

EARTHWORMS (OLIGOCHAETA: LUMBRICIDAE) OF THE FERTŐ–HANSÁG NATIONAL PARK

By

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A list of 17 earthworm species collected in the Fertő–Hanság National Park is given. For each species zoogeographic, and where it is appropriate, ecological remarks are also presented.

INTRODUCTION

The earthworm fauna of Hungary is relatively well known. However, in spite of some fifty years activity of the second author (Zicsi 1968, 1991) several regions remained unexplored. The Fertő–Hanság National Park is such a place where almost no earthworm collections have been carried out.

In the framework of the investigation of the fauna of Fertő–Hanság National Park organised by the Hungarian Natural History Museum, we have collected earthworms all over the places in the protected area. Altogether 17 earthworm species have been gathered, that represent 27% of the total Hungarian fauna. The Hanság itself harbours only 11 species, and all of them but two belong to the peregrine forms. The high number of anthropochorous earthworms in this region most probably is due to the acidic peat soils covering almost entirely the Hanság region. One of the two autochthonous species *Aporrectodea georgii* (Michaelsen, 1890) has only been collected at Újrónafő in a mature forest, grown on a clayey soil. The second, *Octodrilus transpadanus* (Rosa, 1884) is more common, occurs along the rivers and channels crossing the Hanság region.

Another interesting place, but geologically belongs to the Mosoni plane, is the grazing-land near Várbalog, where the main soil type is para-chernozem. Here lives a peculiar endemic earthworm *Allolobophora hrabei* (Černosvitov, 1935). It is one of the longest lumbricid species in Hungary, sometimes exceeding the 50 cm length and has an important ecological role (Zicsi 1964).

LIST OF SPECIES

LUMBRICIDAE Rafinesque-Schmaltz, 1815

Allolobophora chlorotica (Savigny, 1826) – Csáfordjánosfa: Csáfordi-erdő, Csáfordi-erdő, meadow; Fertőrákos: Meszes-dűlő; Lébény: Tölgy-erdő. III, IV, X. – This is a peregrine species living mostly in gardens and other places with high anthropogenic impact. It prefers moist and highly organic soils.

Allolobophora* (s.l.) *hrabei (Černosvitov, 1935) – Várbalog: héricses legelő. III–IV. – This is a highly restricted endemic species, occurring only in the border regions of Hungary, Austria and Slovakia (Fig. 1). It prefers exclusively the shallow alluvial-borne para-chernozem soils. As this type of soil runs dry rapidly so the activity of the species is restricted to the vernal and autumnal months. In this time *A. hrabei* makes very peculiar cast heaps on the surface that may easily be observed from a distance. (Fig. 2.) The amount of cast deposited could be quite significant, up to 931 g/m² in a season (Zicsi 1964).

APORRECTODEA Örley, 1885

Aporrectodea caliginosa (Savigny, 1826) – Fertőrákos: Meszes-dűlő; Hidegség: at the shore of Lake Fertő; Lébény: Tölgy-erdő; Kapuvár: Tőzeggyármajor, after Patyi ház forest; Oslói: Tölösi-erdő; Tárnokréti: near to the bank of Hecceg-csatorna, meadow, at the bank of the Rábca river, willow wood. IV, VI, X. – This is the most common peregrine species in Hungary of Palearctic origin. It could be found in every soil type even in the driest sandy soils.



Fig. 1. Distribution of *A. hrabei* (Černosvitov, 1935)

Aporrectodea georgii (Michaelsen, 1890) – Újrónafő: Öreg-erdő. III–V. – It is an Atlanto-Mediterranean species with preferences towards clayey soil. This is the reason why it has been collected only at one locality, contrary to the wider Hungarian distribution (Zicsi 1968, 1991).

Aporrectodea jassyensis (Michaelsen, 1891) – Hidegség: at the shore of Lake Fertő. VI. – This species shows a typical Ponto-Mediterranean distribution with preference for steppe soils.

Aporrectodea rosea (Savigny, 1826) – Csáfordjánosfa: Csáfordi-erdő, meadows alongside the Répce river; Fertőrákos: Meszes-dűlő; Kapuvár: meadow near to the Király-tói erdőszlak; Lébény: Nyíres, Tölgy-erdő; Osl: Tölösi-erdő; Tárnokrét: at the bank of Rábca river, willow wood; Újrónafő: Öreg-erdő. III–V, X. – As it could be expected, this peregrine species, widely distributed in Hungary (Zicsi 1968, 1991), was common everywhere except of peat-bogs.

Dendrobaena octaedra (Savigny, 1826) – Csorna: Csíkos éger; Lébény: Nyíres; Újrónafő: Öreg-erdő. III–VI, X. – This small peregrine species is usually found in the litter layer of forests.

Dendrodrilus rubidus (Savigny, 1826) – Csorna: Csíkos éger; Újrónafő: Öreg-erdő. IV–V, X. – It is a peregrine species found mostly in leaf-litter, in fallen trunks and under barks of decaying logs.

Eisenia spelaea (Rosa, 1901) – Sopron: Kecske stream. VI. – This is a limicolous species with restricted Central-European distribution. In Hungary, it is found only in few localities exclusively in the westernmost part of the country (Zicsi 1968, 1991; Csuzdi 1995).

Eiseniella tetredra tetraedra (Savigny, 1826) – Csorna: Csíkos éger. VI, X. – It is a peregrine limicolous species and shows preference for damp habitats.

Fitzingeria platyura platyura (Fitzinger, 1833) – Sopron: Szárhalmi-erdő, Deák-forrás. V–VI. – This species has a restricted Central-European distribution, living mostly in hornbeam–oak forests.

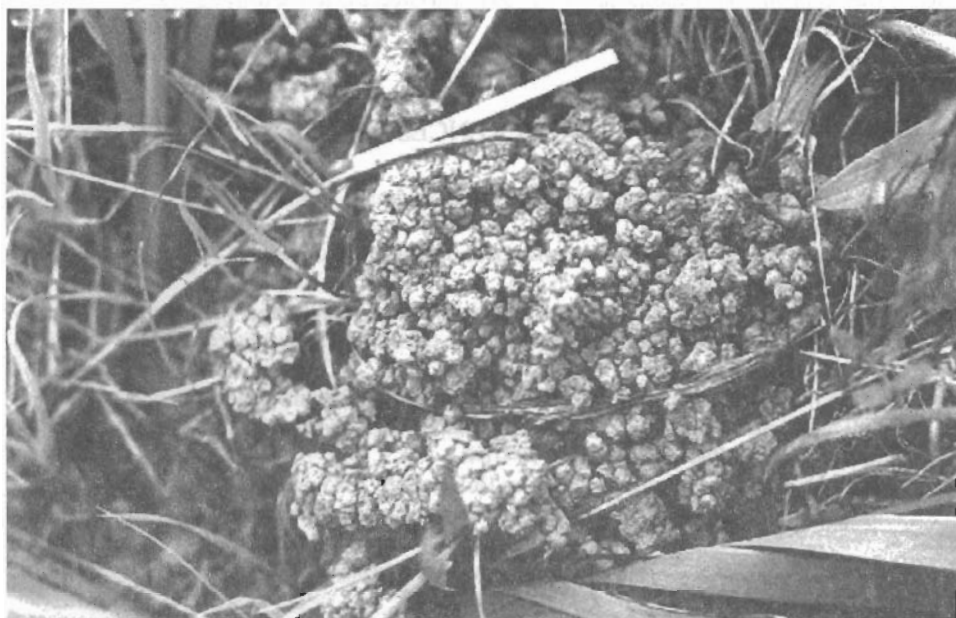


Fig. 2. Excrements of *A. hrabei* (Černosvitov, 1935)

Lumbricus polyphemus (Fitzinger, 1833) – Sopron: Szárhalmi-erdő, Károly-kilátó. V. – This is a narrowly distributed Central-European species living exclusively in hornbeam–oak forests. It has a strong preference for clayey brown forest soil.

Lumbricus rubellus Hoffmeister, 1843 – Csáfordjánosfa: meadows alongside the Répce river; Csorna: Csíkos éger; Kapuvár: Király-tói erdészlak; Tárnokréti: at the bank of Rábca river, willow wood, bank of Rábca river, meadow; Újrónafő: Öreg-erdő. IV–VI, X. – This peregrine species shows a wide tolerance of habitat factors. It could be found in leaf litter, under logs, in woody debris and also recorded in gardens and pastures.

Lumbricus terrestris Linnaeus, 1758 – Csáfordjánosfa: Csáfordi-erdő; Kapuvár: Boldogasszonyi-erdő, Király-tói erdészlak, Öntésmajor; Lébény: Tölgy-erdő; Maglóca: Sziget-erdő; Osló: Tölösi-erdő; Tárnokréti: bank of Rábca river, willow-wood, bank of Rábca river meadow; Tőzeggyármajor: Patyi ház. III–VI, X. – This is the only large-bodied earthworm species that became peregrine. In the forests of Hanság it stands for *L. polyphemus* that here is missing.

Octodrilus transpadanus (Rosa, 1884) – Csáfordjánosfa: meadows alongside the Répce river; Csorna: Csíkos éger; Lébény: Nyfres; Tárnokréti: bank of the Rábca river, bank of the Herczeg-csatorna. IV–VI, X. – This is a moderately common Ponto-Mediterranean species living in moist forest and other damp habitats. In Hungary it is evenly distributed in forest and steppe soils as well.

Octolasion lacteum (Örley, 1881) – Csáfordjánosfa: Csáfordi erdő, meadows alongside the Répce river; Csorna: Esterházy-madárvárta; Kapuvár: Boldogasszonyi erdő, Király-tói erdészlak, Tőzeggyármajor, Patyi ház; Lébény: Nyfres, Tölgy-erdő; Osló: Tölösi-erdő; Tárnokréti: bank of the Rábca river, willow wood, bank of the Rábca river meadow, bank of the Herczeg channel; Újrónafő: Öreg-erdő. III–VI, X. – This is one of the most widely distributed peregrine earthworm occurring almost in every habitat.

Proctodrilus opisthoductus Zicsi, 1985 – Csáfordjánosfa: meadows alongside the Répce river. IV. – This species has been described from Hungary and Austria (Zicsi 1985), and subsequently was reported from Yugoslavia (Mršić 1991) and Greece (Zicsi & Michalis 1993). *P. opisthoductus* prefers moist soil with high clay content.

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