

## A survey of helminth species originally described from the territory of Slovakia supplemented by a list of the type material deposited in the East-Slovakian Museum (Východoslovenské múzeum) in Košice

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### Summary

On the territory of Slovakia, 61 helminth species have been originally described to date. Out of them, 50 are still valid while 11 were synonymised or were recognised to be species inquirenda. The type and other collected material of helminth species, parasitizing animals and plants, had been deposited in the Helminthological Collection of the Parasitological Institute SAS in Košice until 1996. Then the collection has been transferred to the East-Slovakian Museum, Hviezdoslavova 3, Košice (E-mail: *vsmuz@stonline.sk*) where it is available for scientific loans. Additionally, types of other helminth species from Argentina, Cuba, Georgia, Italy and Spain are also deposited in the Museum collection. The present paper publishes detailed information on type material in the East-Slovakian Museum as well as the complete list of the helminth species originally described in Slovakia.

Families of helminths are arranged according to papers and books of Khalil *et al.* (1994), De Ley and Blaxter (2002), Olson and Littlewood (2002) and Olson *et al.* (2003).

Key words: helminths; collection; Slovakia; East-Slovakian Museum; types

### I. Helminth species described from the territory of Slovakia

Trematoda, Philophthalmidae

***Philophthalmus hovorkai*** Buša, 1956

Syntypes: From Z-11231/1 to Z-11213/8 and from Z-15763/1 to Z-15763/27, East-Slovakian Museum, Košice, Slovakia

Type host: *Anser anser* f. *dom.* (L.)

Type locality: Jahodná (district Dunajská Streda)

Site: Eyes

Original numbers: Slides Nos A-1266, A-1276, A-1276/1 - /12, A-1277, A-1277/1 - /3, A-1278, A-1278/1, A-1280, A-1280/1 - /2, A-1281, A-1284, A-1284/1 - /5, A-1288, A-1288/1 - /4

Trematoda, Opisthorchiidae

***Metorchis hovorkai*** Macko, 1955

Holotype: Marked specimen on slide Z-15736/1 of 15 ones

Paratypes: From Z-15736/1 to Z-15736/3, East-Slovakian Museum, Košice, Slovakia

Type host: *Nyroca nyroca* L.

Type locality: Strážne (near Kráľovský Chlmec)

Site: Bile ducts

Original numbers: 3 slides 300/1, 300/2, 300/3 – holotype marked specimen on 300/1, 9 paratypes on 300/1 and 2

Trematoda, Lecithodendriidae

***Prosthodendrium magnum*** Ryšavý, 1956

Holotype: D-172, IPASCR, Institute of Parasitology, Academy of Sciences of Czech Republic, České Budějovice, Czech Republic

Type host: *Rhinolophus ferrum-equinum* Schreb.

Type locality: Slovak Carst

Site: Small intestine

***Prosthodendrium vastetesticularum*** Mituch, 1964

Holotype: Not designed

Type host: *Rhinolophus ferrum-equinum* Schreb.

Type locality: Jasovská Cave

Site: Small intestine

Note: Original description in Mituch (1964a).

***Travassodendrium rhinolophi*** Ryšavý, 1956

Holotype: D-180, IPASCR, Institute of Parasitology, Academy of Sciences of Czech Republic, České Budějovice, Czech Republic

Type host: *Rhinolophus ferrum-equinum* Schreb.

Type locality: Slovak Carst, Ľudmila Cave near Rožňava

Site: Small intestine

Note: The genus *Travassodendrium* is considered a synonym of *Prosthodendrium*.

Trematoda, Microphallidae

***Maritrema carpathica*** Matskási, 1984

Types: Hungarian Natural History Museum, Budapest, Hungary, unknown number

Type host: *Neomys fodiens* Pennant

Type locality: Čergov Mountains - Lenartov

Site: Small intestine

Monogenea, Dactylogyridae

***Dactylogyryus petenyi*** Kašŕák, 1957

Syntypes: From Z-11223/1 to Z-11223/5, East-Slovakian Museum, Košice, Slovakia

Type host: *Barbus meridionalis* Risso

Type locality: Myslavský potok – Maša near Košice

Site: Gills

Original numbers: 325/2, 334/1, 336/3

Monogenea, Gyrodactylidae

***Gyrodactylus hrabei*** Ergens, 1957

Syntypes: M-174, IPASCR, Institute of Parasitology, Academy of Sciences of Czech Republic, České Budějovice, Czech Republic

Type host: *Cottus gobio* L.

Type locality: Vojsovský potok

Site: Fins

***Gyrodactylus hronosus*** Žitňan, 1964

Holotype Z-11225/1, East-Slovakian Museum, Košice, Slovakia

Paratypes: Z-11225/2 and Z-11225/3, East-Slovak Museum, Košice, Slovakia

Type host: *Alburnoides bipunctatus* (Bloch); other host: *Alburnus alburnus* (L.)

Type locality: Žarnovica; other locality: Vyšné nad Hronom

Site: Fins

Original number: 840/58 (1377) – holotype, 847/58 (1384), 1773/59 (1993) - paratypes

Note: Original description in Žitňan (1964a). Ergens (1985) considered *G. hronosus* as species inquirenda, however, Harris *et al.* (2004) noted this species as valid.

***Gyrodactylus leucisci*** Žitňan, 1964

Holotype: Z-11226/1, East-Slovakian Museum, Košice, Slovakia

Type host: *Leuciscus cephalus* (L.)

Type locality: Vyšné nad Hronom

Site: Fins

Original number: 897/58 (1434)

Note: Original description in Žitňan (1964a).

***Gyrodactylus longoacuminatus*** Žitňan, 1964

Holotype: Z-11227/1, East-Slovakian Museum, Košice, Slovakia

Paratypes: From Z-11227/2 to Z-11227/5, East-Slovakian Museum, Košice, Slovakia

Type host: *Carassius carassius* (L.)

Type locality: Pohronský Ruskov; other locality: Kamenica nad Hronom

ca nad Hronom

Site: Fins and skin

Original numbers: 2572/58 (1643 B) – holotype; 2572/58 (1643 A), 2572/58 (1643 C), 2572/58 (1643 D) 2473/58 (1508) – paratypes

Note: Original description in Žitňan (1964a). Ergens (1985) designed 2 forms of this species: *G. longoacuminatus* f. *typica* a *G. longoacuminatus* f. *minor*, holotype belongs to "*typica*" form.

***Gyrodactylus macrocornis*** Ergens, 1963

Holotype and paratypes: M-187, IPASCR, Institute of Parasitology, Academy of Sciences of Czech Republic, České Budějovice, Czech Republic

Type host: *Chondrostoma nasus* (L.)

Type locality: Topľa River

Site: Fins

***Gyrodactylus malmbergi*** Ergens, 1961

Holotype and paratypes: M-177, IPASCR, Institute of Parasitology, Academy of Sciences of Czech Republic, České Budějovice, Czech Republic

Type host: *Barbus meridionalis* Risso

Type locality: Hron River - Lukavica

Site: Fins and skin

***Gyrodactylus paraminimus*** Ergens, 1966

Holotype: M-336, IPASCR, Institute of Parasitology, Academy of Sciences of Czech Republic, České Budějovice, Czech Republic

Type host: *Chondrostoma nasus* (L.)

Type locality: Latorica

Site: Gills

***Gyrodactylus proterorhini*** Ergens, 1967

Holotype and paratypes: M-173, IPASCR, Institute of Parasitology, Academy of Sciences of Czech Republic, České Budějovice, Czech Republic

Type host: *Proterorhinus marmoratus* (Pallas)

Type locality: Danube River near Komárno

Site: Fins, gills and skin

***Gyrodactylus rhodei*** Žitňan, 1964

Holotype: Z-11228/1, East-Slovakian Museum, Košice, Slovakia

Paratypes: From Z-11228/2 to Z-11228/8, East-Slovakian Museum, Košice, Slovakia

Type host: *Rhodeus sericeus* (Pallas)

Type locality: Kamenica nad Hronom; other locality: Hostovce

Site: Fins

Original numbers: 957/58 (1494 A) – holotype; 1121/60 (2161 A), 1121/60 (2161 B), 956/58 (1493 D), 957/58 (1494 B), 956/58 (1493 A), 956/58 (1493 C), 956/58 (1493 B) – paratypes

Note: Original description in Žitňan (1964b).

***Gyrodactylus slovacicus*** Ergens, 1963

Holotype: M-186, IPASCR, Institute of Parasitology, Academy of Sciences of Czech Republic, České Budějovice, Czech Republic  
Type host: *Umbra krameri* Walbaum  
Type locality: Dunajská Streda  
Site: Gills, skin and fins

***Gyrodactylus thymalli*** Žitňan, 1960

Syntypes: From Z-11229/1 to Z-11229/13, East-Slovakian Museum, Košice, Slovakia  
Type host: *Thymallus thymallus* (L.)  
Type localities: Brezno, Stará Voda, Na hrabliach, Kežmarok  
Site: Fins  
Original numbers: 1575/59 (1795 B), 1575/59 (1795 A), 1151/60 (2192), 1199/60 (2240 C), 1199/60 (2240 B), 1199/60 (2240 A), 1199/60 (2240 D), 1256/60 (2297), 1278/60 (2320 B), 1278/60 (2320 A), 1277/60 (2319 A), 1277/60 (2319 B), 1278/60 (2320 A).

Monogenea, Diplozoidae

***Paradiplozoon ergensi*** (Pejčoch, 1968)

Holotype: ZIN 2167-122/2, Zoological Institute of Russian Academy of Science, St. Petersburg, Russia  
Paratypes: ZIN 16945-16948, 17165, Zoological Institute of Russian Academy of Science, St. Petersburg, Russia  
Type host: *Leuciscus cephalus* L.  
Type locality: Latorica River  
Site: Gills  
Note: Original description as *Diplozoon ergensi* Pejčoch, 1968.

Cestoda, Anoplocephalidae

***Paranoplocephala gracilis*** Tenora et Murai, 1980

Holotype: HNHM 3/1, Hungarian Natural History Museum, Budapest, Hungary  
Paratypes: 40 specimens from 6 hosts, HNHM 3/3, 3/5, 322, 333, 337, 384, 672 – 687, 722, 742, 744, 751, 752, 754 – 757, 2917, 2921/1, 2939, 3940, 3129, Hungarian Natural History Museum, Budapest, Hungary; NHMG 966/106, 966/107, Museum of Natural History, Geneva, Switzerland  
Type host: *Microtus agrestis* L.; other hosts: *Chionomys nivalis* (Martins), *Microtus subterraneus* (de Selys-Longchamps), *Clethrionomys glareolus* (Schreber), *Arvicola terrestris* (L.)  
Type locality: Slovenské Beskydy Mts. – Mutné; other localities: Slovakia – Roháče Mts., Switzerland – Bretolet, Romania – Retezat Mts., Gura Zlata, Poland – Pieniny Mts., Hungary – Sopron-Tómalom, Brennbergbánya, Óriszentpéter, Czech Republic – Orlické hory Mts.  
Site: Small intestine

Cestoda, Progynotaeniidae

***Proterognotaenia tibi*** Macko et Špakulová, 1995

Holotype: Z-15750/1, East-Slovakian Museum, Košice, Slovakia  
Paratypes: From Z-15750/2 to Z-15750/6, East-Slovakian

Museum, Košice, Slovakia

Type host: *Pluvialis squatarola* (L.)

Type locality: Senné

Site: Intestine

Original numbers: 1314/6 – holotype, 1314/2, 1314/3, 1314/4, 1314/5, 1314/11 – paratypes. 7 paratypes not available: 1314/1, 1314/7 – /10, 1314/12, 1314/13.

Cestoda, Dilepididae

***Anomotaenia porata*** Macko, 1968

Holotype: 2 slides Z-15740/1 (scolex) and Z-15740/2 (strobila), East-Slovakian Museum, Košice, Slovakia  
Paratype: Z-15740/3, East-Slovakian Museum, Košice, Slovakia  
Type host: *Porzana parva* (Scop)  
Type locality: Vojka (district Kráľovský Chlmec)  
Site: Intestine  
Original numbers: 2 slides 34/58a (scolex) and 34/58b (strobila) – holotype, 34/58c – paratype  
Note: Original description in Macko (1968a).

***Birovilepis spasskayae*** (Birová-Volosinovičová, 1967)

Holotype: Z-11233/1, East-Slovakian Museum, Košice, Slovakia  
Paratypes: From Z-11233/2 to Z-11233/6, East-Slovakian Museum, Košice, Slovakia  
Type host: *Garrulus glandarius* (L.)  
Type locality: High Tatras - Starý Smokovec  
Site: Intestine  
Original numbers: 1055/62a, 1055/62

Notes: Spassky (1975) erected the new genus *Birovilepis* gen. nov. according to *Dilepis spasskayae* Birová-Volosinovičová, 1967 and *Birovilepis spasskayae* is the type species of genus (Spasskaya and Spassky, 1977). Schmidt (1986) synonymised the genus *Birovilepis* with *Dilepis* but he did not include *B. spasskayae* in the species list. Georgiev and Genov (1988) as well as Bona (1994) consider the genus *Birovilepis* valid.

***Cinclotaenia georgievi*** Macko et Špakulová, 2002

Holotype: BMNH 2001.8.5.1, The Natural History Museum London, UK  
Paratypes: BMNH 2001.8.5.2, 2001.8.5.3, 2001.8.5.4, 2001.8.5.5, The Natural History Museum London, UK; from Z-11278/1 to Z-11278/7, East-Slovakian Museum, Košice, Slovakia  
Type host: *Cinclus cinclus* (L.)  
Type locality: Village Kríže near Bardejov  
Site: Small intestine  
Original numbers: 1353b/1 (scolex), 1353b/2 (strobila) – holotype, 1332a/1, 1332a/2, 1332d/1, 1332d/2, 1332x, 1332xx, 1338a/1, 1338a/2, 1350a, 1350x, 1338, 1340, 1348 – paratypes

***Cinclotaenia paradehiscens*** Špakulová, Macko et Macková, 2002

Holotype: BMNH 2002.11.7.1, The Natural History Museum London, UK

Paratypes: BMNH Reg. Nos. 2002.11.7.2, 2002.11.7.3, The Natural History Museum London, UK; from Z-11735/1 to Z-11735/5, East-Slovakian Museum, Košice, Slovakia  
Type host: *Cinclus cinclus* (L.)  
Type locality: Village Kríže near Bardejov  
Site: Small intestine  
Original numbers: 1334x<sub>1</sub> – holotype, 1334a, 1334b, 1334c, 1334d, 1334x<sub>2</sub>, 1340, 1349 – paratypes

***Krimi rallida*** Macko, 1966

Holotype: Marked specimen on Z-15747/1, East-Slovakian Museum, Košice, Slovakia  
Paratypes: From Z-15747/1 to Z-15747/5, East-Slovakian Museum, Košice, Slovakia  
Type host: *Rallus aquaticus* L.  
Type locality: Palkovičovo  
Site: Intestine  
Original number: Marked specimen on 1287/62a – holotype, 6 specimens on slides 1287/62a, 1260/62c, 1261/62a, 1262/62d and sections on slide 1260/r1  
Note: Original description in Macko (1966a)

Cestoda, Paruterinidae

***Anonchotaenia magniuterina*** Ryšavý, 1957

Holotype: Not designed  
Type hosts: *Passer domesticus* L., *Parus aticalillus* L.  
Type localities: Praha, Starý Smokovec  
Site: Intestine  
Note: The original description did not designed type series. Material of this species is deposited in Institute of Parasitology, Academy of Sciences of Czech Republic, České Budějovice, Czech Republic under the No. C-73.

Cestoda, Hymenolepididae

***Aploparaksis mackoi*** Bondarenko et Hromada, 2004

Holotype: BMNH 2001.7.16.1, The Natural History Museum, London, UK  
Paratypes: BMNH 2001.7.16.2, The Natural History Museum, London, UK, from Z-15741/1 to Z-15741/7, East-Slovakian Museum, Košice, Slovakia  
Type host: *Gallinago gallinago* (L.)  
Type locality: Danubian Plain – Štúrovo; other localities: Palkovičovo  
Site: Small intestine  
Original numbers: 851 – holotype, 1174, 851/60e, 979/62a – c, 1159/62a – c – paratypes

***Armadolepis spasskyii*** Tenora et Baruš, 1958

Holotype and paratypes: C-307, IPASCR, Institute of Parasitology, Academy of Sciences of Czech Republic, České Budějovice, Czech Republic  
Type hosts: *Dryomys nitedula* (Pallas), *Eliomys quercinus* (L.); other host: *Glis glis* (L.)  
Type locality: Slovak Carst – Silica, Ardovo, Slávec  
Site: Intestine  
Original number: Domic A/1

***Dicranotaenia minisacculata*** Macko, 1988

syn: *Dicranotaenia coronula minisacculata* Macko, 1988  
Holotype: From Z-15742/1 to Z-15742/5, East-Slovakian Museum, Košice, Slovakia  
Paratypes: 4 specimens on slides from Z-15742/6 to Z-15742/10, East-Slovakian Museum, Košice, Slovakia  
Type host: *Mergus serrator* L.  
Type locality: Senné  
Site: Small intestine  
Original numbers: 5 slides from 1 specimen 570a – e – holotype, 570 f – j – paratypes  
Note: Originally described as subspecies *Dicranotaenia coronula minisacculata* by Macko (1988). Detailed redescription in Macko (1991a).

***Dicranotaenia stenosacculata*** Macko, 1988

syn: *Dicranotaenia coronula stenosacculata* Macko, 1988  
Holotype: Z-15743/1 (scolex) and Z-15743/2 (strobila), East-Slovakian Museum, Košice, Slovakia  
Paratypes: From Z-15743/3 to Z-15743/15, East-Slovakian Museum, Košice, Slovakia  
Type host: *Aythya fuligula* (L.); other host: *Aythya nyroca* (Güld.)  
Type locality: Senné; other localities: Iňačovce, Strážske  
Site: Small intestine  
Original numbers: 706/64m/1 and /2 (scolex and strobila, in original description is wrong number 716/64m) – holotype, 13 slides Nos. 706/64, 716a1 and 2, 716b, 716k, 1137xb/1 and 2, 1143/57a, b, 1143xd/1 and 2, 1143xc/1 and 2 – paratypes  
Note: Originally described as subspecies *Dicranotaenia coronula stenosacculata* by Macko (1988). Detailed redescription in Macko (1991b).

***Dicranotaenia synsacculata*** Macko, 1988

syn: *Dicranotaenia coronula synsacculata* Macko, 1988  
Holotype: Z-15744/1 (scolex) and Z-15744/2 (strobila), East-Slovakian Museum, Košice, Slovakia  
Paratypes: From Z-15744/3 to Z-15744/14, East-Slovakian Museum, Košice, Slovakia  
Type host: *Bucephala clangula* (L.)  
Type locality: Senné  
Site: Small intestine  
Original numbers: 2 slides 1030b (scolex and strobila) – holotype, 12 slides Nos. 217/67x, 433a, b, 546a/1 and /2, 652a/1 – /3, 1030/60a, b 1030/60c/1 and /2 – paratypes  
Note: Originally described as subspecies *Dicranotaenia coronula synsacculata* by Macko (1988). Detailed redescription in Macko (1990).

***Diorchis nitidohamulus*** Hovorka et Macko, 1972

Holotype: Marked specimen on Z-15746/1, East-Slovakian Museum, Košice, Slovakia  
Paratypes: From Z-15746/1 to Z-15746/19, East-Slovakian Museum, Košice, Slovakia  
Type host: *Aythya fuligula* (L.)  
Type locality: Veľká Domaša

Site: Intestine

Original numbers: marked specimen on slide 166/69x – holotype, 3 specimen on slide 166/69x and specimens on 18 slides 166/69a-r – paratypes

***Hymenolepis ampla*** Erhardová, 1955

Holotype: Not designed

Host: *Clethrionomys glareolus* Schr., *Microtus nivalis mirhanreini* Schäffer, *Microtus agrestis* L.

Localities: High Tatras

Site: Small intestine

***Mackoja podirufi*** (Macko, 1962)

Holotype: Z-15748/1, East-Slovakian Museum, Košice, Slovakia

Paratypes: From Z-15748/2 to Z-15748/4, East-Slovakian Museum, Košice, Slovakia

Type hosts: *Colymbus ruficollis* Pall; other host: *Colymbus caspicus* (Habl.)

Type locality: Senné; other locality: Štúrovo

Site: Intestine

Original numbers: 712/59š – holotype, 3 marked specimens on slides 712/59, 712/59nx<sub>1</sub>, 712/59nx<sub>2</sub> – paratypes

Note: Macko (1962a) described this species originally as *Echinocotyle podirufi*. Korniyushin (1983) arised new genus *Mackoja* with the only species *Mackoja podirufi*. Re-description of this species was given by Vasileva *et al.* (1996).

***Microsomacanthus spasskyorum*** Macko et Birová, 1983

Holotype: Z-15749/1, East-Slovakian Museum, Košice, Slovakia

Paratypes: From Z-15749/2 to Z-15749/21, East-Slovakian Museum, Košice, Slovakia

Type host: *Aythya fuligula* (L.)

Type locality: Senné

Site: Small intestine

Original number: 716a – holotype, 20 slides Nos. 716b – c, 716d1 – 3, 716e – s – paratypes.

***Sobolevicanthus aculeostyleticus*** Birová et Macko, 1991

Holotype: Marked specimen on slide Z-15751/1, East-Slovakian Museum, Košice, Slovakia

Paratypes: From Z-15751/1 (marked specimen) to Z-15751/16, East-Slovakian Museum, Košice, Slovakia

Type host: *Anas platyrhynchos* L.

Type locality: Senné, other locality: Štúrovo

Site: Intestine

Original numbers: One specimen on 816/60 – holotype, one specimen on 816/60 and 15 slides 659/59a–b, 816/60<sub>1</sub>, 823/60x, 520/74a – e, 524/74, 524/74x1 – 2, 111/75, 6/88 – paratypes.

***Sobolevicanthus longistyleticus*** Macko, 1992

Holotype: Marked specimen on slide Z-15752/1, East-Slovakian Museum, Košice, Slovakia

Paratypes: From Z-15752/1 to Z-15752/8, East-Slovakian Museum, Košice, Slovakia

Type host: *Anas crecca* L.

Type locality: Senné

Site: Small intestine

Original numbers: Marked specimen on slide 144/60a – holotype, 5 marked specimens on slides 144/60a, 144/60b–c, 145/60, 179/60a – b, 612 – paratypes (in some slides together with *Sobolevicanthus krabbeella* (Hughes, 1940)

***Triodontolepis torrentis*** Murai, 1987

Holotype: 1914/16827/1, Hungarian Natural History Museum, Budapest, Hungary

Paratypes: 99 specimens of various HNHM numbers, Hungarian Natural History Museum, Budapest, Hungary; NHMG 2002/16312/7, 3086/25017/4, Museum of Natural History, Geneva, Switzerland

Type locality: Nízke Tatry Mountains – Partizánska Lupča, Na Tajchu; other localities: Slovakia – Veľká Fatra Mts., Nízke Beskydy Mts., Čergov Mts. – Lenartov, Štolické vrchy Mts., Slovenský Raj – Stratená; Hungary – Mátra Mts.; Romania: Gilau Mts., Retezat Mrs.

Type host: *Neomys fodiens* Pennant

Site: Small intestine

***Wardium zmorayi*** Macko, 1970

Holotype: Z-15755/1 (scolex) and Z-15755/2 (strobila), East-Slovakian Museum, Košice, Slovakia

Paratypes: From Z-15755/3 to Z-15755/16, East-Slovakian Museum, Košice, Slovakia

Type host: *Anas clypeata* L.

Type locality: East Slovak Lowland - Senné

Site: Small intestine

Original numbers: 761c/1 (scolex) and /2 (strobila) – holotype, 14 slides Nos. 761a – b, 761c/3, 761d – k, 761x/1 – /3 – paratypes

Nematoda, Alaimidae

***Alaimus andrassyi*** Sabová, 1967

Holotype: 906/66 (♀) – lost material

Type host: Rhizosphere of barley *Hordeum vulgare* L.

Type locality: Orava – Ťapešovo

Nematoda, Longidoridae

***Longidorus carpathicus*** Lišková, Robbins et Brown, 1997

Holotype: 1 female, USDA Nematode Collection, Beltsville, Maryland, USA.

Paratypes: 1 female and 33 juveniles, USDA Nematode Collection, Beltsville, Maryland, USA; 2 females, Museum national d'Histoire naturelle, Laboratoire des Vers, Paris, France; 1 female, Z-15758/1, East-Slovakian Museum, Košice, Slovakia

Type host: Rhizosphere of beech *Fagus sylvatica* L.

Type locality: Carpathian Mts. – Baba

***Longidorus juglandicola*** Lišková, Robbins et Brown, 1997

Holotype: 1 female, USDA Nematode Collection, Beltsville, Maryland, USA.

Allotype: 1 male, USDA Nematode Collection, Beltsville,

Maryland, USA.

Paratypes: 4 females and 79 juveniles, USDA Nematode Collection, Beltsville, Maryland, USA; 8 females, Museum national d'Histoire Naturelle, Laboratoire des Vers, Paris, France; 2 females and 1 male on one slide Z-15757/1, East-Slovakian Museum, Košice, Slovakia.

Type host: Rhizosphere of walnut *Juglans regia* L.

Type locality: Eastern Slovakia - Sorožka

***Longidorus piceicola*** Lišková, Robbins et Brown, 1997

Holotype: 1 female, USDA Nematode Collection, Beltsville, Maryland, USA.

Allotype: 1 male, USDA Nematode Collection, Beltsville, Maryland, USA.

Paratypes: 9 females and 78 juveniles, USDA Nematode Collection, Beltsville, Maryland, USA; 12 females, Museum national d'Histoire Naturelle, Laboratoire des Vers, Paris, France; 3 females on one slide Z-15759/1, East-Slovakian Museum, Košice, Slovakia.

Type host: Rhizosphere of Norway spruce *Picea abies* (L.)

Type locality: Muráňská Planina Mts. near the village Červená Skala

Nematoda, Nygolaimidae

***Nygolaimus solaniphilus*** Sabová, 1974

Holotype: 457/66 (♀) – lost material

Paratype: 460/66 (1♀) – lost material

Type host: Rhizosphere of potato *Solanum tuberosum* L.

Type locality: Východná

Nematoda, Acuariidae

***Skrjabinocara parvepapillata*** Macko, 1962

Holotype: Z-15762/1 (♀), East-Slovakian Museum, Košice, Slovakia

Allotype: Z-15762/2 (♂), East-Slovakian Museum, Košice, Slovakia

Paratypes: Test tubes from Z-15762/3 to Z-15762/5 (4 ♂), East-Slovakian Museum, Košice, Slovakia

Type hosts: *Ciconia ciconia* L., *Ciconia nigra* L.

Locality: Senné

Site: Muscle stomach

Original numbers: 1178 – holotype, 1452a – allotype, 1452b, 1452c, 290/62c – paratypes

Note: Original description in Macko (1962b) according to 2 females, 2 males from the type locality and the type host *C. nigra* additionally described by Macko (1962c). According to Chabaud (1975), the genus *Skrjabinocara* Kurashvili, 1941 is a synonym of *Chordocephalus* Alegret, 1941.

Nematoda, Heterakidae

***Ganguleterakis kuchtai*** Macko, 1968

Holotype: Z-15756/1, (part of ♂) together with allotype, East-Slovakian Museum, Košice, Slovakia

Allotype: Z-15756/1, (♀) together with holotype, East-Slovakian Museum, Košice, Slovakia

Type host: *Crex crex* (L.)

Type locality: East Slovak Lowland - Senné

Original numbers: 724/63-N

Note: The original description in Macko (1968b). According to Chabaud (1978), the genus *Ganguleterakis* Lane, 1914 is a synonym of *Heterakis* Dujardin, 1945.

Nematoda, Strongylidae

***Calcaronema verrucosum*** Hovorka et Macko, 1959

Holotype: Z-15760/1 (♂), together with allotype in the same test tube, East-Slovakian Museum, Košice, Slovakia

Allotype: Z-15760/1 (♀), together with holotype in the same test tube, East-Slovakian Museum, Košice, Slovakia

Paratypes: Test tubes from Z-15760/2 to Z-15760/8 (1 ♂ and 21 ♀), East-Slovakian Museum, Košice, Slovakia

Type host: *Ciconia ciconia* (L.)

Type locality: Pavlovce, Strážske, Senné

Site: Trachea

Original numbers: 1178a – holotype and allotype, 1178b, 1178c, 1178e, 1299, 274, 568 – paratypes

Note: According to Lichtenfels (1980), *Calcaronema* Hovorka et Macko, 1959 is a synonym of *Cyathostoma* Blanchard, 1849.

***Calcaronema trifurcatum*** Hovorka et Macko, 1959

Holotype: Z-15761/1 (♂), East-Slovakian Museum, Košice, Slovakia

Allotype: Z-15761/2 (♀), East-Slovakian Museum, Košice, Slovakia

Paratypes: Test tubes from Z-15761/3 to Z-15761/7 (6 ♂ and 6 ♀), East-Slovakian Museum, Košice, Slovakia

Type host: *Ciconia nigra* L.

Type locality: Senné

Site: Trachea

Original numbers: 822a – holotype, 822b – allotype, 822c, 822d, 579, 290/62a, 290/62b – paratypes

Note: According to Lichtenfels (1980), *Calcaronema* Hovorka et Macko, 1959 is a synonym of *Cyathostoma* Blanchard, 1849.

Nematoda, Trichostrongylidae

***Amidostomum quasifulicae*** Macko, 1966

Holotype: 1101/62 (♂) – lost material

Allotype: 1101/62 (♀) – lost material

Type host: *Gallinula chloropus* L.

Locality: Jahodná (district Dunajská Streda); other locality: East Slovak Lowland - Senné

Note: Description in Macko (1966b)

#### SYNONIMIZED:

Digenea, Plagiorchiidae

***Plagiorchis amplehaustoria*** Mituch, 1964

Valid name: *Plagiorchis vespertilionis* (Müller, 1784); according to Skvortsov (1972)

Holotype: 40/59 – lost material

Host: *Miniopterus schreibersi* (Kuhl)

Locality: Demänová - Suchá Cave

Site: Intestine

Note: Original description in Mituch (1964b)

***Plagiorchis miniopteri*** Mituch, 1965

Valid name: ***Plagiorchis koreanus*** (Ogata, 1938); according to Groschafft and Tenora (1973) and Tkach *et al.* (2000)  
Syntypes: From Z-11232/1 to Z-11232/4, East-Slovakian Museum, Košice, Slovakia  
Host: *Miniopterus schreibersi* (Kuhl)  
Locality: Demänová  
Site: Intestine  
Original numbers: M5045, M4541-1, M4541-2, 132T

***Ophiosacculus multiglandularis*** Mituch, 1964

Valid name: ***Ophiosacculus mehelyi*** (Mödlinger, 1930); according to Tkach *et al.* (2002)  
Holotype: not designed  
Host: *Rhinolophus euryale* Blasius  
Locality: Ardovská Cave  
Site: Intestine  
Note: Original description in Mituch (1964a).

Digenea, Lecithodendriidae

***Lecithodendrium hovorkai*** Mituch, 1959

Valid name: ***Lecithodendrium linstowi*** Dollfus, 1931; according to Dubois (1963)  
Syntypes: From Z-11230/1 to Z-11230/3, East-Slovakian Museum, Košice, Slovakia  
Host: *Eptesicus nilssoni* (Keyserling et Blasius)  
Locality: Demänová - Suchá Cave  
Site: Intestine  
Original number: 32/59-1 – 32/59-3

Monogenea, Gyrodactylidae

***Gyrodactylus chondrostomatis*** Žitňan, 1964

Valid name: ***Gyrodactylus macrocornis*** Ergens, 1963; according to Ergens (1985)  
Holotype: Z-11224/1, East-Slovakian Museum, Košice, Slovakia  
Paratypes: Z-11224/2, Z-11224/3, East-Slovakian Museum, Košice, Slovakia  
Host: *Chondrostoma nasus* (L.)  
Locality: Hron - Kamenica nad Hronom  
Site: Fins  
Original number: 951/58 (1488) – holotype, 951/58 (1488 A), 951/58 (1488 B) - paratypes  
Note: Original description in Žitňan (1964a).

Monogenea, Dactylogyridae

***Dactylogyryus hovorkai*** Kašťák, 1955

Valid name: ***Dactylogyryus extensus*** Mueller et Van Cleave, 1932 according to Gusev (1985)  
Syntypes: From Z-15764/1 to Z-15764/27, East-Slovakian Museum, Košice, Slovakia  
Host: *Cyprinus carpio* L.  
Locality: Pond in Jasov  
Site: Fins  
Original number: 41/7-1 – 41/7-27

Cestoda, Hymenolepididae

***Wardium filamentoovatum*** Macko, 1962

Valid name: ***Wardium spasskii*** Schigin, 1961

Holotype: Z-15754/1 (scolex) and Z-15754/2 (strobila), East-Slovakian Museum, Košice, Slovakia

Paratypes: From Z-15754/3 to Z-15754/22, East-Slovakian Museum, Košice, Slovakia

Type host: *Larus minutus* Pall.

Locality: Senné

Site: Intestine

Original number: 2 slides 1257b/1 and /2 – holotype, 20 slides Nos. 724b, bd, oz, 725a, 726/1 and /2, 726ad/1 and /2, 750, 793, 799a/1 and /2, 799b/1 and /2, 1257o, 1257d, 1261a/1 and /2, 611, 726 – paratypes

Note: Original description in Macko (1962d). According to Schmidt (1986), *Wardium filamentoovatum* Macko, 1962 is a synonym of *Dicranotaenia spasskii* (Schigin, 1961). Czaplinski and Voucher (1994) considered the original genus *Wardium* Mayhew, 1925 as valid.

Nematoda, Belonolaimidae

***Tylenchorhynchus tatrensis*** Sabová, 1967

Valid name: ***Nagelus gaudialis*** (Izatullayeva, 1967), according to Siddiqi (2000)

Holotype: 1037/66 (♀) – lost material

Paratype: 1038/66 (♀) – lost material

Type host: Rhizosphere of barley *Hordeum vulgare* L.

Type locality: Východná; other locality: Orava - Ťapešovo

Nematoda, Trichostrongylidae

***Heligmosomum tatricum*** Erhardová, 1955

Valid name: ***Heligmosomoides glareoli*** Baylis, 1928, according to Biserkov *et al.* (1998)

Holotype: Not designed

Hosts: *Microtus nivalis* Martins

Locality: High Tatras Mts.

Site: Intestine

**SPECIES AND GENERA INQUIRENDAE** (i.e. species of doubtful identity needing further investigation)

Nematoda, Aproctidae

***Hovorkonema gasterofilaria*** Jurášek, 1977

Holotype: 34/76-11 (♂) – lost material

Type host: *Sus scrofa* L.

Type locality: Lučenec (Bagľaš)

Site: Stomach

Note: Erroneous description of the genus *Hovorkonema* Jurášek, 1977. The genus *Hovorkonema* had been erected by Turemuratov (1963) in the family Syngamidae. According to Lichtenfels (1980), the genus *Hovorkonema* Turemuratov, 1963 is a synonym of *Cyathostoma* Blanchard, 1849.

Nematoda, Metastrongylidae

***Metastrongylus hovorkai*** Jurášek, 1968

Holotype: Not designed

Type host: *Sus scrofa* L.

Locality: Eastern Slovakia

Site: Lungs

Note: Unsatisfied description without morphological data and designed type material.

## II. Helminth species which type-material is deposited in the East-Slovakian Museum in Košice

Note: species without particulars are listed repeatedly

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Trematoda, Diplostomidae

***Neodiplostomum centuri*** Dubois et Macko, 1972

Holotype: Z-15737/1, East-Slovakian Museum, Košice, Slovakia

Paratypes: From Z-15737/2 to Z-15737/5, East-Slovakian Museum, Košice, Slovakia

Type host: *Melanerpes supercilialis* Swainson, other host: *Anolis equestris* (Ritteranolis)

Type locality: Cuba – Isla de Pinos, Rancho del Tesoro

Site: Intestine

Original numbers: 1463c – holotype, 11 specimens on slides 1463b, 1463d, 1463e, 1466a, – paratypes

***Neodiplostomum isomegacotyle*** Dubois et Macko, 1972

Holotype: Z-15738/1, East-Slovakian Museum, Košice, Slovakia

Type host: *Falco sparverius* L.

Type locality: Cuba – Peninsula de Guanahacabibes, Maria la Gorda

Site: Intestine

Original number: 1841b

Trematoda, Strigeidae

***Parastrigea diovadana*** Dubois et Macko, 1972

Holotype: Marked specimen on Z-15739/1, East-Slovakian Museum, Košice, Slovakia

Paratypes: From Z-15739/1 to Z-15739/5, East-Slovakian Museum, Košice, Slovakia

Type host: *Eudocimus albus* (L.)

Type locality: Cuba – Peninsula de Zapata, St. Tomas, Canal de Zapata

Site: Intestine

Original numbers: Marked specimen on 1641h – holotype, 17 specimens on slides 1641h, g, f, i, j – paratypes

Trematoda, Bucephalidae

***Bucephalus anquillae*** Špakulová, Macko, Berrilli et Dezfuli, 2002

Holotype: USNPC 91720, U. S. National Parasite Collection in Beltsville, Maryland, USA

Paratypes: USNPC 91721, U. S. National Parasite Collection in Beltsville, Maryland, USA; from Z-11247/1 to Z-11247/12, East-Slovak Museum, Košice, Slovakia

Type host: *Anguilla anguilla* (L.)

Type locality: Italy - Adriatic Sea, Comacchio lagoon

Site: Intestine

Trematoda, Philophthalmidae

***Philophthalmus hovorkai*** Buša, 1956

Trematoda, Opisthorchiidae

***Metorchis hovorkai*** Macko, 1955

Trematoda, Lecithodendriidae

***Lecithodendrium skrjabini*** Matsaberidse, 1963

Holotype: Institute of Zoology of Georgian Academy of Sciences, Tbilisi, Georgia.

Paratypes: 6 paratypes, Institute of Zoology of Georgian Academy of Sciences in Tbilisi, Georgia; Z-11279/1, East-Slovakian Museum, Košice, Slovakia

Type species: *Pipistrellus nathusii* (Keyserling et Blasius)

Type locality: Georgia - District of Tkibulsk

Site: Intestine

Trematoda, Eumegacetidae

***Eumegacetes garridoi*** Macko, 1994

Holotype: Marked specimen on slide Z-15735/1, East-Slovakian Museum, Košice, Slovakia

Paratypes: From Z-15735/1 to Z-15735/3, East-Slovakian Museum, Košice, Slovakia

Type host: *Himantopus himantopus mexicanus* (Müller)

Type locality: Cuba - Laguna Grande - La Gloria

Site: Intestine

Original numbers: Marked specimen on slide 1519i - holotype, 7 specimens on slides 1519i, 1519ia, 1520c - paratypes

Monogenea, Gyrodactylidae

***Gyrodactylus hronosus*** Žitňan, 1964

***Gyrodactylus leucisci*** Žitňan, 1964



*Gyrodactylus longoacuminatus* Žitňan, 1964  
*Gyrodactylus rhodei* Žitňan, 1964  
*Gyrodactylus thymalli* Žitňan, 1960  
 Monogenea, Dactylogyridae  
*Dactylogyrus petenyi* Kašťák, 1957  
 Cestoda, Progygotaeniidae  
*Proterogynotaenia tabori* Macko et Špakulová, 1995  
 Cestoda, Dilepididae  
*Anomotaenia porata* Macko, 1968  
*Birovilepis spasskayae* (Birová-Volosinovičová, 1967)  
*Cinclotaenia georgievi* Macko et Špakulová, 2002  
*Cinclotaenia paradehiscens* Špakulová, Macko et Macková, 2002  
*Krimi rallida* Macko, 1966  
*Vitta crotophagae* Macko et Ryšavý, 1982  
 Holotype: Z-15753/1 and Z-15753/2, East-Slovakian Museum, Košice, Slovakia  
 Paratypes: From Z-15753/3 to Z-15753/19, East-Slovakian Museum, Košice, Slovakia  
 Type host: *Crotophaga ani* L.  
 Type locality: Cuba – Peninsula de Guanahacabibes, La Ceiba, Camino de San Francisco (Isla de Juventud)  
 Site: Small intestine  
 Original numbers: 1938a1 and 1938a2 – holotype, 54/71a, 54/71m, 57/71b, 1443a/1 and /2, 1450x, 1451x<sub>1</sub>, 1452a, 1920x/1, /2 and /3, 1920x<sub>1</sub>, 1920x<sub>2</sub>, 1921x, 1921x<sub>1</sub> 1929x, 1929x<sub>1</sub> - paratypes  
 Cestoda, Hymenolepididae  
*Aploparaksis mackoi* Bondarenko et Hromada, 2004  
*Dicranotaenia minisacculata* Macko, 1988  
*Dicranotaenia stenosacculata* Macko, 1988  
*Dicranotaenia synsacculata* Macko, 1988  
*Diorchis longihamulus* Macko et Ryšavý, 1968  
 Holotype: Z-15745/1, East-Slovakian Museum, Košice, Slovakia  
 Paratypes: From Z-15745/2 to Z-15745/4, East-Slovakian Museum, Košice, Slovakia  
 Type host: *Gallinula chloropus cerceris* Bangs  
 Type locality: Cuba – Cienago de Zapata (province Las Villas)  
 Site: Small intestine  
 Original numbers: 1704c – holotype, 1704x, 1704n, 1703a – paratypes.  
*Diorchis nitidohamulus* Hovorka et Macko, 1972  
*Mackoja podirufi* (Macko, 1962)  
*Microsomacanthus spasskyorum* Macko et Birová, 1983  
*Sobolevicanthus aculeostyleticus* Birová et Macko, 1991  
*Sobolevicanthus longistyleticus* Macko, 1992  
*Wardium zmorayi* Macko, 1970  
 Nematoda, Longidoridae  
*Longidorus carpathicus* Lišková, Robbins et Brown, 1997  
*Longidorus piceicola* Lišková, Robbins et Brown, 1997  
*Longidorus juglandicola* Lišková, Robbins et Brown, 1997  
 Nematoda, Trichuridae  
*Trichuris arvicolae* Feliu, Špakulová, Casanova et al., 2000  
 Holotype: Z-11243/1 (♂) in East-Slovakian Museum, Košice, Slovakia  
 Allotype: Z-11243/2 (♀) in East-Slovakian Museum, Košice, Slovakia  
 Paratypes: From Z-11243/3 to Z-11243/18 (8 ♂, 8 ♀), East-Slovakian Museum, Košice, Slovakia; other paratypes, Laboratory of Parasitology, Faculty of Pharmacy, University of Barcelona, Spain.  
 Type host: *Microtus arvalis* (Pallas); other hosts: *Arvicola sapidus* (Miller), *Clethrionomys glareolus* (Schreber), *Microtus agrestis* (L.)  
 Type locality: Spain – Val d’Aran - Vaqueira; other localities: Spain – Benasque, Delta de L’Ebre, Eugi, Queralbs; France – Moulis, Py  
 Site: Cecum  
 Original numbers: VAR 656 – holotype and allotype, 9 male and 30 females Nos. VAR 656, VAR 657, VAR 677, 101073.026, 111073.032, 78082.21, MLS018, MLS021, 740101.15, 732311.0, 731229.02, 820220.07, 820221.43, 8205.632, 830123.02, 830123.08, EUG 502, EUG503, EUG504, PY97101402 – paratypes

Nematoda, Rhabdochoniidae

***Johnstonmawsonia porichthydis*** Tanzola et Gigola, 2002

Holotype: No. 372 (♂), Museo Argentino de Ciencias Naturales, Buenos Aires, Argentina

Allotype: No. 372 (♀), Museo Argentino de Ciencias Naturales, Buenos Aires, Argentina

Paratypes: From Z-11280/1 to Z-11280/4 (2 ♂ and 2 ♀), East-Slovakian Museum, Košice, Slovakia

Type host: *Porichthys porosissimus* (Valenciennes)

Type locality: Argentina - Bahía Blanca Estuary

Site: Pancreatic ducts

Nematoda, Acuariidae

***Skrjabinocara parvepapillata*** Macko, 1962

Nematoda, Heterakidae

***Ganguleterakis kuchtai*** Macko, 1968

Nematoda, Strongylidae

***Calcaronema verrucosum*** Hovorka et Macko, 1959

***Calcaronema trifurcatum*** Hovorka et Macko, 1959

Nematoda, Ancylostomatidae

***Ancylostoma martinezi*** Miquel, Torres, Casanova et Feliu, 1994

Holotype: Z-11234/1 (♂), East-Slovakian Museum, Košice, Slovakia

Allotype: Z-11234/2 (♀), East-Slovakian Museum, Košice, Slovakia

Paratypes: From Z-11234/3 to Z-11234/12 (5 ♂ and 5 ♀), East-Slovak Museum, Košice, Slovakia

Type host: *Genetta genetta* (L.)

Type locality: Spain – Castell d'Aro, Girona province, other localities: La Cellerade Ter, Barbastro - Huesca province, Bembibre - León province, La Cellerade - Girona province, Ter, Sant Gregori - Barcelona province

Site: Intestine

Note: Detailed morphological description in Miquel *et al.* (1996).

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