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BUCEPHALUS HEXALOBATUS N.SP. (GASTEROSTOMATA ODHNER, 1905: BUCEPHALIDAE POCHE, 1907: BUCEPHALINAE NICOLL, 1914) FROM THE FISH *POMADASYS OLIVACEUS* OF KARACHI COAST

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ABSTRACT

A new trematode belonging to the genus *Bucephalus* Baer, 1926 is described here from the intestine of the fish *Pomadasys olivaceus* of Karachi coast. The new species *Bucephalus hexalobatus* is characterized by having body slender anteriorly, broader behind and tapering to a rounded posterior end. Rhynchus is weakly muscular with 6 lobed at anterior extremity, mouth opening is post equatorial, testes oval to rounded in posterior half of the body, obliquely tandem, anterior testis large, immediately pot ovarian, posterior testis dorsal to cirrus pouch. Cirrus pouch is cylindrical and confined to posterior third of the body, seminal vesicle elongate, pars prostatica well developed, genital lobe occupying the genital atrium, genital pore ventral, close to posterior extremity. Ovary is ovoid, pretesticular, close to anterior testis. Vitelline follicles are relatively large, centrally located anteriorly, nearer to rhynchus, 26-28 in number, in the anterior third of the body, these are 0.71-0.82 mm from anterior extremity. Uterus is extensive reaching to almost posterior half of vitelline field and occupying almost all available space posterior to vitellaria. Eggs are numerous, small, 0.020-0.024 by 0.017-0.019 in size. Excretory vesicle not prominent but appears to extend anterior to vitellaria.

Key words: Trematode, *Bucephalus hexalobatus* n.sp., Fish *Pomadasys olivaceus*, Intestine

INTRODUCTION

Bucephalids are one of the poorly known trematodes of fishes of Kararchi coast, Pakistan. Expect few reports of the genus *Prosorhynchus* Odhner, 1914 (Bilqees, 1976a,b, 1977), one of *Alcicornis* McCallum, 1917 (Zaidi and Khan, 1977), one of *Bucephalopsis* (Dies, 1855) (Zaidi and Khan, 1977), one of *Telorhynchus* Crowcroft, 1941 and one of *Bucephalus* Baer, 1926, there is no information available about this group of trematodes. The species *Bucephalus varicus* Manter, 1940 was reported by Zaidi and Khan (1977) from the fish *Sphyraena obtusata* of Karachi coast. Present is the second species of the genus from the same locality but from a different fish host *Pomadasys olivaceus*. Present species is regarded a new species for which the name *Bucephalus hexalobatus* is proposed referring to the six lobes on the anterior of rhynchus. Previously no bucephalid species has been reported from the fish *Pomadasys olivaceus* of Karachi coast.

MATERIALS AND METHODS

Nine fishes *Pomadasys olivaceus* were collected from West Wharf, Karachi coast for collection of helminth parasites. Two gastrerostome trematodes were recovered from the intestine of one fish. These were processed for a detail study, fixed in FAA, stained with Mayer's carmalum, dehydrated, cleared and mounted permanently by usual procedure. Photographs were taken by Nikon (Optiphot-2) photomicroscope using Fuji colour film. Measurements are given length by width in millimeters.

DESCRIPTION

***Bucephalus hexalobatus* n.sp.**
(Figs. 1-3)

Host: *Pomadasys olivaceus*
Location: Intestine
Locality: Karachi coast
No. of specimens: 2 from a single host, 9 hosts examined
Cat No.: BM Col. 1270-1271

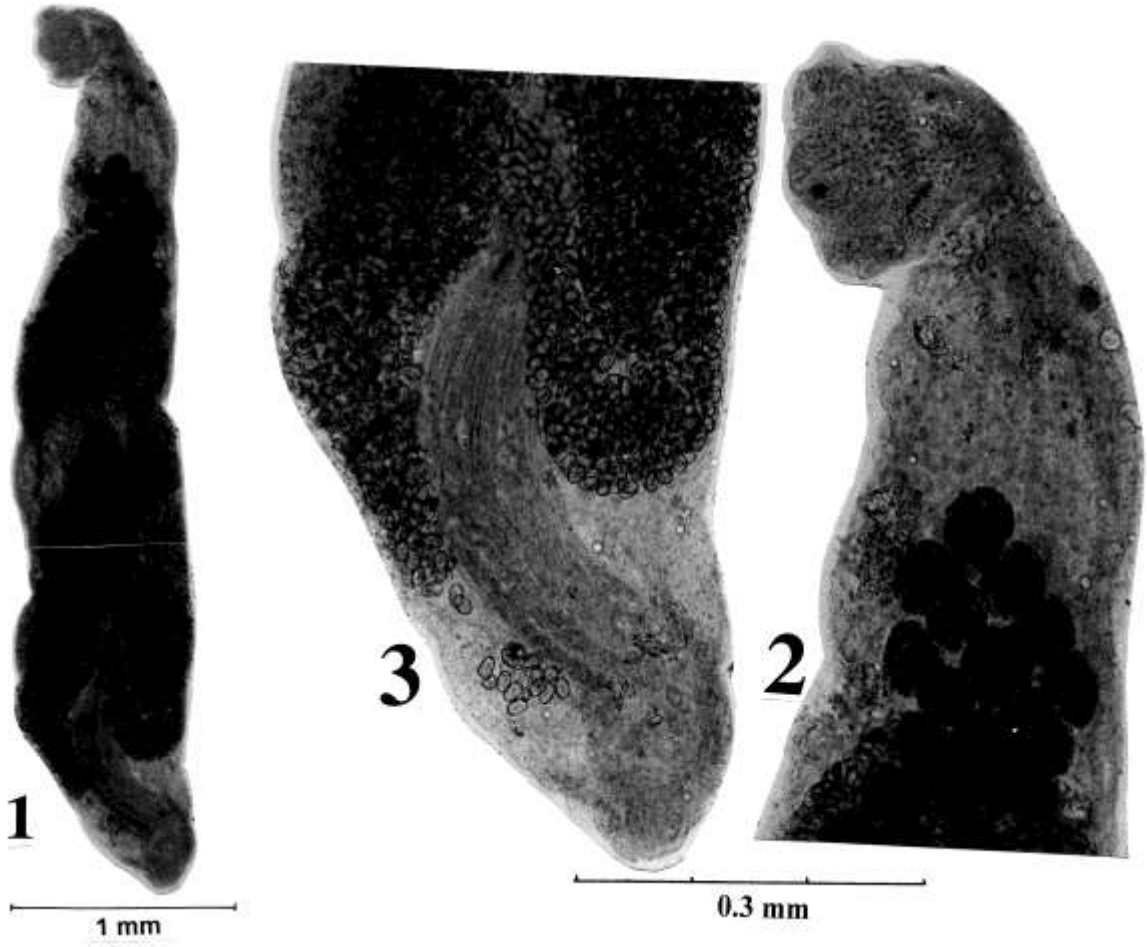

Fig. 1. *B. hexalobatus*, holotype entire.
Fig. 2. Anterior region of body enlarged showing the six-lobed rhynchus and anteriorly placed group of vitellaria in the centre.
Fig. 3. Posterior portion enlarged showing the position of cirrus sac, genital atrium and extent of uterus.

Body elongate, 3.79-3.85 in length and 0.81-0.85 in greatest width at the level of posterior testis. Rhynchus consists of six lobes anteriorly and is cup-shaped terminating into a narrow posterior end which is distinctly separated from rest of the body. Pharynx is very small, situated on the right side posterior to anterior testis, intestine tubular, closely attached to anterior testis.

Testes two postequatorial, close together, unequal, oval to rounded in shape. Anterior testis rounded and larger than posterior testis, 0.49-0.46 by 0.45-0.46 in size, posterior testis 0.45-0.46 by 0.39-0.40 and situated lateral to anterior of cirrus sac. Cirrus sac prominent, elongate, slightly curved, relatively large, 1.29-1.35 by 0.27-0.29, containing an elongate seminal vesicle and prominent pars prostatica. Genital lobe occupying the genital atrium. Genital opening close to posterior end of the body.

Ovary is rounded, pretesticular and closely attached to the anterior testis, 0.31-0.33 in diameter. There are 24 to 25 large rounded vitelline follicles centrally grouped anteriorly nearer to the rhynchus. These are situated at a distance of 0.71-0.82 from the anterior extremity. Uterus extensive but dose not extend anterior to vitellaria and posterirly reaching to near about the genital lobe. Eggs numerous at the genital lobe. Eggs numerous, small, oval in shape, operculate, 0.020-0.024 by 0.017-0.019. Excretory vesicle extending anterior to vitellaria.

DISCUSSION

The genus *Bucephalus* was proposed by Baer (1926) to accommodate an undescribed species *Bucephalus polymorphus* Baer, 1827. This species was reported from *Abramis, Acerina, Alburnus, Albernoides, Chalcalburnus, Plecus, Aspinus, Bticca, Tinca, Gobio, Capoetobrama, Cobitis, Coregonus, Lota, Leuciscus, Esox, Lucioperca,*

Osmerus, Perca, Vimtra, Carassius, Cyprinus, Pygosteus, Phoxinus, Chondrostoma, Silurus, Salmo, Scardinius, Acipenser, Auguilla from Europe and Siberia and *Caranx* sp., from Panama (Yamaguti, 1971). Redescription of this species was given from the five of *Blicca* and muscles of cyprinid fry (Kozicrea, 1959). At least 58 species of the genus have been described from different countries and localities of the world including India, Bay of Bengal, Peurto Rica, Quequem, Lovesiana, Hawaii, Buenas Aries, Belgium, Woods Hole, Europe, Philippines, California, Prague, Pacific coast of Mexico, Japan, Black Sea, Wales and Celebes (Yamaguti, 1971). But there is no record of the genus from Pakistan. The present specimens are identified belonging to the family Bucephalidae Poche, 1907, subfamily Bucephalinae Nicoll, 1904 and the genus *Bucephalus* Baer, 1926 based on the characters such as rhynchus crown-shaped with 6 lobes or appendages anteriorly. But the present new species *Bucephalus hexalobatus* is different from the previously reported species in having six rounded lobes anteriorly to rhynchus instead of long tentacular appendages, usually seven and occasionally six in number. In some species these are eleven in number and in some the tentacles are less prominent. Vitelline follicles are in anterior region in a centrally placed group of 26-28 rounded follicles, unlike other species in which vitellaria is located far posterior infront of the ovary in two distinct groups. The present species is 3.79-3.85 in length and 0.81-0.85 in width and is largest of all the previously described species except *B. uranoscopi* Yamaguti, 1934 from *Uranascopus japonicus* from Toyama Bay, Japan. This species is longer (4.85) but is smaller in width (0.45) and also has smaller size eggs than in the present new species *B. hexalobatus* from the fish *Pomadasys olivaceus* of Karachi coast. New species name refers to the presence of six lobes anteriorly to rhynchus. The Hawaiian species *B. sextentacutatus* Yamaguti, 1970 has six pointed tentacles unlike the present species which has six rounded lobes at the anterior of rhynchus and there are also other morphological variations. The species previously reported from the fish *Sphyraena obtusata* of Karachi coast is *B. varicus* Manter, 1940 (Zaidi and Khan, 1977). It is also different in having laterally placed vitelline follicle, ovary and testes separated from each other, smaller cirrus sac, uterus extending anterior to vitellaria and the rhynchus is wedge-shaped anteriorly. Another species *B. introversus* Mantor, 1940 is also totally different from the present species, *B. introversus* rhynchus is very large occupying almost anterior one third of body region, vitellaria in one group situated more posteriorly, testes and ovary in the posterior region lateral to cirrus sac.

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