

## Some Earthworm Records from Anatolia (Oligochaeta, Lumbricidae)

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**Abstract:** The goal of this study was to provide additional data on the poorly known earthworm fauna of Anatolia. During the study earthworms from 16 different localities were identified, which resulted in a list of 11 species belonging to 7 genera.

**Key Words:** Turkish earthworm fauna, Oligochaeta, Lumbricidae, Anatolia

### Anadolu'dan Bazı Topraksolucanı Kayıtları (Oligochaeta, Lumbricidae)

**Özet:** Bu çalışmanın amacı, az bilinen Anadolu topraksolucanı faunasının anlaşılmasına katkıda bulunmaktır. Çalışma boyunca 16 farklı lokaliteden toplanan topraksolucanı örneklerinin teşhis edilmesi sonucunda 7 cinse ait 11 tür bulunmuştur.

**Anahtar Sözcükler:** Türkiye Topraksolucanı Faunası, Oligochaeta, Lumbricidae, Anadolu

Previous studies on Turkish earthworms (Omodeo, 1952; Zicsi, 1973; Omodeo and Rota, 1989, 1991) are not very detailed. Since they were based on occasional samplings, large areas of Turkey remain unsampled. For this reason, any new faunistic data could help in the assessment of the biodiversity of the Turkish earthworm fauna, and contribute to a better understanding of the regularities and irregularities of earthworm fauna distribution. The results presented herein are just one example of this effort, which identified 11 earthworm species from previously unsampled areas of Turkey.

The samples were collected by digging and hand sorting, as described in Omodeo and Rota (1989, 1991). Samples were preserved in 70% ethanol.

#### Collecting Sites and Species Recorded

1. Denizli, Çamlık district, grassy area, Emre Tepeli-Pınar Uludağ leg., 31.10.2004.

*Dendrobaena veneta* (Rosa, 1886): 1 specimen.

*Allolobophora chlorotica* (Savigny, 1826): 3 specimens.

2. Denizli, Acıpayam, Yeşilyuva town, Kısacık, area planted with cabbage, Hüseyin Özev-Pınar Uludağ leg., 20.11.2004.

*Dendrobaena pentheri* (Rosa, 1905): 1 specimen.

*Octodrilus transpadanus* (Rosa, 1884): 2 specimens.

3. Denizli, Pamukkale, border of irrigation canal belonging to Pamukkale, Emre Tepeli-Pınar Uludağ leg., 31.10.2004.

*Eiseniella tetraedra cerni* (Savigny, 1826): 8 specimens.

4. Balıkesir, Akçay (Turban), grassy area, Pınar Uludağ leg., 07.10.2004.

*Allolobophora chlorotica* (Savigny, 1826): 5 specimens.

5. Uşak, Karakıran, near the city stadium in a park, Recep Kaya leg. 17.09.2004.

*Dendrobaena veneta* (Rosa, 1886): 16 specimens.

*Aporrectodea rosea* (Savigny, 1826): 3 specimens.

6. Antalya, Manavgat waterfall, grassy and woody area, Ayşe Sevinç Ersoy leg., 17.10.2004.  
*Octodrilus transpadanus* (Rosa, 1884): 2 specimens.  
*Eisenia fetida* (Savigny, 1826): 18 specimens.  
*Dendrobaena veneta* (Rosa, 1886): 8 specimens.
7. Antalya, Meltem district, moist grassy area, Ayşe Sevinç Ersoy leg., 16.11.2004.  
*Eisenia fetida* (Savigny, 1826): 1 specimen.
8. Antalya, Alanya, Dimçayı, grassy and woody area, Ayşe Sevinç Ersoy leg., 17.10.2004.  
*Aporrectodea caliginosa trapezoides* (Dugés, 1828): 1 specimen.
9. Hatay, Altınözü, near the border of Syria, muddy area, Pinar Uludağ leg., 31.10.2004.  
*Aporrectodea caliginosa trapezoides* (Dugés, 1828): 1 specimen.
10. Osmaniye, Cevdetiye town, border of irrigation canal, grassy area, Çelebi Ali Türkmen leg., 26.09.2004.  
*Aporrectodea caliginosa trapezoides* (Dugés, 1828): 13 specimens.
11. Osmaniye, Cevdetiye town, Öztürk orange grove, grassy area, Çelebi Ali Türkmen leg., 21.11.2004.  
*Octodrilus transpadanus* (Rosa, 1884): 10 specimens.  
*Aporrectodea caliginosa trapezoides* (Dugés, 1828): 16 specimens.
12. Giresun, garden of maternity hospital, grassy area, İsmail Barış Oymak leg., 25.09.2004.  
*Dendrobaena veneta* (Rosa, 1886): 13 specimens.
13. Karabük, grassy area, Pinar Uludağ-Servet Erkenen leg., 31.10.2004.  
*Lumbricus rubellus* Hoffmeister, 1843: 1 specimen.  
*Dendrobaena veneta* (Rosa, 1886): 3 specimens.
14. Eskişehir, Söğütönü, near the irrigation canal, Mete Mısırlıoğlu leg., 20.05.2005.  
*Eiseniella tetraedra tetraedra* (Savigny, 1826): 1 specimen.
15. Eskişehir-Bozdağ, Avlakkaya, woody area, Mete Mısırlıoğlu leg., 13.05.2005.  
*Dendrobaena alpina armeniaca*(Rosa, 1893): 2 specimens.
16. Manisa, Muradiye, near the vineyard, Bekir Avşar leg., 04.02.2005.  
*Octodrilus complanatus* (Dugés, 1828): 9 specimens.

The aim of this study was to increase the number of localities in Turkey with identified earthworm fauna, especially where little or no sampling was previously conducted.

In all, 11 species were recorded from 16 localities. Among them, *Dendrobaena veneta* is a common species in Turkey. This species is very abundant, especially in the Marmara and Mediterranean regions, and the central and northern parts of Anatolia (Omodeo, 1952, 1955; Zicsi, 1973; Omodeo and Rota, 1989, 1991; Mısırlıoğlu, 2002; Csuzdi et al., 2006). In addition, this native East Mediterranean species was recorded from Denizli and Uşak, which represent the Aegean region.

A peregrine species with worldwide distribution, *Allolobophora chlorotica* was recorded earlier only from İzmir, Eskişehir, and Balıkesir in Turkey (Omodeo and Rota, 1989, 1991; Csuzdi et al., 2006; Mısırlıoğlu, unpublished data). The present study repeated the collection of this species in Balıkesir and added to the Turkish record by collecting this species from Denizli, in the Aegean region.

An Anatolian species, *Dendrobaena pentheri*, which is distributed mainly in northern Anatolia, but was also reported in some parts of the Marmara, Aegean, and eastern and central Anatolian regions (Zicsi, 1973; Omodeo and Rota, 1989; Mısırlıoğlu, 2002; Csuzdi et al., 2006), and in Cyprus (Pavlıcek and Csuzdi, 2006), was found during the present study in Denizli, in the Aegean region.

A trans-Aegean species, *Octodrilus transpadanus*, is common in the northwestern most part of central Anatolia, the central Black Sea region, and on the European side of İstanbul. For its wider distribution, see Csuzdi and Zicsi (2003). In Turkey, this species was recorded several times in the Aegean, Marmara, and Mediterranean regions (Zicsi, 1973; Omodeo and Rota,

1989, 1991; Mısırlıoğlu, 2002; Csuzdi et al., 2006), and now in Denizli, Antalya, and Osmaniye, representing the Aegean and Mediterranean regions.

A nominal subspecies of the peregrine species, *Eiseniella tetraedra tetraedra*, is known in the Aegean, Marmara, and central and northern Anatolian regions (Omodeo, 1952, 1955; Omodeo and Rota, 1989, 1991; Mısırlıoğlu, 2002; Csuzdi et al., 2006), and I recorded it again in Eskişehir. The second subspecies, *Eiseniella tetraedra cerni*, was recorded from Thrace and northern Anatolia (Omodeo and Rota, 1989) and now, for the first time, in the Aegean region.

The most widespread species in Turkey, *Aporrectodea rosea* (Omodeo, 1952; 1955; Zicsi, 1973; Omodeo and Rota, 1989, 1991; Mısırlıoğlu, 2002; Csuzdi et al., 2006), was newly recorded in Uşak.

The introduced species, *Eisenia fetida*, is rare in Turkey. It was recorded in İstanbul, Bolu, and Eskişehir (Omodeo and Rota, 1989; Mısırlıoğlu, 2002; Csuzdi et al., 2006), and now in Antalya in the Mediterranean region.

A widespread species in Turkey, *Aporrectodea caliginosa trapezoides* (Omodeo, 1952, 1955; Zicsi, 1973; Omodeo and Rota, 1989, 1991; Mısırlıoğlu, 2002; Csuzdi et al., 2006) has been recorded in different parts of the Mediterranean region.

## References

- Csuzdi, Cs. and Zicsi, A. 2003. Earthworms of Hungary (Annelida: Oligochaeta; Lumbricidae). In: *Pedozoologica Hungarica* 1. (eds. Cs. Csuzdi and S. Mahunka), Hungarian Natural History Museum, Budapest.
- Csuzdi, Cs., Zicsi, A. and Mısırlıoğlu, M. 2006. An annotated checklist of the earthworm fauna of Turkey (Oligochaeta: Lumbricidae). *Zootaxa* 1175: 1-29.
- Mısırlıoğlu, İ. M. 2002. Türkiye Lumbricidae (Topraksolucanları) Tür Listesi ve Yayılışları. In: *Genel Zoocoğrafya ve Türkiye Zoocoğrafyası* (ed. A. Demirsoy), Meteksan Yayınları, Ankara, pp. 624-633.
- Omodeo, P. 1952. Oligocheti della Turchia. *Annuario Dell'istituto Museo Di Zoologia Della Università Di Napoli*. 4: 1-20.
- Omodeo, P. 1955. Lombrichi cavernicoli di Grecia e Turchia, raccolti dal Dr. K. Lindberg. *Annuario Dell'istituto Museo Di Zoologia Della Università Di Napoli*. 7: 1-16.
- Omodeo, P. and Rota, E. 1989. Earthworms of Turkey. *Boll. Zool.* 56: 167-199.
- Omodeo, P. and Rota, E. 1991. Earthworms of Turkey II. *Boll. Zool.* 58: 171-181.
- Pavlıcek, T. and Csuzdi, Cs. 2006. Species richness and zoogeographic affinities of earthworms in Cyprus. *European Journal of Soil Biology*. 42: 111-116
- Zicsi, A. 1973. Regenwürmer (*Oligochaeta: Lumbricidae*) aus der Türkei. *Acta Zoologica Academiae Scientiarum Hungaricae*. 19: 217-232.

*Lumbricus rubellus*, which is common, especially in the Marmara, central, northwestern, and northeastern regions of Anatolia (Omodeo, 1952; Zicsi, 1973; Omodeo and Rota, 1989, 1991; Mısırlıoğlu, 2002; Csuzdi et al., 2006), has been recorded again in northwest Anatolia.

The native species, *Dendrobaena alpina armeniaca*, occurs mainly in northern Anatolia and was recorded from Uludağ (Omodeo and Rota, 1989; Mısırlıoğlu, 2002; Csuzdi et al., 2006), and now, for the first time, in central Anatolia.

The last species documented in the present study, a native holomediterranean species, *Octodrilus complanatus*, was recorded earlier from several parts of the Marmara and Aegean regions (Zicsi, 1973; Omodeo and Rota, 1989, 1991; Mısırlıoğlu, 2002; Csuzdi et al., 2006), and now again in Manisa in the Aegean region.

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