Table S1. List of Digenea sequences from GenBank used in phylogenetic analyses. \* — species, used in phylogenetic analysis based on concatenated tRNA+rRNA gene sequences.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Species | GenBank accession number | Reference |
|  | Aspidogastrea | | |
|  | ***Aspidogaster ijimai*** | **This study** | **PP999303** |
| Digenea | | | |
| Xiphidiata | | | |
|  | *Brachycladium goliath* | KR703278 | Briscoe *et al.*, 2016 |
|  | *Dicroroelium chinensis* | KF318786 | Liu *et al.*, 2014a |
|  | *Dicrocoelium dendriticum* | KF318787 | Liu *et al.*, 2014a |
|  | *Eurytrema pancreaticum* | KP241855 | Chang *et al.*, 2016 |
|  | *Paragonimus heterotremus* | MH059809 | Qian *et al.*, 2018 |
|  | *Paragonimus kellicotti* | MH322000 | Wang *et al.*, 2018 |
|  | *Paragonimus ohirai* | KX765277 | Le *et al.*, 2019 |
|  | *Paragonimus westermani* | KX943544 | Biswal *et al.*, 2014 |
|  | *Plagiorchis maculosus*  *Prosthogonimus cuneatus* | MK641809  MT586127 | Suleman *et al.*, 2019a  Guo *et al.*, 2020 |
|  | *Tamerlania zarudnyi* | MW334947 | Suleman *et al.*, 2021 |
| Haploporata | | | |
|  | *Carassotrema koreanum* | ON59838 | Ivashko *et al.*, 2022 |
|  | *Parasaccocoelium mugili* | MW846232 | Atopkin *et al.*, 2021 |
| Echinostomata | | | |
|  | *Acanthoparyphium sp.* | MG792058 | Kandari *et al.*, 2018, unpublished |
|  | *Artyfechinostomum sufrartyfex* | KX943545 | Biswal *et al*., 2016 |
|  | *Echinostoma caproni* | AP017706 | Holroyd *et al*., 2016, unpublished |
|  | *Echinostoma hortense* | KR062182 | Liu *et al*., 2016 |
|  | *Echinostoma miyagawai* | MH393928 | Fu *et al.*, 2019a |
|  | *Echinostoma revolutum*  *Echinochasmus japonicus* | MN116706  KP844722 | Ran *et al.*, 2020  Le *et al.*, 2016 |
|  | *Fasciola hepatica\** | AF216697 | Le *et al.*, 2000 |
|  | *Fasciola gigantica* | KF543342 | Liu *et al.*, 2014b |
|  | *Fasciola* sp. | KF543343 | Liu *et al.*, 2014b |
|  | *Fasciolopsis buski* | KX169163 | Biswal *et al*., 2016 |
|  | *Fascioloides magna* | KU060148 | Ma *et al.*, 2016 |
|  | *Hypoderaeum conoideum* | KM111525 | Yang *et al.*, 2015 |
| Pronocephalata | | | |
|  | *Tracheophilus cymbius* | MK355447 | Li *et al.*, 2019 |
|  | *Uvitellina* sp. | MK227160 | Suleman *et al.*, 2019b |
|  | *Calicophoron microbothrioides* | KR337555 | Ma *et al.*, 2015, unpublished |
|  | *Explanatum explanatum* | KT198989 | Ma *et al.*, 2015, unpublished |
|  | *Fischoederius cobboldi* | KX169164 | Watthanasiri *et al.*, 2021 |
|  | *Fischoederius elongatus* | KM397348 | Yang et al., 2014 |
|  | *Gastrothylax crumenifer* | KM400624 | Yang *et al.*, 2016a |
|  | *Homalogaster paloniae* | KX169165 | Yang *et al.*, 2016b |
|  | *Ogmocotyle sikae* | KR006934 | Ma *et al.*, 2015 |
|  | *Orthocoelium streptocoelium* | KM659177 | Zhao et al., 2017 |
|  | *Notocotylus intestinalis*  *Paramphistomum cervi* | MT560390  KF475773 | Xu *et al.*, 2021  Yan *et al.*, 2013 |
| Hemiurata | | | |
|  | *Azygia hwangtsiyui\** | MN844889 | Wu *et al.*, 2020 |
| Opisthorchiata | | | |
|  | *Amphimerus* sp. | MK238506 | Ma *et al.*, 2019 |
|  | *Clonorchis sinensis* | FJ381664 | Shekhovtsov *et al.*, 2010 |
|  | *Haplorchis taichui* | KF214770 | Lee *et al.*, 2013 |
|  | *Metagonimus yokogawai* | KC330755 | Jeon *et al.*, 2012, unpublished |
|  | *Metorchis orientalis* | KT239342 | Na *et al.*, 2016 |
|  | *Opisthorchis felineus* | EU921260 | Shekhovtsov *et al.*, 2010 |
| Diplostomata | | | |
|  | *Clinostomum complanatum* | KM923964 | Chen *et al*., 2016 |
|  | *Cyathocotyle prussica\** | MH536510 | Locke *et al.*, 2018 |
|  | *Orientobilharzia turkestanicum* | HQ283100 | Wang *et al.*, 2011 |
|  | *Postharmostomum commutatum\** | MN200359 | Fu *et al.*, 2019b |
|  | *Schistosoma bovis* | CM014335 | Oey *et al.*, 2019 |
|  | *Schistosoma curassoni* | AP017708 | Kikuchi *et al.*, 2019, unpublished |
|  | *Schistosoma haematobium* | DQ157222 | Littlewood *et al.*, 2006 |
|  | *Schistosoma indicum* | AF215860 | Le *et al.*, 2000 |
|  | *Schistosoma japonicum* | MN637821 | Jones *et al.*, 2020 |
|  | *Schistosoma mansoni* | HE601612 | Protasio *et al.*, 2012 |
|  | *Schistosoma mekongi* | AF217449 | Le *et al.*, 2000 |
|  | *Schistosoma spindale* | DQ157223 | Littlewood *et al.*, 2006 |
|  | *Trichobilharzia regenti* | DQ859919 | Webster *et al.*, 2007 |
|  | *Trichobilharzia szidati* | MF136777 | Semyenova *et al.*, 2017 |
| Cestoda | | | |
|  | *Diphyllobothrium latum\** | DQ985706 | Park *et al.*, 2007 |
|  | *Echinococcus granulosus\** | MK774655 | Kinkar *et al.*, 2019 |
|  | *Khawia sinensis\** | KY486753 | Li *et al.*, 2017 |
|  | Monopisthocotyla | | |
|  | *Benedenia seriolae\** | AP019648 | Kawato *et al.*, 2019 |
|  | *Dactylogyrus lamellatus\** | KR871673 | Zhang *et al.*, 2017a |
|  | *Lamellodiscus spari\** | MH328204 | Zhang *et al.*, 2018 |
|  | *Lepidotrema longipenis\** | MH328203 | Zhang *et al.*, 2018 |
|  | *Paragyrodactylus variegates\** | KM067269 | Ye *et al.*, 2014 |
|  | *Paratetraonchoides inermis\** | KY856918 | Zhang *et al.*, 2017b |
|  | *Tetraonchus monenteron\** | MK864098 | Zhang *et al.*, 2020 |
|  | Polyopisthocotyla | | |
|  | *Microcotyle sebastis\** | DQ412044 | Park *et al.*, 2007 |
|  | *Polylabris halichoeres\** | JF505509 | Zhang *et al.*, 2011 |
|  | *Pseudochauhanea macrorchis\** | JN592039 | Zhang *et al.*, 2012 |
|  | Tricladida (outgroup) | | |
|  | *Crenobia alpine\** | KP208776 | Sola *et al.*, 2015 |