

**Appendix 1.** Investigated localities and habitats (with sampling dates) of the Órség National Park with the recorded enchytraeid and *Hrabeiella* species.

1. **Szentgyörgyvölgy, mixed forest** with *Quercus petraea*, *Carpinus betulus* and some *Pinus silvestris*, 46°45.180N 16°25.031E, 223 m a.s.l., 31.03.2014. **11 + 1 species** (*Achaeta danica*, *Chamaedrillus* (=Cognettia) *glandulosus*, *Ch.* (=C.) *chlorophilus*, *Ch.* (=C.) *chalupskyi*, *Enchytraeus buchholzi*, *Enchytronia parva*, *Fridericia benti*, *F. bisetosa*, *F. sohlenii*, *Marionina simillima*, *Stercutus niveus*, *Hrabeiella periglandulata*).
2. **Szentgyörgyvölgy, hay meadow**, 46°45.188N 16°24.917E, 232 m a.s.l., 31.03.2014. **12 species** (*Achaeta bohemica sensu stricto*, *A. danica*, *Chamaedrillus* (=Cognettia) *glandulosus*, *Enchytraeus buchholzi sensu lato*, *Enchytronia parva*, *Fridericia bisetosa*, *F. connata*, *F. connatiformis*, *F. nemoralis*, *F. dura*, *F. sohlenii*, *Marionina simillima*).
3. **Gödörházi rétek (specially protected area), alder carr**, 46°44.782N 16°21.227E, 229 m a.s.l.
  - a.) waterlogged area under *Alnus glutinosa* trees, 31.03.2014. **10 species** (*Buchholzia fallax*, *Chamaedrillus* (=Cognettia) *glandulosus*, *Enchytraeus buchholzi sensu lato*, *Enchytronia parva*, *Fridericia benti*, *F. maculata*, *F. perrieri*, *F. sohlenii*, *Marionina simillima*, *Mesenchytraeus armatus*).
  - b.) on the edge of an alder carr, drier area with *Hemerocallis lilioasphodelus*, 31.03.2014, 09.11.2014, 26.10.2015. **10 species** (*Achaeta danica*, *Buchholzia appendiculata*, *Chamaedrillus* (=Cognettia) *chlorophilus*, *Ch.* (=C.) *glandulosa*, *Enchytraeus buchholzi sensu lato*, *Fridericia benti*, *F. connata*, **F. zicsii sp. n.**, *F. dura*, *Mesenchytraeus pelicensis*).
4. **Gödörházi rétek (specially protected area) hay meadow** with *Salix rosmarinifolia*, 46°44.931N 16°21.177E, 229 m a.s.l., 31.03.2014, 09.11.2014, 16.05.2015, 26.10.2015. **32 species** (*Achaeta danica*, *A. unibulba*, *Buchholzia appendiculata*, *Cernosvitoviella aggtelekiensis*, *C. minor*, *Chamaedrillus* (=Cognettia) *cognetii*, *Enchytraeus buchholzi*, *E. buchholzi sensu lato*, *E. christenseni*, *Enchytronia parva*, *E. baloghi*, *Fridericia benti*, *F. bisetosa*, *F. bulboides*, *F. connata*, *F. dura*, *F. lenta*, *F. maculata*, *F. maculatifformis*, *F. perrieri*, *F. ratzeli*, *F. schmelzi*, *F. sohlenii*, **F. zicsii sp. n.**, *Fridericia* sp. 1, *Henlea perpusilla*, *H. ventriculosa*, *Marionina argentea sensu lato*, *M. communis*, *M. vesiculata*, *Mesenchytraeus armatus*, *Mes. pelicensis*).
5. **Kercaszomor, under old oak trees**, 46.78527N 16.31639E, 252 m a.s.l., 31.03.2014. **12+1 species** (*Achaeta danica*, *Buchholzia appendiculata*, *Cernosvitoviella minor*, *Chamaedrillus* (=Cognettia) *chlorophilus*, *Enchytronia parva*, *Fridericia connata*, *F. galba/1-2*, *F. maculatifformis*, *F. paroniana*, *Fridericia* sp. 1, *Henlea perpusilla*, *Marionina simillima*, *Stercutus niveus*, *Hrabeiella periglandulata*).
6. **Szalfő**, 46°52.492N 16°18.158E, 325 m a.s.l.
  - a.) spruce (*Picea abies*) forest, 31.03.2014. **5+1 species** (*Achaeta danica*, *Chamaedrillus* (=Cognettia) *chlorophilus*, *Enchytronia parva*, *Fridericia dura*, *F. sohlenii*, *Hrabeiella periglandulata*).
  - b.) near to site 6a, a pine forest (*Pinus silvestris*), 31.03.2014. **7+1 species** (*Achaeta danica*, *Chamaedrillus* (=Cognettia) *chlorophilus*, *Ch.* (=C.) *glandulosus*, *Enchytraeus norvegicus*, *Enchytronia parva*, *Fridericia connata*, *Mesenchytraeus pelicensis*, *Hrabeiella periglandulata*).
7. **Szalfő Forest reserve** with *Quercus robur*, *Carpinus betulus*, 46°52.227N 16°18.356E, 333 m a.s.l., 31.03.2014. **5+1 species** (*Achaeta danica*, *Buchholzia appendiculata*, *Chamaedrillus* (=Cognettia) *chlorophilus*, *Fridericia connata*, *F. miraflores*, *Hrabeiella periglandulata*).
8. **Szentgotthárd-Farkasfa, Sphagnum mire**, 46°54.112N 16°19.188E, 253 m a.s.l., 31.03.2014. **4 species** (*Cernosvitoviella atrata*, *C. minor*, *Chamaedrillus* (=Cognettia) *glandulosus*, *Fridericia sohlenii*)
9. **Szóce, Sphagnum mire**, 46°53.983N 16°34.382E, 229 m a.s.l.
  - a.) *Sphagnum* and other moss, 31.03.2014, 16.05.2015. **20 species** (*Achaeta affinis*, *Buchholzia fallax*, *Cernosvitoviella atrata*, *C. aggtelekiensis*, *C. minor*, *C. microtheca*, *Chamaedrillus* (=Cognettia) *glandulosus*,

*Ch. (=C.) chalupskyi*, *Enchytraeus buchholzi sensu lato*, *E. christenseni*, *Enchytronia parva*, *En. baloghi*, *Fridericia benti*, *F. bisetosa*, *F. connatiformis*, *F. perrieri*, *F. ratzeli*, *Hemifridericia parva*, *Marionina argentea sensu lato*, *Mesenchytraeus armatus*).

- b.) on the edge of the mire with *Anemone nemorosa*, 31.03.2014. **7 species** (*Cernosvitoviella aggtelekiensis*, *Chamaedrillus (=Cognettia) cognettii*, *Ch. (=C.) glandulosus*, *Enchytraeus buchholzi sensu lato*, *Fridericia sohlenii*, *Hemifridericia parva*, *Marionina simillima*).
- c.) meadow with *Lamium amplexicaule* on the edge of the mire 31.03.2014. **7 species** (*Buchholzia appendiculata*, *B. fallax*, *Enchytraeus christenseni*, *Fridericia bisetosa*, *F. connata*, *Henlea perpusilla*, *H. ventriculosa*).
- d.) woodland on the edge of the mire with *Quercus robur*, *Alnus glutinosa* and *Betula pendula*, 31.03.2014. **11 species** (*Buchholzia fallax*, *Cernosvitoviella atrata*, *Chamaedrillus (=Cognettia) cognettii*, *Ch. (=C.) chlorophilus*, *Enchytraeus buchholzi sensu lato*, *Enchytronia parva*, *Marionina argentea sensu lato*, *M. simillima*, *Mesenchytraeus armatus*, *Mes. glandulosus*, *Mes. pelicensis*).

**Appendix 2.** List of the species of Enchytraeidae and Hrabeiellidae recorded in the Órség National Park.

- Achaeta affinis* Nielsen & Christensen, 1959  
*Achaeta bohemica* (Vejdovský, 1879) *sensu stricto*  
*Achaeta danica* Nielsen & Christensen, 1959  
*Achaeta unibulba* Graefe, Christensen & Dózsa-Farkas, 2005  
*Buchholzia appendiculata* (Buchholz, 1862)  
*Buchholzia fallax* Michelsen, 1887  
*Cernosvitoviella aggtelekiensis* Dózsa-Farkas, 1970  
*Cernosvitoviella atrata* (Bretscher, 1903)  
*Cernosvitoviella microtheca* (Rota & Healy, 1999)  
*Cernosvitoviella minor* Dózsa-Farkas, 1990  
*Chamaedrilus (Cognettia) glandulosus* (Michelsen, 1888)  
*Chamaedrilus (Cognettia) chlorophilus* Friend, 1913  
*Chamaedrilus (Cognettia) chalupskyi* Martinson, Rota & Erséus, 2014  
*Chamaedrilus (Cognettia) cognettii* (Issel, 1905)  
*Enchytraeus buchholzi* Vejdovský, 1879  
*Enchytraeus buchholzi* Vejdovský, 1879 *sensu lato*  
*Enchytraeus christenseni* Dózsa-Farkas, 1992  
*Enchytronia baloghi* Dózsa-Farkas, 1988  
*Enchytronia parva* Nielsen & Christensen, 1959  
*Fridericia benti* Schmelz, 2003  
*Fridericia bisetosa* (Levinsen, 1884)  
*Fridericia bulboides* Nielsen & Christensen, 1959  
*Fridericia connata* Bretscher, 1902  
*Fridericia connatiformis* Dózsa-Farkas, 2015  
*Fridericia dura* (Eisen, 1879) (= *F. ratzeli* Dózsa-Farkas, 2005)  
*Fridericia galba* (Hoffm, 1843) (/1=with 2–4 diverticula, /2= with 5–8 diverticula)  
*Fridericia lenta* Schmelz, 2003  
*Fridericia maculata* Issel, 1905  
*Fridericia maculatiformis* Dózsa-Farkas, 1972  
*Fridericia nemoralis* Nurminen, 1970  
*Fridericia paroniana* Issel, 1904  
*Fridericia perrieri* (Vejdovský, 1878)  
*Fridericia ratzeli* (Eisen, 1872) (*sensu F. eiseni* Dózsa-Farkas, 2005)  
*Fridericia sohlenii* Rota et al., 1998  
***Fridericia zicsii* sp.n.**  
*Fridericia* sp. 1  
*Hemifridericia parva* Nielsen & Christensen, 1959  
*Henlea perpusilla* Friend, 1911  
*Henlea ventriculosa* (d'Udekem, 1854)  
*Marionina argentea* (Michelsen, 1889) *sensu lato*  
*Marionina communis* Nielsen & Christensen, 1959  
*Marionina simillima* Nielsen & Christensen, 1959  
*Marionina vesiculata* Nielsen & Christensen, 1959  
*Mesenchytraeus armatus* (Levinsen, 1884)  
*Mesenchytraeus glandulosus* (Levinsen, 1884)  
*Mesenchytraeus pelicensis* Issel, 1905  
*Stercutus niveus* Michelsen, 1888
- Hrabeiella periglandulata* Pižl & Chalupský, 1984

**Appendix 3.** List of *Fridericia* specimens used for molecular taxonomic analyses with collection data and GenBank accession numbers (sequences determined in this study appear in bold)

Species	Collection source and collection date	Specimen ID	GenBank accession numbers		
			ITS	CO1	H3
<i>F. bisetosa</i>	Mátra Mts., Markaz, Turkey oak woodland, 47°50.257N 20°03.260E, 324 m a.s.l., leg. K. Dózsa-Farkas & J. Farkas, 10.05.2013.	522	<b>KU586623</b>	<b>KU586588</b>	<b>KU586604</b>
	Nyírség, Egyek-Félhalom, closed lowland steppe oak woodlands, 47°36.349N 20°51.368E, 91 m a.s.l., leg. K. Dózsa-Farkas & J. Farkas, 13.05.2011.	523	<b>KU586624</b>	<b>KU586589</b>	-
		702	<b>KU586622</b>	-	<b>KU586603</b>
<i>F. connata</i>	Danube-Dráva NP, between Sellye and Bogdása, meadow with young oak plantation, 45°52.246N 17°48.011E, 104 m a.s.l., leg. K. Dózsa-Farkas, J. Farkas & Z. Tóth, 28.03.2011	518	-	-	<b>KU586609</b>
	Mátra Mts., Markaz, fir forest, 47°50.257N 20°03.260E, 324 m a.s.l., leg. K. Dózsa-Farkas & J. Farkas, 10.05.2013.	519	<b>KU586625</b>	<b>KU586594</b>	<b>KU586610</b>
	Mátra Mts., near Recsk, hornbeam woodlands with beech, 47°53.233N 20°05.461E, 482 m a.s.l., leg. K. Dózsa-Farkas & J. Farkas, 10.05.2013.	520	<b>KU586626</b>	<b>KU586595</b>	<b>KU586611</b>
	Nyírség, Újszentmargita, oak woodland, 47°44.373N 21°05.573E, 1491 m a.s.l., leg. K. Dózsa-Farkas & J. Farkas, 13.05.2011.	521	<b>KU586627</b>	-	-
<i>F. connatiformis</i>	Danube-Dráva NP, Páprád, Bükkhát Forest Reserve, riverine oak-elm-ash woodlands, wet soil patch, 45°52.194N 18°00.474E, 109 m a.s.l., leg. A. Ortmann-Ajkai, 08.12.2012.	516	<b>KU586621</b>	<b>KU586591</b>	-
	Danube-Dráva NP, between Sellye and Bogdása, meadow with young oak plantation, 45°52.246N 17°48.011E, 104 m a.s.l., leg. K. Dózsa-Farkas, J. Farkas & Z. Tóth, 28.03.2011.	517	-	<b>KU586590</b>	<b>KU586607</b>
	Danube-Dráva NP, Páprád, Bükkhát Forest Reserve, riverine oak-elm-ash woodlands, wet soil patch, 45°52.194N 18°00.474E, 109 m a.s.l., leg. A. Ortmann-Ajkai, 21.10.2011.	701	-	-	<b>KU586608</b>
<i>F. longiducta</i>	Danube-Dráva NP, Páprád, Bükkhát Forest Reserve, riverine oak-elm-ash woodlands, wet soil patch, 45°52.194N 18°00.474E, 109 m a.s.l., leg. A. Ortmann-Ajkai, 08.12.2012.	531	<b>KU586615</b>	<b>KU586585</b>	<b>KU586600</b>
		532	-	<b>KU586593</b>	<b>KU586597</b>
	Danube-Dráva NP, Páprád, Bükkhát Forest Reserve, riverine oak-elm-ash woodlands, wet soil patch, 45°52.194N 18°00.474E, 109 m a.s.l., leg. A. Ortmann-Ajkai, 20.10.2014.	811	<b>KU586616</b>	<b>KU586586</b>	<b>KU586599</b>
		812	<b>KU586617</b>	-	<b>KU586598</b>
		813	<b>KU586618</b>	-	<b>KU586596</b>
<i>F. magna</i>	(see reference Erséus <i>et al.</i> 2010)	CE803	-	GU902066	-
<i>F. phaeostriata</i>	Villány Mts., Kistótfalu, old oak woodland, 45°90.139N, 18°30.889E, 119 m a.s.l., leg. K. Dózsa-Farkas, J. Farkas & G. Boros, 04.04.2006.	137	<b>KU586612</b>	<b>KU586582</b>	-
		145	<b>KU586613</b>	<b>KU586592</b>	-
	Danube-Dráva NP, between Lakócsa and Potony, lowland pedunculate oak-hornbeam woodlands, 45°54.473N 17°40.204E 120 m a.s.l., leg. K. Dózsa-Farkas & J. Farkas, 28.03.2011.	438	-	<b>KU586583</b>	-
	Danube-Dráva NP, Páprád, Bükkhát Forest Reserve, lowland pedunculate oak-hornbeam woodlands, under <i>Ruscus aculeatus</i> shrubs, 45°52.352N 18°00.413E, 127 m a.s.l., leg. K. Dózsa-Farkas, J. Farkas & Z. Tóth, 28.03.2011.	693	-	-	<b>KU586602</b>
	Közseg Mts., Közseg, ash-alder woodlands along a stream, 47°24.055N 16°26.527E, 478 m a.s.l., leg. K. Dózsa-Farkas, J. Farkas & Z.	814	<b>KU586614</b>	<b>KU586584</b>	<b>KU586601</b>

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	Tóth, 13.10. 2014.				
<i>F. zicsii</i>	Őrség, Gödörházi rétek, on the edge of alder carr with <i>Hemerocallis lilio-asphodelus</i> , 46°44.782N 16°21.227E, 229 m a.s.l., leg. K. Dózsa-Farkas, J. Farkas, Z. Tóth & F. Hoc, 31.03.2014.	869	<b>KU586619</b>	-	<b>KU586605</b>
		870	<b>KU586620</b>	<b>KU586587</b>	<b>KU586606</b>
<i>Hemifridericia parva</i> (outgroup)	(see reference Dózsa-Farkas & Felföldi 2015)	511a	KM591939	KM591923	KM591931