a century old (Langhoffer, 1900; Koča, 1900, Müller, 1902; Depoli, 1924; 1906; Novak, 1952; Rucner, 1994). Even considering all the historical data for the territory of Croatia, the dung beetle fauna, as is the case with many other insect groups, is very poorly explored. This is especially true for the regions that are geographically distant from the main research areas, usually the surroundings of the capital Zagreb, or the western part of Kvarner and the northern Dalmatia region (Novak, 1952).

The Konavle region, located at the southeastern border of the country, is one example of a poorly surveyed area in terms of dung beetle fauna. This area, however, proved to be interesting in terms of the distribution of some eastern European species which more or less reach their north-western distribution limit in the area of southern Dalmatia, including Konavle. The limited amount of faunistic research there has been in the area revealed the presence of new and interesting species living in the area like *Caliaeschna microstigma* (Schneider, 1845) (Belančić *et al*., 2008), *Lycaena ottomana* Lefèbvre, 1830 (Koren *et al*., 2012) and *Mauremys rivulata* (Valenciennes, 1833) (Jelić *et al*., 2012). Because of that we hypothesized that dung beetle species that reach their western distribution in Croatia or nearby countries would also be present in the Konavle area.

The aims of this study were: (i) to present the results of the recent faunistical survey and (ii) to give an overview of the historical records of the dung beetles of the region.

MATERIAL AND METHODS

Study area

Dalmatia, or the southern Croatian coast, is a littoral coastal zone stretching about 400 km in length and 70 km in width. Konavle is geographically the most southern part of the Republic of Croatia, bordering the lower region of Herzegovina and karstic Montenegrin mountains. Konavle is further divided in the central Konavle Plain (Konavosko polje), coastal hills and the more inland mountain Sniježnica. The Konavle polje consists of sediments surrounded by flysch. The lowest part of the field is the southwestern edge (40 m a.s.l.), which is separated from the sea by a parallel dolomitic limestone ridge that rises up to 200 m a.s.l. Three rivers flow across the Konavle polje: Ljuta and Konavočica,

from the southeast and Kopačica from the northwest. All three rivers flow towards the lower middle part of the Konavle polje, where they sink into the ground. The northern part of Konavle consists of limestones, with its highest peak of Mt. Sniježnica (1234 m a.s.l.) (Crkvenčić *et al*., 1974).

In the Konavle region the vegetation climax, before the anthropogenic impact, was deciduous oriental hornbeam vegetation (*Querco-Carpinetum orientalis* Horvatić 1939) in the north and Mediterranean maquis with forests (*Orneto-Quercetum ilicis* Horvatić 1958) in the south. Nowadays the area is mostly covered with pastures and meadows, with only scarce fragments of the former vegetation remaining. In the past, there was a large cattle farm in the region, but nowadays only extensive cattle farming occurs, and even that only sporadically. Cows, sheep, horses and donkeys are kept in the Konavle polje. Sheep are mostly kept on Mt. Sniježnica, with only a few cows and other ungulates (Crkvenčić *et al*., 1974).

Dung beetle sampling

Dung beetles were hand collected, while pitfall traps were used only at one location, in springtime. The field method consisted of the search for the cattle and their excrement, from which the beetles were collected. We examined more than 30 localities, but were able to record cattle at only 12 (Tab. 1, Fig. 1). The localities were visited between 2 and 5 times, depending on the presence of the cattle on them. We used standard pitfall traps, baited with bovine faeces. Research was conducted in the whole of Konavle region, but mainly in the Konavle polje. We visited the region on 4 occasions: 29.4.2012–3.5.2012, 8.8.2012–10.8.2012, 18.7.2013–25.7.2013 and 16.9.2013–19.9.2013, to cover all the different seasons.

The dung beetles were identified using standard identification keys (Mikšić, 1956; Baraud, 1992; Ballerio *et al*., 2010) and the systematics follows Ballerio *et al*. (2010), with some modifications according to Dellacasa & Dellacasa (2005). All the beetles are stored in the private insect collection of the first author.

Tab. 1. Surveyed localities, coordinates and altitudes.

	Locality	E	N	Altitude (m a.s.l.)
1	Cavtat	42,576549	18,232945	77
2	Stravča	42,601873	18,309547	499
3	Komaji-Pridvorje	42,545310	18,341900	73
4	Ljuta	42,539110	18,355040	73
5	Lovorno	42,544013	18,359204	181
6	Kuna Konavoska	42,557983	18,362233	678
7	Konavle village	42,517995	18,358923	62
8	Crnjegovina	42,519444	18,390778	77
9	Palje Brdo	42,512222	18,411577	147
10	Mikulići, 500 m east	42,478683	18,430700	168
11	Tripkovići, 200m south	42,433444	18,487750	136
12	Vitaljina, 900m south-east	42,426778	18,502139	153

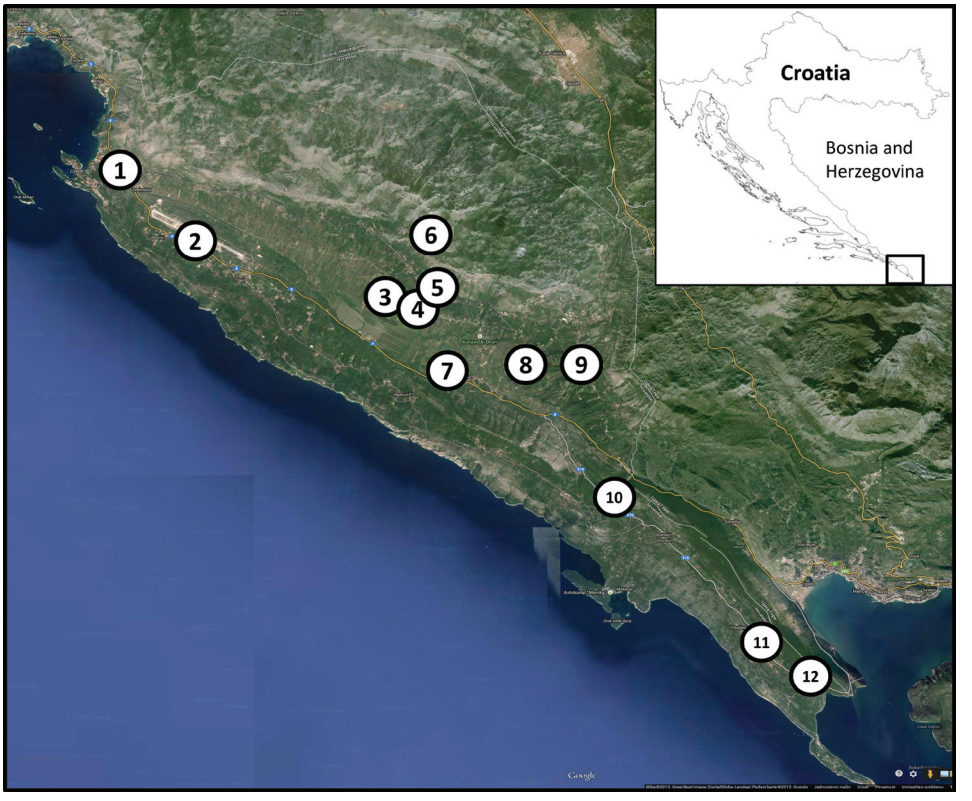

Fig. 1. Location of the surveyed localities in the Konavle region. Locality numbers follow Tab. 1.

RESULTS

During our survey of the Konavle region, a total of 31 species of dung beetles belonging to two families were recorded (Tab. 2). The highest number of the species belonged to the family Scarabaeidae (29), 8 of which to the subfamily Aphodiinae and 21 to the subfamily Scarabaeinae. The family Geotrupidae was represented with only two species. The most common species was *Euoniticellus fulvus* (Goeze, 1777), recorded at 10 localities, followed by *Onthophagus taurus* (Schreber, 1759) and *Onthophagus ruficapillus* Brullé, 1832, both recorded at 9 localities. The highest number of species, 12, was recorded at a single locality.

Additionally, we gathered 28 species records from the literature, 17 of which were not recorded during this survey, making a total of 48 species records for the area (Tab. 2). The subfamily Scarabaeinae was the most numerous subfamily with 26 recorded species, followed by Aphodiinae with 20 and the family Geotrupidae with 3 recorded species. From the 31 recorded species, 20 (65%) were recorded in the area for the first time (Tab. 2).

Tab. 2. Species recorded in the Konavle area.

	List of species	Locality numbers**	Literature records
GEOTRUPINAE Latreille, 1802			
1.	*Typhaeus lateridens* (Guerin,1838)	12	Novak (1952)
2.	*Anoplotrupes stercorosus* (Scriba, 1791)*	5	/
3.	*Geotrupes spiniger* (Marsham, 1802)	/	Novak (1952)
APHODIINAE Leach, 1815			
4.	*Acanthobodilus immundus* (Creutzer, 1799)	/	Novak (1952)
5.	*Acrossus luridus* (Fabricius, 1775)	/	Novak (1952)
6.	*Agrilinus constans* (Duftschmidt, 1805)	/	Novak (1952)
7.	*Aphodius fimetarius* (Linnaeus, 1758) (***s.l.***)	12	Novak (1952)
8.	*Bodilopsis rufa* (Moll, 1782)	/	Novak (1952)
9.	*Bodiloides ictericus ictericus* (Laicharting, 1781)*	12	/
10.	*Calamosternus granarius* (Linnaeus, 1767)	/	Novak (1952)
11.	*Chilothorax distinctus* (O. F. Müller, 1776)	/	Novak (1952)
12.	*Colobopterus erraticus* (Linnaeus, 1758)*	2, 3, 5, 6, 7, 8, 10, 11, 12	/
13.	*Esymus merdarius* (Fabricius, 1775)	/	Novak (1952)
14.	*Loraphodius suarius* (Faldermann, 1835)*	5	/
15.	*Melinopterus consputus* (Creutzer, 1799)	/	Novak (1952)
16.	*Melinopterus prodromus* (Brahm, 1790)	/	Novak (1952)
17.	*Melinopterus pubescens* (Sturm, 1800)	/	Novak (1952)
18.	*Nialus varians* (Duftschmid, 1805)	8, 9,12	Novak (1952)
19.	*Nimbus obliteratus* (Panzer, 1823)	/	Novak (1952)
20.	*Otophorus haemorrhoidalis* (Linnaeus, 1758)*	3,10	/
21.	*Subrinus sturmi* (Harold, 1870)*	3,5,12	/
22.	*Trichonotulus scrofa* (Fabricius, 1787)*	12	/
SCARABAEINAE Latreille, 1802			
23.	*Scarabaeus semipunctatus* Fabricius, 1792	/	Novak (1952)
24.	*Scarabaeus variolosus* Fabricius, 1787	/	Novak (1952)
25.	*Gymnopleurus sturmii* MacLeay, 1821	/	Novak (1952)
26.	*Sisyphus schaefferi* (Linnaeus, 1758)*	1, 2, 3, 4, 6, 12	/
27.	*Copris lunaris* (Linnaeus, 1758)	6,12	Novak (1952)
28.	*Copris hispanus cavolinii* (Petagna, 1792)*	12	/
29.	*Bubas bison* (Linnaeus, 1767)	5, 10, 12	Novak (1952)
30.	*Euoniticellus fulvus* (Goeze, 1777)*	1, 2, 3, 5, 6, 7, 8, 10, 11, 12	/
31.	*Caccobius schreberi* (Linnaeus, 1758)	2, 12	Novak (1952)
32.	*Caccobius histeroides* (Ménétriés, 1832)*	9	/
33.	*Euonthophagus amyntas* (Olivier, 1789)	/	Novak (1952)
34.	*Onthophagus furcatus* (Fabricius,1781)	2, 6, 12	Novak (1952)

35.	*Onthophagus fissicornis* Steven, 1809	1, 5, 7, 8	Novak (1952)
36.	*Onthophagus illyricus* (Scopoli, 1763)*	2, 3, 4, 8, 12	/
37.	*Onthophagus taurus* (Schreber, 1759)	2, 3, 4, 5, 6, 7, 8, 11, 12	Novak (1952)
38.	*Onthophagus coenobita* (Herbst, 1783)*	2, 5, 12	/
39.	*Onthophagus fracticornis* (Preyssler, 1790)	/	Novak (1952)
40.	*Onthophagus grossepunctatus* Reitter, 1905*	1, 3, 7	/
41.	*Onthophagus lemur* (Fabricius, 1781)	6	Novak (1952)
42.	*Onthophagus medius* (Kugelan, 1792)*	2, 6, 7, 8, 10, 12	/
43.	*Onthophagus opacicollis* Reitter, 1893*	12	/
44.	*Onthophagus ovatus* (Linnaeus, 1767)*	1	/
45.	*Onthophagus ruficapillus* Brullé, 1832	1, 2, 3, 4, 5, 7, 9, 11, 12	Novak (1952)
46.	*Onthophagus sericatus* Reitter, 1893*	10	/
47.	*Onthophagus vacca* (Linnaeus, 1767)*	3, 6, 7, 10, 12	/
48.	*Onthophagus verticicornis* (Laicharting, 1781)*	10, 12	/

* Species recorded in the area for the first time
** Numbers of localities correspond to those given in Tab. 1.

DISCUSSION

The Scarabaeinae and Aphodiinae subfamilies are represented by approximately 118 species in Croatia, while the family Geotrupidae is represented by 13 species (Mikšić, 1956; 1970), so the 48 species that inhabit the Konavle region represent about 37% of the dung beetle fauna of Croatia.

From the 48 dung beetle species occurring in the region several deserve a few additional words.

The subspecies *Copris hispanus cavolinii* (Petagna, 1792) reaches its northern distribution in the Balkans. This species is very similar to the more common and widespread *Copris lunaris* (Linnaeus, 1758). The most obvious difference between these two species is the shape of the pronotum, which is larger, with sharp front edges directed forward in *C. hispanus*, and blunt front edges in *C. lunaris*. Sexual dimorphism in this species is very obvious, with males having a big strong horn on the head, which is directed to the back. Females only have a small horn (Mikšić, 1958). This species is distributed from the Mediterranean region to east Turkmenistan and India (Mikšić, 1958). In Croatia it was recorded in southern Istria, Kvarner region and Dalmatia, which represents its most northern distribution limit. It is also present in the Mediterranean part of Bosnia and Herzegovina (Mikšić, 1958). Generally, it becomes rarer from the south to the north of the country. Only a single recent record of this species for Croatia exists, from the area of the Zrmanja river (Koren *et al*., 2011). In Konavle, we recorded only a single individual in cow dung, along with many *C. lunaris* specimens.

Another rare species was *Caccobius histeroides* (Menetries, 1832). This species has a very interesting appearance, as it is very similar to some representatives of the family Histeridae, and thus the name "histeroides" which means similar to Histeridae (Mikšić, 1958). This species is very similar to the more common, *Caccobius schreberi* (Linnaeus,

1758). The main difference between these two species is the coloration of the elytra, which are black with four more or less connected red dots in *C. schreberi*. *C. histeroides* is always black, without traces of red on the elytra (Mikšić, 1958). Additionally, the punctuation of the pronotum is more robust and dense in *C. histeroides*, compared to *C. schreberi* (Mikšić, 1958). In Konavle we recorded only a single specimen of this local species.

C. histeroides is an Eastern Mediterranean and Pontic species (Mikšić, 1958). This species was cited for Croatia only for the most southern part of Dalmatia, which could be the Konavle region, but we do not know for sure as no exact locality was mentioned Mikšić (1958, 1970). Novak (1952) lists it for Bosanka and Gruž, both in south Dalmatia, so it is possible that Mikšić (1958) refers to those localities. The Konavle area, as well as south Dalmatia, represent its northern limit of distribution.

With a size of approximately 4.5 to 5.5 mm, *Onthophagus ovatus* (Linnaeus, 1767) is one of the smallest members of the genus *Onthophagus* in Europe. It is distributed in Europe, southern Caucasus, Asia Minor and Kazakhstan (Ballerio *et al*., 2010; Mikšić, 1958). In the western Balkans it is found in Slovenia and Croatia (Slavonia, Srijem and north-eastern Dalmatia (Mikšić, 1958; Novak, 1952)). This species is not rare in Croatia, but it becomes increasingly rare in the south of the country. The only known record from Dalmatia originates from the village of Kosore, near Split (Novak, 1952). Our record from Konavle represents the second record for Dalmatia and the most southern record in Croatia in general (Novak, 1952).

Also an interesting record to note is that of *Onthophagus fissicornis* (Steven, 1809). This is the only species of the genus *Onthophagus* occurring in the northern Balkans, in which the horn in males is bifurcal at its end. This is a Pontian and eastern Mediterranean species, with Dalmatia representing its north-western distribution limit, where it is relatively local and rare (Mikšić, 1958). In Croatia it was found in Zadar, Gruda and Konavle (Novak, 1952). In the area of Konavle we recorded 7 specimens on 3 localities.

Another recorded Mediterranean species is *Onthophagus opacicollis* (Reitter, 1892). This species is very similar to the more common and widespread *Onthophagus fracticornis* (Preyssler, 1790), but generally more localized and rarer. The main difference between these two species is the structure of the clypeus, which is broad and curved in *O. opacicollis*, but small and almost semicircular in *O. fracticornis* (Mikšić, 1958). This is a Mediterranean species, distributed in Southern Europe, Asia Minor, Syria, Iran and North Africa. In Croatia it is present on the islands and mainland of Kvarner and Dalmatia. It is also present in Herzegovina and Macedonia (Mikšić, 1958). In Slovenia it is known only from one location in Ajdovščina, but without any records in the last 77 years (Brelih *et al*., 2010).

In the Konavle area we also recorded two sister species, *Onthophagus medius* (Kugelann, 1792) and *Onthophagus vacca* (Linnaeus, 1767). Until recently it was thought that *O. medius* is just a variation of *O. vacca*. It has been described as separate by Erichson (1848), nevertheless, all subsequent authors cited it as a synonym of *O. vacca,* despite the variability (e.g. Mikšić, 1958). A subsequent study on the basis of external morphology (Zunino, 1979) and genitals (Kabakov, 2006) did not resolve questions about the *O. vacca* species complex. However, these two species were separated on the basis of genetics and morphometry (Rössner *et al*., 2010). They are very similar and the main differences between them is that males of *O. medius* have a bluntly truncated or rarely slightly sinuated anterior edge of the clypeus, while in males of *O. vacca* the anterior edge of the cl-

ypeus is always sinuate. The horn in males of *O. medius* appears S-shaped in lateral view, while the horn of the male *O. vacca* is straight. In females of *O. vacca*, the carina on the vertex is relatively narrow, with a horn at each side, while in females of *O. medius* it is wide, weakly elevated and blunt at each side (Rössner *et al*., 2010). In Croatia *O. medius* has been recorded in the Dinarides and Dalmatia (islands of Hvar, Korčula and Brač), while *O. vacca* has a wider distribution (Mikšić, 1958; Rössner *et al*., 2010).

Probably the most interesting species record for the Konavle region is that of *Onthophagus sericatus* (Reitter, 1893). This species is one of the latest species of the genus *Onthophagus* to be recorded for Croatia (Mikšić, 1965). At first it was described as a variation of the species *Onthophagus verticicornis* (Laicharting, 1781) from the Caucasus; however Balthasar (1964) proved on the basis of morphology that this is an independent species. There are several diagnostic differences between these two species. The clypeus in the male of *O. sericatus* is only slightly narrowed towards the front, while it is strongly narrowed in *O. verticicornis* (Mikšić, 1965). The forehead of *O. sericatus* is slightly more densely punctured than that of *O. verticicornis*. The clypeus of *O. verticicornis* females has a wider and chopped front, while in *O. sericatus* the front is just short cut and less curved. In general, *O. sericatus* is smaller (6 to 7.5 mm) than *O. verticicornis* (7 to 10 mm) (Mikšić, 1965). This species is distributed in Croatia, Bosnia and Herzegovina, Albania, Greece, the Caucasus, Asia Minor and Syria (Baraud, 1992). It was also found in Bulgaria, Rhodope (Kardzhali) and in Macedonia (Skopje and Mt. Vodno) (Bunalski, 2001; Rozner & Rozner, 2009). *O. sericatus* is rarer than *O. verticicornis* in the Balkans and until now it was recorded only in Gruž (Mikšić, 1965). Our record from Konavle is the second record for this species in Croatia. In nearby Bosnia and Herzegovina it has been recorded at a single locality, at Neum, Mostarsko blato (Mikšić, 1965).

During this survey we recorded *Typhaeus lateridens* (Guerin, 1838), one of two species of the genus *Typhoeus* inhabiting Croatia. While *Typhaeus typhoeus* (Linnaeus, 1758) is known only from the Lika region, *T. latridens* is known only from southern Dalmatia (Mikšić, 1958). The main difference between these 2 species is that the horns of *T. lateridens* arise from the pronotum from the front corners, while in *T. typhoeus* they arise somewhat further away from the corners (Mikšić, 1958). What is interesting to note is that *T. latridens* was recorded only in the evening, visiting cow dung. On the same locality we visited fresh dung several times during the day, but did not find any specimens.

One interesting species that we did not confirm for the area is *Scarabaeus semipunctatus* (Fabricius, 1792). This is one of five species of this genus occurring in Croatia, and probably the rarest. This species is distributed in central and western Mediterranean areas, as well as northern Africa (Mikšić, 1958). It was recorded at the beginning of the 19th century in Konavle area, on Mt. Sniježnica (Novak, 1952). This species is known only from two other localities in Croatia, both located in Dalmatia: the Pelješac peninsula and the island of Korčula, where it reaches its northern distribution limit (Mikšić, 1970). We searched for it in the whole Konavle area but were not able to record it. Additionally, this species was not recorded during recent surveys on Pelješac or Korčula island by the authors, so it is possible that this species is extremely rare or it has completely disappeared from Croatia. But to confirm either of those possibilities, additional surveys are needed.

An additional note that needs to be mentioned is the current status of *Aphodius fimetarius* (Linnaeus, 1758). During the past decade, it has been proven that the common species, *A. fimetarius* is indeed a species complex, of at least two different species. The nomenclature of this species is not certain yet; a decision of the International Commis-

sion of Zoological Nomenclature is expected. The status *sensu* Wilson (2001) divides them into two separate species, *Aphodius pedellus* (DeGeer, 1774) and *Aphodius fimetarius* (Linnaeus, 1758), based on the difference in karyotypes, as well as the details of the endophallus and head shape of males, and the pronotal punctation of females. At the other hand the status ***sensu*** Rössner (2012), divided the "*Aphodius fimetarius*" group into *Aphodius fimetarius* (Linnaeus, 1758) and *Aphodius cardinalis* Reitter, 1892. Recently, Miraldo *et al*. (2014) proved the species status of both species of the complex, and showed the Holarctic distribution of both species, with major sympatry within Central and Southern Europe. The presence of both species in Croatia still needs to be confirmed, so for now we will present the current records of this species as *Aphodius fimetarius* (*s.l.*).

CONCLUSIONS

The dung beetle fauna of the Konavle region is interesting due to several species reaching their northern distribution in the area or somewhat to the north of it (e.g. *O. sericatus, T. latridens, C. histeroides*). So far 48 dung beetle species are known from the region, but additional surveys should yield an increase in the number. Additionally, with the use of other methods, like systematic usage of dung beetle pitfall traps, additional species could be recorded.

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SAŽETAK

Fauna koprofagnih skarabeja i kotrljana (Scarabaeidae: Aphodiinae, Scarabaeinae i Geotrupidae) Konavla, jugoistočna Hrvatska

T. Koren & D. Trkov

Fauna koprofagnih skarabeja i kotrljana Hrvatske istraživana je nesistematično tijekom zadnjih stotinjak godina. Pravi doprinos fauni započinje tek u drugoj polovici 20. stoljeća kada Rene Mikšić izdaje identifikacijske ključeve za koprofagne pripadnike natporodice Scarabaeoidea na području bivše Jugoslavije (Mikšić, 1958, 1965). Unatoč tome, fauna koprofagnih skarabeja i kotrljana nikada nije bila sistematično istraživana na većini područja Hrvatske pa tako niti na području krajnjeg juga države, Konavala. Tijekom nekoliko terenskih izlazaka organiziranih tijekom 2012. i 2013. godine na području Konavala sakupljena je 31 vrsta koprofagnih skarabeja i kotrljana, na 12 istraživanih lokaliteta. Dodatnom analizom literaturnih podataka pronađeni su zapisi o 28 vrsta, od kojih njih 17 nije bilo zabilježeno našim istraživanjem. Zajedno s literaturnim nalazima, broj vrsta koprofagnih skarabeja i kotrljana područja Konavala iznosi 48. Najzanimljiviji je nalaz vrste *Onthophagus sericatus*, koji predstavlja drugi nalaz ove vrste u Hrvatskoj, uz stari nalaz iz Gruža (Mikšić, 1965). Osim toga, zabilježili smo i nekoliko drugih rijetkih vrsta koprofagnih skarabeja i kotrljana za koje Hrvatska predstavlja sjevernu granicu distribucije: *Caccobius histeroides*, *Onthophagus opacicollis*, *Onthophagus fissicornis* i *Typhaeus lateridens*.