**Olena Kudlai**

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| Postdoctoral Researcher: dr. Olena Kudlai  Name of the Postdoctoral Research: *Molecular and morphological approach to revealing diversity, taxonomy and life-cycles of larval flukes parasitizing in water molluscs*  Research Supervisor: dr. Romualda Petkevičiūtė, Chief Researcher, P.B. Šivickis Laboratory of Parasitology  Duration of the fellowship: 01.04.2013–28.02.2015  My current research interests focus on the molecular and traditional systematics, host specificity, distribution and life-cycles of digeneans of wild animals and on the participation of marine and freshwater molluscs in transmission of digeneans. |
| **Importance and value of the postdoctoral research**  The digeneans are among the most common, abundant and diverse groups of parasitic worms. A characteristic feature of digeneans is a complex life-cycle involving both free-living (miracidium, cercaria) and parasitic (sporocyst, redia, metacercaria, adult) developmental stages. The various species of digeneans are intimately connected to several types of animals throughout their life-cycles. Molluscs play a crucial role in the life-cycles of digenetic flukes, because they serve as the first intermediate hosts and thus directly influence the distribution of the parasites (Esch et al., 2001). Examination of molluscs for larval digeneans is the keystone for the determination of the autochtonous fauna in the region under study (Bock, 1982). The main deficiency of the taxonomy of digeneans consists in the existence of two separate classifications, one for adult worms and the other for their larvae (cercariae). The alpha taxonomy of digeneans is based on the morphology of the adult, and this information generally cannot be linked to larval stages bearing little resemblance to adults (Locke et al., 2011). This is because the life-cycles of many parasites are poorly known and even generic level identification of larval flukes is often difficult. The difficulty in identifying many ontogenetic forms of digeneans has promoted the need for additional characters independent of morphology. A comparative analysis of molecular data is a powerful tool that can help to identify developmental stages and elucidate life-cycles. This is especially important for parasites of wild life since laboratory experiments with the use of natural definitive hosts is often impossible. Ideally, morphological and molecular investigation and experimental methods can be used in tandem to mutually enhance one another.  In our study we use DNA sequences as markers for precise characterization of larvae and adult worms from our collection and to compare obtained sequences with GenBank data. Regardless of the choice of gene, it is clear that the value of molecular data increases if morphological descriptions, drawings and voucher specimens are available. Thus, this study is aimed to identify larval flukes using a combination of classic and molecular methods.  **Main goals of postdoctoral studies are:**   * to get skills in molecular analysis of parasite diversity using material from the existing collections of larval and adult trematodes and from fresh parasitic materials; * to investigate species composition, morphology, biology of larval trematodes from the most common water molluscs in Lithuania and Ukraine by using morphological and molecular techniques, critically analyze the data on the systematics and taxonomy of detected trematode species; * to improve knowledge of systematics, taxonomy and life-cycles of selected trematode species. |
| **SCIENTIFIC PUBLICATIONS**  **PhD Thesis:** Kudlai O.S. 2011. Trematode fauna of Gastropoda from water bodies in Northern Priazovye. – Thesis for the scientific degree of candidate of biological sciences. - Kyiv, 2011. – 23 p. [In Ukrainian].   * **Kudlai O.S. 2009.** The discovery of the intermediate host for the trematodeMoliniellaanceps (Trematoda, Echinostomatidae) in Ukraine. Vestnikzoologii, 43 (4): 351–353. * **Kudlai O.S. 2009.** Biology ofNeoacanthoparyphiumechinatoides(Trematoda, Echinostomatidae) in north-western Priazov’ye (Ukraine). Vestnikzoologii, Supplement, 23: 102-106. [In Russian] * **Kudlai O.S. 2010.** First record of Asymphylodoraprogenetica(Trematoda, Monorchiidae) in Ukraine. Vestnikzoologii, 44 (6): 543–546. * **Kudlai O.S.,** Yanovich L.N. **2013.** Larvae ofPhyllodistomum sp.(Digenea: Gorgoderidae) a parasite of duck mussels, Anodontaanatina (L.) in Ukraine. Vestnikzoologii, 47 (6): 387-393.   **ABSTRACTS AND PRESENTATIONS**   * **Kudlai O.S. 2008.** On the parasites of Gastropoda from waters of north-western Priazovye. Proceedings of the Conference of young researchers-zoologists, Kyiv. -Zoological Courier, 2: 14-15. [In Ukrainian]. * **Kudlai O.S. 2009.** On the parasites of Gastropoda from small rivers of north-western Priazovye. Proceedings of the Conference of young researchers-zoologists, Kyiv. -Zoological Courier, 3: 36-37. [In Ukrainian]. * **Kudlai O.S. 2009.** Multiple infections of larval trematodes in Gastropoda from water bodies in Northern Priazovye. Proceedings of XIV Conference of the Ukrainian Society of Parasitologists, Kiev: 60. [In Ukrainian]. * **Kudlai O.S. 2009.** Evaluation of infection of molluscs Viviparusviviparus by larval trematodesin The Molochna River. Abstracts of VI International research-and-practical conference of the young scientists devoted to the problem of water ecosystems “Pontus Euxinus – 2009”, Sevastopol: 156-157. [In Ukrainian]. * **Kudlai O.S. 2010.** Chaetogasterlimnaei (Annelida: Oligochaeta) - parasite of freshwater molluscs. Proceedings of the Conference of young researchers-zoologists, Kyiv. -Zoological Courier, 4: 31. [In Ukrainian]. * **Kudlai O.S. 2010.** Trematode fauna of the mollusksPlanorbisplanorbis (Pulmonata, Planorbidae) from freshwater reservoirs in Northern Priazovye.Proceedings of V International young scientists’ conference, Kharkiv: 356-358. [In Russian]. * **Kudlai O.S. 2012.** Larval trematodes of molluscs of the family Lymnaeidae from water bodiesin Northern Priazovye. Proceedings of III International Conference “Present-day problems of biology, ecology and chemistry”, Zaporizhzhya: 185-186. [In Russian]. * Greben O.B., **Kudlai O.S. 2012.** A faunistic survey on flatworms from birds of theUtluk Estuary. Materials of the International Conference “Modern problem of Generalparasitology”, Moscow: 91-95. [In Russian]. * Lisitsina O.I., Tkach V.V., **Kudlai E.S. 2013.** The heteroxenhelminths as indicators of biodiversity on the example of the complex ofparasitic wormsof  Sorexaraneus in the park "Feofania".Proceedings of International Conference “The role of botanical gardens and dendroparks in the preservation and enrichment of biological diversity in urban territories ”, Kyiv: 102-103. [In Russian] * **Kudlai O.,** Stunzenas V. **2013.** First description of cercaria of Stephanoprorapseudoechinata (Olsson, 1876) (Digenea: Echinostomatidae) using morphological and molecular data. Tropical Medicine & International Health. Special Issue: Abstracts of the 8th European Congress on Tropical Medicine and International Health & 5th Conference of the Scandinavian-Baltic Society for Parasitology, 10–13 September 2013, Copenhagen, Denmark. Volume 18, Issue Supplement s1: 230. * **Kudlai E.S.,** Korol E.N. **2013.** Larval trematodes of brackish water and marine molluscs in Ukraine.Proceedings of XV Conference of Ukrainian Scientific Society of Parasitologists, Kyiv: 64. [In Russian]. * KuzminaT., Lyons E., Spraker T., Lisitsyna O., Kuzmin Y., **Kudlai E.S. 2013.** Helminthes of northern fur seals (Callorhinusursinus L., 1758) on St. Paul island, Alaska. Proceedings of XV Conference of Ukrainian Scientific Society of Parasitologists, Kyiv: 125. * KuzminaT. A., Lyons E. T., Spraker T. R., Lisitsyna O. I.,Kuzmin Y. I., **Kudlai O.,** Kharchenko V.A. **2013.** Helminths of Northern fur seals (Callorhinus ursinus L.,1758) on St. Paul Island, Alaska, USA. Annals of Parasitology, Supplement59: P. 42 |