Notes on Asygia pristipomai Tubangui, the Genus Asygia and Related Genera (Digenea: Asygiidae)

CARMEN C. VELASQUEZ

Examination of 182 Therapon argenteus (Cuvier) (silver perch), a fresh water fish commonly called ayungin (Tagalog), for helminth infection yielded 17 flukes from the opercular cavity, stomach and intestine of 6 hosts. The fish bought from Manila markets and vicinity had been taken from Laguna de Bay, Tanay, Rizal province, and Sta. Rosa, Laguna province, both localities being on Luzon island.

The specimens were fixed in Bouin's picro-formalin under cover slip. Due to the muscular nature and contractility of the body, some of the specimens were contracted; nevertheless, they were included in the measurements. The worms were kept for 24 hrs. in the fixative and later stored in 70% glycerine alcohol. Part of the material was stained in aceto-carmine and the rest in Harris' hematoxylin of 4:1 dilution for each stain.

Asygia pristipomai Tubangui, 1928

Study of specimens shows that they are identical with Asygia pristipomai Tubangui, 1928. Unfortunately, Tubangui's type specimen was destroyed during the Japanese Occupation, World War II. Since Tubangui's report no additional record of this species has been presented, not because of its rarity but rather because of the paucity of workers in the field.

This species is here reported for the second time in a new host from the same lake but from a locality different from that of Tubangui's. Additional data on organs infected are also presented together with the variability of certain characters.

The general shape of the body, body measurements and relative proportions fall within the range of Asygia pristipomai, including the egg size (Table I).

It was noted that the extent of the vitellaria and the relative position of the genital organs were variable (Plate I, figs. 1-3). The presence of the oesophagus which Tubangui failed to see is shown in Fig. 4. A receptaculum seminis uterinum, not seen by Tubangui, was noted just above the ovary (Figs. 1 and 2). In one specimen (Fig. 3), the ootype was clearly discernable.

Topotypes: U. S. Nat. Mus. Helm. Coll. No. 38305; and Department of Zoology, University of the Philippines' Helm Coll. Nos. 480 (1) f.; 500 (1) f.

Discussion

Asygia Looss, 1899, a genus of digenetic trematode (Asygiidae), has been reported from Europe, North America, Japan, India, China and the Philippines. The genus seems to present a great deal of confusion. Manter (1926)

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in his key to the American species of *Asygia* containing several doubtful European species was of the opinion that they might represent a single species, *A. lucii* (Muell. 1776). Belozerova-Sypliakova (1937) has shown the variability in the distribution of the vitellaria in *Asygia lucii*. Stunkard (1955) in his studies on the life cycle of *Asygia sebago* Ward compared the worms from the eel (*Anguilla rostrata*) with published descriptions and with specimens from the U. S. National Museum and stated “Ward’s description may have included material of more than one species.” He further stated that the three species, *A. acuminata*, *A. bulbosa* and Hassallius hassalli, described by Goldberger (1911) may be identical with *A. sebago*. However, Manter (1926) had synonymized *A. sebago* Ward with *A. longa* (Leidy). It is evident that a direct comparison of specimens referred to the various species of *Asygia* should be made in order to resolve this confusion.

While going over the literature, two species, *Eurostomum micropteri* MacCallum, 1921, and *Gomtiotrema attu* Gupta, 1953, were noted to present characteristics of *Asygia*. The description of *Eurostomum micropteri* was based on a single specimen taken from *Micropterus salmoides*. This species was placed by Yamaguti (1953) in the family Opisthorchiidae. Fortunately, I was able to study MacCallum’s type specimen which is deposited in the U. S. National Museum collections (No. 36094). The general characteristics of the body and body measurements (Table 1) show that it is congeneric with *Asygia*. The cirrus sac which MacCallum failed to see is definitely present.

![Figs. 1-3. Posterio r portion of 3 specimens of *Asygia pristipomai* Tubangui showing the variation in the relative position of the genital organs and vitellaria.](image)

![Fig. 4. Anterior portion of a worm showing the oesophagus.](image)

All figures drawn with the aid of a camera lucida.

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<table>
<thead>
<tr>
<th></th>
<th>Azygia pristipomai Tubangui 1928</th>
<th>Azygia longa (Leidy) **</th>
<th>Eurostomum micropteri MacCallum 1928</th>
<th>Gomtiotrema attu Gupta 1953</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>1.93-3.2</td>
<td>2.10-7.0 (9)</td>
<td>4.00</td>
<td>5.7-12.4***</td>
</tr>
<tr>
<td>Width</td>
<td>0.86-1.00</td>
<td>0.42-0.91 (9)</td>
<td>0.80</td>
<td>1.42-2.2***</td>
</tr>
<tr>
<td>Oral sucker diameter</td>
<td>0.34-0.45</td>
<td>0.31-0.63 (7)</td>
<td>0.480</td>
<td>1.00</td>
</tr>
<tr>
<td>Acetabulum diameter</td>
<td>0.31-0.38</td>
<td>0.25-0.46 (9)</td>
<td>0.280</td>
<td>0.88</td>
</tr>
<tr>
<td>Acetabulum to anterior end</td>
<td>0.18-0.385</td>
<td>0.25-0.45 (7)</td>
<td>0.74</td>
<td>1.9</td>
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<td>Pharynx diameter</td>
<td>0.16-0.18</td>
<td>0.11-0.25 (7)</td>
<td>0.26</td>
<td>0.24</td>
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<tr>
<td>Genital pore to anterior end</td>
<td>0.41-1.0</td>
<td>0.14-0.28 (7)</td>
<td>0.58</td>
<td></td>
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<tr>
<td>Eggs</td>
<td>0.066-0.068 by</td>
<td>0.042 by</td>
<td>0.048 by</td>
<td></td>
</tr>
</tbody>
</table>

*Mean of 15 specimens.

**Azygia longa (Leidy) based on Linton’s description. Parentheses indicate number of specimens measured.

***Range. Other measurements in this column are from the type specimen as given by Gupta.
and similar to that in other Azygiidae. Comparison of the type specimen of Eurostomum micropteri and specimens labeled A. longa (Leidy) by Linton in the U. S. National Museum Helminthol. Collection (Nos. 8302 and 8303) seems to indicate that the two species are rather similar in shape of body, in other proportions, and position of the genital organs. Leidy's type specimens were unstained and hence not available for comparison except for the relative size. Linton's (1940) description agrees with the characteristics of Eurostomum micropteri. See Table I for comparative measurements. In view of the above facts I conclude that E. micropteri is an objective synonym of A. longa. Skrjabin and Gushanskaia (1956) correctly placed Eurostomum in the family Azygiidae.

Skrjabin (1953) erected the genus Gomtiotrema for the species attu, placed this genus in the sub-family Gomtiotreminae, family Opisthorchiidae. Unfortunately, no specimens are available to me for critical study. The presence or absence of the cirrus saccus needs rechecking. Gupta did not show one and stated that it was absent. The nature of the excretory bladder as described is characteristic of the family Azygiidae not of the Opisthorchiidae. Gomtiotrema Gupta is a homonym of Gomtiotrema Sinha, 1934, erected for a blood fluke belonging to the family Spirorchidae. Mehra (1939) pointed out that Gomtiotrema Sinha, 1934, was a synonym of Plasmiorchis Mehra, 1934, which had priority. Byrd (1939) in turn reduced Plasmiorchis Mehra (1934) to synonymy with Spirorchis MacCallum, 1918. Comparison of the description of Gomtiotrema attu Gupta with specimens of Azygia forces me to conclude that Gomtiotrema is congeneric with Azygia. See Table I for comparative measurements. Consequently, the genus Gomtiotrema falls as a synonym of Azygia.

References Cited


