



Type specimens of gordioids (Nematoida: Nematomorpha) in the National Museum, Prague¹

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Abstract. The National Museum, Prague, Czech Republic, possesses type specimens of three species and one subspecies of horsehair worms: *Gordionus formidatus* Havlík, 1954 (Chordodidae), *Gordionus scaber hykai* Havlík, 1947 (Chordodidae), *Gordius sinareolatus* Havlík, 1949 (Gordiidae), and *Paragordionus bohemicus* Havlík, 1947 (Chordodidae).

Key words: horsehair worms, Gordioida, type specimens, Otto Havlík, Czech Republic, Slovakia.

INTRODUCTION

Gordioids belongs to the phylum Nematomorpha (the so-called horsehair worms) which forms with the phylum Nematoda a monophyletic clade Nematoida (Schmidt-Rhaesa 1998) belonging to Ecdysozoa (Edgecombe et al. 2011). There are about 360 species of horsehair worms described so far (Schmidt-Rhaesa 2010). The most important part of the gordioid collection in the National Museum, Prague, Czech Republic (NMP) is the Havlík Collection, which contains all type specimens of gordioids possessed by the NMP; they are listed below.

Dr. Otto Havlík (1923-1960; Fig. 1) was a renowned parasitologist, with special interest in gordioid systematics (Jírovec 1961). He described four new species and one new subspecies of gordioids (Havlík 1947, 1949c, 1954b) from specimens collected in the former Czechoslovakia (Bezděk 2011). All these taxa are currently considered valid (Schmidt-Rhaesa 2010, Bezděk 2011). In addition, he published the first description of a male of *Gordius perronciti* Camerano, 1887 (Havlík 1954b) and improved the description of several more European species (Havlík 1949b). For his study, Havlík established a new method of staining cuticle with Opal Blue (Havlík 1947). He studied also gordioid zoogeography (Havlík 1949a) and compiled an identification key for Central European species (Havlík 1954a). His entire bibliography can be found in Jírovec (1961). After his early death, his collection was brought to the NMP on 20 December 1960 by Otto Jírovec (1907-1972). The collection, consisting of nine bottles and approximately 300 speci-

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mens, was deposited in the zoological collection of the NMP under the accessory number 58/1963. Determined and localized specimens (from the bottles № 4, 5, and 9) are catalogued under inventory numbers P6E-3006–3060 and P6E-3102–3110. Undetermined material is catalogued under inventory number P6j-121/2002.

METHODS

Nomenclatural issues follow the International Code of Zoological Nomenclature (ICZN 1999, 2012). The classification of gordioids follows Schmidt-Rhaesa (2010).

All dates are written in the Georgian calendar (Mlíkovský 2010). Geographic coordinates are written using the decimal system. For grid squares see Buchar (1982) and Pruner & Míka (1996).

Specimens mentioned by Havlík (1954b) were not individually labelled, but were recognized only on the basis of their localities, dates, and collector names.

SYSTEMATIC LIST

Order: Chordodea

Family: Chordodidae Dufour, 1828

***Gordionus formidatus* Havlík**

Gordionus formidatus Havlík, 1954b: 87, text-fig. 2, pl. 1, figs. e-f, pl. 2, figs. a-b (♀).

Now: *Gordionus formidatus* Havlík, 1954.

HOLOTYPE: NMP P6E-3103, ♀, collected by Ján Brtek on 30 May 1952 in Čermel' brook near Košice, Košice Region, Slovakia; 48.75°N, 21.23°E (grid square 7293).

***Gordionus scaber hykai* Havlík**

Gordionus scaber hykai Havlík, 1947: 175, text-figs. 24-27 (♂).

Now: *Gordionus scaber hykai* Havlík, 1947.

SYNTYPES: Five specimens collected by V. Hyka on an unknown date in a natural well at Trstěnice, Svitavy District, Pardubice Region, Czech Republic; 49.79°N, 16.35°E (grid square 6264). They include NMP P6E-3022 (♂; 135 mm); P6E-3023 (♂; 140 mm); P6E-3024 (♂; 140 mm); P6E-3025 (♂; 149 mm); and P6E-3026 (♂; 153 mm).

[*Gordius perronciti* Camerano

Gordius Perronciti Camerano, 1887: 111, pl. 1, figs. 14, 24 (♀).

Now: *Gordionus perronciti* (Camerano, 1887).

REMARKS: Havlík (1954b: 89, text-fig. 3a-c, pl. 1, figs. c-d) described specimen NMP P6E-3106 (collected by Jiří Dlabola on an unknown date on an unknown locality in the Low Tatra Mountains, Slovakia) as a “typus” of the male of *G. perronciti*, this sex being previously unknown for the species. The specimen has no type status.]

***Paragordionus bohemicus* Havlík**

Paragordionus bohemicus Havlík, 1947: 163, text-figs. 5-8 (♂), 9-10 (♀), pls. 1-2 (♂), 3-4 (♀).

Now: *Paragordionus bohemicus* Havlík, 1947.

SYNTYPES: Two specimens collected by Vladimír Landa on 27 June 1945 in Zlatý brook at its confluence with the Zahofánský brook near Březová-Oleško, Prague-West District, Central Bohemia, Czech Republic; 49.90°N, 14.42°E (grid square 6152). They include NMP P6E-3010 (♀); the male syntype was not found in the NMP.



Fig. 1. Otto Havlík (1923-1960) in ca. 1950. Photo by Otto Jírovec; courtesy of Josef Chalupský.

REMARKS: Specimen NMP P6E-3008 (♂, collected by Jaroslav Hrbáček on 24 August 1947 in the Halounský brook at Svinaře-Halouny, Central Bohemia) is labelled as a “typ”, but it has no type status, because it was not listed among the types by Havlík (1947).

Order: Gordea

Family: Gordiidae May, 1919

[*Gordius locustae* Havlík

Gordius locustae Havlík, 1954b: 91, text-fig. 4a-c, pl. 2, figs. c-f.

Now: *Gordius locustae* Havlík, 1954.

HOLOTYPE: ♂, extracted by Havlík from a *Tettigonia viridissima* (Linnaeus, 1758) of unknown origin, deposited in the Department of Parasitology (formerly Institute of Parasitology) of the Charles University in Prague.

REMARKS: I found neither the *Tettigonia* nor the holotype of *G. locustae* in the collections of the Department of Parasitology or the National Museum.]

Gordius sinareolatus Havlík

Gordius sinareolatus Havlík, 1949c: 111, text-figs. 1-2, 5-6, 9 (♂), 3-4, 7-8 (♀).

Now: *Gordius sinareolatus* Havlík, 1949.

SYNTYPES: five ♂♂ (NMP P6E-3047, 3048, 3049, 3050, 3051) and 11 ♀♀ (all NMP P6E-3052) collected by Sergěj Hrabě on 19 August 1938 in a puddle on a ridge road to Račkove plesá Tarns, alpine belt, Liptovský Mikuláš District, Žilina Region, Slovakia; 49.18°N, 19.73°E (grid square 4884).

SYNTYPES: NMP P6E-3053, two ♀♀ and an unsexed specimen collected by Vladimír Landa on 12 August 1947 in a natural well in Kôprovská dolina, 1492 m a.s.l., Liptovský Mikuláš District, Žilina Region, Slovakia; 49.17°N, 19.98°E (grid square 6885).

SYNTYPES: NMP P6E-3054, four incomplete specimens (2 ♂♂ and two unsexed) collected by an unspecified collector on 5 August 1947 in Studnička Valley on the road between Banská Štiavnica and Hodruša, Žarnovica District, Banská Bystrica Region, Slovakia; 48.46°N, 18.82°E (grid square 7579).

SYNTYPE: NMP P6E-3055, ♂ (lacking anterior part of the body), collected by Sergěj Hrabě on 11 August 1946 in a little brook above gamekeeper's lodge at Kouty nad Desnou, Šumperk District, Olomouc region, Czech Republic; 50.10°N, 17.12°E (grid square 5868).

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