**Supplementary material**

**Supplementary material S2.** Taxonomic list of free-living nematodes in the deep-waters of the southwestern Gulf of Mexico. Systematics based mostly on Hodda (2022a).

Phylum **Nematoda** Cobb, 1932

Class **Enoplea** Inglis, 1983

Order **Enoplida** Filipjev, 1929

Family **Thoracostomopsidae** Filipjev, 1927

Genus *Mesacanthion* Filipjev, 1927

*Mesacanthion* sp. 1

*Mesacanthion* sp. 2

Genus *Paramesacanthion* Wieser, 1953

*Paramesacanthion* aff. *tricuspis* (Schuurmans Stekhoven, 1950) Wieser, 1953

Genus *Enoploides* Ssaweljev, 1912

*Enoploides* sp.

Family **Phanodermatidae** Filipjev, 1927

Genus *Phanoderma* Bastian, 1865

*Phanoderma* sp.

Genus *Dayellus* Inglis, 1964

*Dayellus* sp.

Genus *Klugea* Filipjev, 1927

*Klugea* sp.

Genus *Phanodermella* Kreis, 1928

*Phanodermella* sp.

Genus *Phanodermopsis* Ditlevsen, 1926

*Phanodermopsis* sp.

Family **Anticomidae** Filipjev, 1918

Genus *Anticoma* Bastian, 1865

*Anticoma* sp.

Genus *Cephalanticoma* Platonova, 1976

*Cephalanticoma chitwoodi* (Inglis, 1964) Platonova, 1976

Genus *Paranticoma* Micoletzky & Kreis, 1930

*Paranticoma* sp.

Family **Rhabdolaimidae** Chitwood, 1951

Genus *Syringolaimus* de Man, 1888

*Syringolaimus* sp. 1

*Syringolaimus* sp. 2

Order **Ironida** Hodda, 2007

Family **Ironidae** de Man, 1876

Genus *Thalassironus* de Man, 1889

*Thalassironus* sp.

Genus *Trissonchulus* Cobb, 1920

*Trissonchulus* sp.

Family **Leptosomatidae** Filipjev, 1916

Genus *Leptosomatum* Bastian, 1865

*Leptosomatum* sp.

Genus *Platycomopsis* Ditlevsen, 1926

*Platycomopsis* sp.

Family **Oxystominidae** Chitwood, 1935

Genus *Halalaimus* de Man, 1888

*Halalaimus* aff. *pachyodoroides* Vitiello, 1970

*Halalaimus* sp*.* 1

*Halalaimus* sp. 2

*Halalaimus* sp. 3

*Halalaimus* sp. 4

*Halalaimus* sp. 5

Genus *Litinium* Cobb, 1920

*Litinium* sp.

Genus *Nemanema* Cobb, 1920

*Nemanema* sp.

Genus *Oxystomina* Filipjev, 1918

*Oxystomina* sp. 1

*Oxystomina* sp. 2

Genus Oxystominidae gen.

Genus *Wieseria* Gerlach, 1956

*Wieseria* sp.

Order **Oncholaimida** Siddiqui, 1983

Family **Oncholaimidae** Filipjev, 1916

Genus *Metoncholaimus* Filipjev, 1918

*Metoncholaimus* aff. *pelor*

Genus *Oncholaimellus* de Man, 1890

*Oncholaimellus* sp.

Genus *Oncholaimus* Dujardin, 1845

*Oncholaimus* sp.

Genus *Viscosia* de Man, 1890

*Viscosia* aff*. longissima* Filipjev, 1946

*Viscosia glabra* (Bastian, 1865) de Man, 1890

*Viscosia* sp. 3

Family **Enchelidiidae** Filipjev, 1918

Genus *Abelbolla* Huang & Zhang, 2004

*Abelbolla* sp.

Genus *Bathyeurystomina* Lambshead & Platt, 1979

*Bathyeurystomina* sp.

Genus *Calyptronema* Marion, 1870

*Calyptronema* sp.

Genus *Ledovitia* Filipjev, 1927

*Ledovitia* sp.

Class **Chromadorea** Inglis, 1983

Order **Chromadorida** Chitwood, 1933

Family **Chromadoridae** Filipjev, 1917

Genus *Actinonema*, Cobb, 1920

*Actinonema* sp.

Genus *Acantholaimus*, Allgén, 1933

*Acantholaimus* sp. 1

*Acantholaimus* sp. 2

*Acantholaimus* sp. 3

Genus *Chromadora* Bastian, 1865

*Chromadora* sp.

Genus *Chromadorita* Filipjev, 1922

*Chromadorita* sp.

Genus *Endeolophos* Boucher, 1976

*Endeolophos* sp. 1

*Endeolophos* sp. 2

Genus *Trochamus* Boucher & De Bovée, 1971

*Trochamus* sp.

Family **Neotonchidae** Lorenzen, 1981

Genus *Neotonchus* Cobb, 1933

*Neotonchus* aff. *cuanensis* (Platt, 1982)

*Neotonchus* *pseudocorcundus* Vitiello, 1971

Family **Cyatholaimidae** Filipjev, 1918

Genus *Longicyatholaimus* Micoletzky, 1924

*Longicyatholaimus* sp.

Genus *Metacyatholaimus* Schuurmans Stekhoven, 1942

*Metacyatholaimus* sp.

Genus *Paralongicyatholaimus* Schuurmans Stekhoven, 1950

*Paralongicyatholaimus* aff. *mastigodes* Schuurmans Stekhoven, 1950

*Paralongicyatholaimus* sp.

Genus *Paramarylynnia* Huang & Zhang, 2007

*Paramarylynnia* sp.

Genus *Pomponema* Cobb, 1917

*Pomponema* sp. 1

*Pomponema* sp. 2

*Pomponema* sp. 3

Order **Selachinematida** (Hodda, 2007)

Family **Selachinematidae** Cobb, 1915

Genus *Cheironchus* Cobb, 1917

*Cheironchus paravorax* Castillo-Fernández & Decraemer, 1993

*Cheironchus vorax* Cobb, 1917

Genus *Choniolaimus* Ditlevsen, 1918

*Choniolaimus* sp.

Genus *Cobbionema* Filipjev, 1922

*Cobbionema* sp.

Genus *Halichoanolaimus* de Man, 1886

*Halichoanolaimus* sp. 1

*Halichoanolaimus* sp. 2

*Halichoanolaimus* sp. 3

*Halichoanolaimus* sp. 4

*Halichoanolaimus* sp. 5

Genus *Latronema* Wieser, 1954

*Latronema* sp.

Genus *Synonchiella* Cobb, 1933

*Synonchiella* sp. sp.

Family **Richtersiidae** Kreis, 1929

Genus *Richtersia* Steiner, 1916

*Richtersia* sp.

Order **Desmodorida** De Coninck, 1965

Family **Desmodoridae** Filipjev, 1922

Genus *Chromaspirina* Filipjev, 1918

*Chromaspirina* sp.

Genus *Desmodora* de Man, 1889

*Desmodora porosum* Moura, Silva & Esteves, 2014

Genus *Desmodorella* Cobb, 1933

*Desmodorella* sp.

Genus *Metachromadoroides* Timm, 1961

*Metachromadoroides* sp.

Genus *Neonyx* Cobb, 1933

*Neonyx* sp.

Genus *Parabostrichus* Tchesunov, Ingels & Popova, 2012

*Parabostrichus* sp.

Genus *Parallelocoilas* Boucher, 1975

*Parallelocoilas* sp.

Genus *Pseudodesmodora* Boucher, 1975

*Pseudodesmodora* sp.

Genus *Spirodesma* Cavalcanti, Silva & Fonseca-Genevois, 2009

*Spirodesma* aff. *magdae* Da FonsecaCavalcanti, Da Silva & Da Fonseca-Genevois, 2009

Family **Draconematidae** Filipjev, 1918

Genus *Paradraconema* Allen & Noffsinger, 1978

*Paradraconema* sp.

Family **Microlaimidae** Micoletzky, 1922

Genus *Microlaimus* de Man, 1880

*Microlaimus* sp.

Family **Monoposthiidae** Filipjev, 1934

Genus *Rhinema* Cobb, 1920

*Rhinema* sp.

Order **Desmoscolecida** Filipjev, 1929

Family **Desmoscolecidae** Shipley, 1896

Genus *Calligyrus* Lorenzen, 1969

*Calligyrus* sp.

Genus *Desmoscolex* Claparède, 1863

*Desmoscolex* sp. 1

*Desmoscolex* sp. 2

Genus *Greeffiella* Cobb, 1922

*Greeffiella* sp.

Genus *Greeffiellopsis* Schrage & Gerlach, 1975

*Greeffiellopsis* sp.

Genus *Tricoma* Cobb, 1894

*Tricoma* sp. 1

*Tricoma* sp. 2

*Tricoma* sp. 3

Family **Meyliidae** De Coninck, 1965

Genus *Antarcticonema* Timm, 1978

*Antarcticonema* sp.

Order **Monhysterida** Filipjev, 1929

Family **Monhysteridae** de Man, 1876

Genus *Halomonhystera* Andrassy, 2006

*Halomonhystera* sp.

Genus Monhysteridae gen.

Family **Xyalidae** Chitwood, 1951

Genus *Amphimonhystrella*, Timm, 1961

*Amphimonhystrella* sp.

Genus *Cobbia* de Man, 1907

*Cobbia* aff. *trefusiaeformis* de Man, 1907

Genus *Daptonema* Cobb, 1920

*Daptonema* aff. *elaboratum* (Chitwood, 1951)

*Daptonema* *flagellicauda* (Lorenzen, 1973)

*Daptonema* sp.

Genus *Elzalia* Gerlach, 1957

*Elzalia kimae* Castillo-Fernandez & Lambshead, 1990

*Elzalia poli* Castillo-Fernandez & Lambshead, 1990

Genus *Enchonema* Bussau, 1993

*Enchonema* sp. 1

*Enchonema* sp. 2

*Enchonema* sp. 3

Genus *Linhystera* Juario, 1974

*Linhystera* sp.

Genus *Manganonema* Bussau, 1993

*Manganonema* sp.

Genus *Marisalbinema* Tchesunov, 1990

*Marisalbinema* aff. *galtsovae* Tchesunov, 1990

*Marisalbinema* sp.

Genus *Paramphimonhystrella* Huang & Zhang, 2006

*Paramphimonhystrella* sp. 1

*Paramphimonhystrella* sp. 2

Genus *Promonhystera* Wieser, 1956

*Promonhystera* sp.

Genus *Theristus* Bastian, 1865

*Theristus* sp. 1

*Theristus* sp. 2

Genus Xyalidae gen.

Family **Sphaerolaimidae** Filipjev, 1918

Genus *Metasphaerolaimus* Gourbault & Boucher, 1981

*Metasphaerolaimus crassicauda* (Freudenhammer, 1975) Gourbault & Boucher, 1981

*Metasphaerolaimus* sp.

Genus *Sphaerolaimus* Bastian, 1865

*Sphaerolaimus macrocirculus* Filipjev, 1918

*Sphaerolaimus* sp.

Family **Siphonolaimidae** Filipjev, 1918

Genus *Astomonema* Ott, Rieger, Rieger & Enderes, 1982

*Astomonema* sp.

Genus *Siphonolaimus* de Man, 1893

*Siphonolaimus* sp.

Family **Linhomoeidae** Filipjev, 1922

Genus *Eleutherolaimus* Filipjev, 1922

*Eleutherolaimus* sp.

Genus *Linhomoeus* Bastian, 1865

*Linhomoeus* sp.

Genus *Megadesmolaimus* Wieser, 1954

*Megadesmolaimus* sp.

Genus *Metalinhomoeus* de Man, 1907

*Metalinhomoeus* sp.

Genus *Terschellingia* de Man, 1888

*Terschellingia* sp.

Family **Axonolaimidae** Filipjev, 1918

Genus *Axonolaimus* de Man, 1889

*Axonolaimus* sp.

Family **Bodonematidae** Jensen, 1991

Genus *Bodonema* Jensen, 1991

*Bodonema* sp.

Family **Comesomatidae** Filipjev, 1918

Genus *Cervonema* Wieser, 1954

*Cervonema* sp. 1

*Cervonema* sp. 2

Genus *Dorylaimopsis* Ditlevsen, 1918

*Dorylaimopsis* sp.

Genus *Hopperia* Vitiello, 1969

*Hopperia metatypica* (Chitwood, 1936) Fu, Leduc, Rao & Cai, 2019 Genus *Laimella* Cobb, 1920

*Laimella vera* Vitiello, 1971

Genus *Minolaimus* Vitiello, 1970

*Minolaimus* sp.

Genus *Pierrickia* Vitiello, 1970

*Pierrickia* aff*. decasetosa* Vitiello, 1970

Genus *Sabatieria* Rouville, 1903

*Sabatieria* aff. *ancudiana* Wieser, 1954

*Sabatieria* aff. *steckhoveni* Vitiello, 1970

*Sabatieria conicauda* Vitiello, 1970

*Sabatieria ornata* (Ditlevsen. 1918) Filipjev, 1922

*Sabatieria* sp. 6

Genus *Setosabatieria* Platt, 1985

*Setosabatieria hilarula* (de Man, 1922)

Family **Diplopeltidae** Filipjev, 1918

Genus *Campylaimus* Cobb, 1920

*Campylaimus* sp.

Genus *Diplopeltula* Gerlach, 1950

*Diplopeltula* sp. 1

*Diplopeltula* sp. 2

*Diplopeltula* sp. 3

Order **Leptolaimida** Hodda, 2007

Family **Diplopeltoididae** Tchesunov, 1990

Genus *Diplopeltoides* Gerlach, 1962

*Diplopeltoides* sp.1

*Diplopeltoides* sp. 2

*Diplopeltoides* sp. 3

Family **Ceramonematidae** Cobb, 1933

Genus *Metadasynemella* De Coninck, 1942

*Metadasynemella elegans* Vitiello, 1974

Genus *Pselionema* Cobb, 1933

*Pselionema* sp. 1

*Pselionema* sp. 2

*Pselionema* sp. 3

Order **Plectida** Gadea, 1973

Family **Camacolaimidae** Micoletzky, 1924

Genus *Anguinoides*, Chitwood, 1936

*Anguinoides stylosum* Chitwood, 1936

Genus *Diodontolaimus* Southern, 1914

*Diodontolaimus* sp.

Family **Haliplectidae** Chitwood, 1951

Genus *Haliplectus* Cobb, 1913

*Haliplectus* sp.