A record of *Pseudamphistomum truncatum* (Rudolphi, 1819) (Digenea, Opisthorchiidae) in the Eurasian otter (*Lutra lutra* L.) from Poland

Joanna Hildebrand¹, Marcin Popiolek², Grzegorz Zaleśny², Agnieszka Piróg²

¹Department of Parasitology, Institute of Genetics and Microbiology, Wrocław University, 63 Przybyszewskiego Street, 51-148 Wrocław, Poland
²Institute of Biology, Department of Invertebrate Systematics and Ecology, Wrocław University of Environmental and Life Sciences, 5b Koźuchowska Street, 51-631 Wrocław, Poland

Corresponding author: Joanna Hildebrand; E-mail: joanna.hildebrand@microb.uni.wroc.pl

**ABSTRACT.** Opisthorchid digenean *Pseudamphistomum truncatum* (Rudolphi, 1819) was isolated from liver bile ducts of the Eurasian otter (*Lutra lutra*) found dead in the fishing pond complex near Wrocław (Lower Silesia, SW. Poland) in March 2009. Since this is the first record of the parasite in the otter from Poland, the description, biometrical data and figure are presented.

**Key words:** *Pseudamphistomum truncatum*, Eurasian otter, Digenea, Poland

**Introduction**

Opisthorchid digenean *Pseudamphistomum truncatum* (Rudolphi, 1819) is a typical and common parasite of wild carnivores. The most frequent hosts of this fluke are mustelids: ermine – *Mustela erminea* [1], European polecats – *M. putorius* [2,3], least weasel – *M. nivalis* [1], American mink – *Neovison vison* [4–7], European mink – *M. lutreola* [8,9] and Eurasian otter – *Lutra lutra* [6,10–13]. It has also been noted as the parasite of the red fox – *Vulpes vulpes* [14,15], arctic fox – *V. lagopus* [16], grey wolf – *Canis lupus* [17], racoon dog – *Nyctereutes procyonoides* [18], as well as two species of the seals: harbor seal (*Phoca vitulina*) and grey seal (*Halichoerus grypus*). *P. truncatum* is found mainly in the Central and Eastern Europe and in Russia, though it has also been observed in Denmark, Ireland, United Kingdom, Germany and the Southern Europe.

In Poland *P. truncatum* has been recorded twice as the fox parasite. In the 1950s and 1960s it was found in the wild red foxes near the Baltic Sea coast and in Wielkopolska region on the farm of arctic foxes where animals had been fed fishes from the Vistula Lagoon [16,19].

**Material and methods**

One adult male Eurasian otter found dead in March 2009 in the area of a fishing pond complex in Borowa Oleśnicka near Wrocław was subjected to standard helminthological dissection. The alimentary tract was divided into anatomical parts and each one was examined separately. Intestine, stomach and all associated internal organs (lungs, liver, heart, kidneys, urinary bladder and gall bladder) were cut out and macroscopically examined for parasites. Furthermore, the content was rinsed in 0.9% solution of NaCl, decanted and examined under the stereoscopic microscope (Nikon SMZ 800). The isolated flukes were preserved in 70% ethyl alcohol, stained with borax carmine, differentiated in acid alcohol, then dehydrated in a series of alcohol solutions and mounted in Canada balsam. Measurements and drawings were made according to the fixed preparations. Identification was based on Scholtz
and Skryabin studies. Specimens are deposited in the helminthological collection of the Department of Parasitology, Wrocław University.

Results and discussion

Dissection resulted in isolation of 16 flukes from liver bile ducts; they were identified as *Pseudamphistomum truncatum* (Rudolphi, 1819). Information given below concerns morphology and biometrics of this species, since no such data has been found in Polish literature.


Morphology and anatomy of all the analysed individuals correspond to descriptions found in Skryabin [21], or in recent publication by Simpson et al. [22]. Differences concern only body measurements and some internal organs.

Data analysis (Table 1) indicates biometric variability, which seems to be related mainly to the age of studied specimens. The examined flukes measurements are smaller than the ones given by Skryabin [21]. Still, they are considerably bigger than those described by Simpson et al. [22] or Dollfus, cited after Skryabin [21], who also examined premature specimens [21].

According to Pojmańska et al. [19], Eurasian otter is the only species out of Polish mustelids that...
has not yet been thoroughly examined for helminths. Data on parasites of the domestic otters come from two works of Górski et al. [23,24] based on coprological examination. Pseudamphistomum truncatum was not found among all the fluke species mentioned in both the works (i.e. Alaria alata, Opistorchis sp. or Metorchis sp.), therefore this species appears to be a new one for the Eurasian otter in Poland.

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References


Table 1. Measurements (in µm) of Pseudamphistomum truncatum (Rudolphi, 1819) from Lutra lutra in relation to the data of others authors

<table>
<thead>
<tr>
<th>Characters</th>
<th>Dollfus (after Skryabin) [21]</th>
<th>Skryabin [21]</th>
<th>Simpson et al. [22]</th>
<th>Own material (n=4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body length</td>
<td>1700</td>
<td>1640–2500</td>
<td>1020–1280</td>
<td>1300–1550</td>
</tr>
<tr>
<td>Max body width</td>
<td>320</td>
<td>600–1000</td>
<td>180–360</td>
<td>425–475</td>
</tr>
<tr>
<td>Oral sucker length</td>
<td>110</td>
<td>139–152</td>
<td>108–144</td>
<td>130–150</td>
</tr>
<tr>
<td>Oral sucker width</td>
<td>116</td>
<td>152–186</td>
<td>72–136</td>
<td>140–150</td>
</tr>
<tr>
<td>Distance front of body–ventral sucker</td>
<td>775</td>
<td>—</td>
<td>—</td>
<td>510–700</td>
</tr>
<tr>
<td>Pharynx length</td>
<td>60</td>
<td>77–96</td>
<td>56–60</td>
<td>50–75</td>
</tr>
<tr>
<td>Pharynx width</td>
<td>—</td>
<td>68–78</td>
<td>40–48</td>
<td>50–65</td>
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<tr>
<td>Ventral sucker length</td>
<td>120</td>
<td>183–211</td>
<td>98–116</td>
<td>110–130</td>
</tr>
<tr>
<td>Ventral sucker width</td>
<td>128</td>
<td>183–211</td>
<td>100–124</td>
<td>120–135</td>
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<tr>
<td>Testis I length</td>
<td>270</td>
<td>279–288</td>
<td>112–168</td>
<td>190–220</td>
</tr>
<tr>
<td>Testis I width</td>
<td>90</td>
<td>279–288</td>
<td>140–176</td>
<td>180–210</td>
</tr>
<tr>
<td>Testis II length</td>
<td>230</td>
<td>279–288</td>
<td>140–200</td>
<td>195–210</td>
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<tr>
<td>Testis II width</td>
<td>110</td>
<td>279–288</td>
<td>156–208</td>
<td>160–210</td>
</tr>
<tr>
<td>Ovary length</td>
<td>90</td>
<td>174</td>
<td>140–160</td>
<td>—</td>
</tr>
<tr>
<td>Ovary width</td>
<td>60</td>
<td>195</td>
<td>110–136</td>
<td>—</td>
</tr>
<tr>
<td>Distance front of body–anterior margin of vitellaria</td>
<td>—</td>
<td>455–655</td>
<td>408–544</td>
<td>477–485</td>
</tr>
<tr>
<td>Eggs width</td>
<td>16</td>
<td>12–16</td>
<td>12–14</td>
<td>12–16</td>
</tr>
</tbody>
</table>
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