

**On *Prosthodendrium parvouterus*  
(Trematoda : Lecithodendriidae) A Parasite  
of The Bat *Taohozous nudiventris***

By

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**عن نوع من التريماتودات ثنائية العائل**

**بروسثودندريم بارفوتيرس**

**من الخفاش تفوزس نوديفنترس**

**كلثم سالم الكواري**

تم في هذا البحث تسجيل نوع من التريماتودا ثنائية العائل هو بروسثودندريم بارفوتيرس الذي تم وصفه من نوع من الخفاش هو تافوزس نوديفنترس الذي يسجل لأول مرة من شبه جزيرة قطر، وقد وجد هذا الطفيل في الأمعاء الدقيقة للخفاش، مما يعتبر سجل جديد للطفيل في هذه المنطقة من جنوب غرب آسيا، وهذا النوع من التريماتودات ثنائية العائل ذو توزيع جغرافي واسع حيث سُجِّل في آسيا من اليابان شرقاً حتى الجزيرة العربية غرباً، ومن مصر والمغرب في شمال أفريقيا حتى زامبيا في أفريقيا الجنوبية، كما أنه تم تسجيله في بعض أقطار وسط وجنوب أوروبا.

**Key Words:** Bats, Lecithodendriid trematodes, Qatar.

**ABSTRACT**

The naked-bellied bat *Taphozous nudiventris nudiventris* Gretschmar, 1831 is recorded for the first time from the Qatari Peninsula. *Prosthodendrium (Prosthodendrium) parvouterus* (Bhalerao, 1926) Dubois, 1955 (Trematoda: Lecithodendriidae) is described from the small intestine of a single specimen of the bat caught in Doha, Qatar. This represents a new locality record of the trematode which has an extremely wide geographical distribution, extending from Japan to the Arabian Peninsula in Asia, from Egypt and Morocco in North Africa to Zambia in the South, and certain countries in Central and Southern Europe.

## INTRODUCTION

Dollfus [1] established the genus *Prosthodendrium* with *P. dinatum* (Bhalerao, 1926) as the type species for those lecithodendriid digeneans having testes anterior to uterine folds, pretesticular vitellaria, genital pore anterior to ventral sucker and tegument without spines. Later, the same author [2] divided the genus *Prosthodendrium* into two subgenera: *Prosthodendrium* and *Paralecithodendrium* including species with an unlobed and lobed ovaries, respectively. Furthermore, Dollfus [3] suggested the division of the genus *Prosthodendrium* in two species groups and several subgroups on the basis of the position of the ovary in relation to oral sucker and testes. It was believed, however, that this approach complicated the taxonomy of the genus due to variability observed in the position of the ovary even within the same species [4]. Dubois [5] and Saoud and Ramadan [6] reviewed the various species assigned to the subgenus *Prosthodendrium*, and confirmed the validity of its various species.

*Prosthodendrium parvouterus* (Bhalerao, 1926) was originally described from *Tadarida plicata* in Burma [7]. The same species was later described from various species of bats from Hungary [8], Zambia [9], Malaya [10], Czechoslovakia, Poland, India and Morocco [11, 12], Vietnam [13], Afghanistan [14], Egypt [6], Italy [15], Japan [16, 17, 18, 19] and Korea [20].

As a part of a long term investigation on helminth parasites of vertebrates in the State of Qatar; trematodes belonging to the genus *Prosthodendrium* has been recently collected from the small intestine of a single specimen of the bat *Taphozous nudiventris* Cretzschmar, 1831 captured in February 1998.

## Material and Methods

A single specimen of *T. nudiventris* was captured at Doha, Qatar. The bat was identified by Professor, M. M. Ramadan and the identification was later confirmed by Professor Kamal Wassif, both from the University of Ain Shams, Cairo, Egypt. Helminthological examination revealed the presence of adult trematodes which were relaxed in saline and subsequently fixed in hot 70% alcohol. The parasites were stained using either aceto-carmine or Delaf-

ield's haemataxylin stains, cleared and mounted using standard procedures. Measurements are in millimetres unless stated otherwise. Drawings are made to scale using a drawing tube.

## Description

Description of the trematode is based on twenty eight specimens collected from the small intestine of the bat. The body is round or oval with a smooth outline, having no tegumental spines; measuring 1.34 - 1.64 in length 1.44 - 1.70 in width. The length/width ratio is 0.93 - 0.96 : 1. The oral sucker is almost round in shape, measuring 0.16 - 0.20 in length and 0.18 - 0.20 in width. No prepharynx is observed. The pharynx is round in shape, measuring 0.06 - 0.10 in diameter. The oesophagus is hardly noticed in most of the specimens, but measures 0.05 - 0.07 in few other specimens. The intestinal caeca are short, extending laterally to reach the anterior border of both testes. The acetabulum is round, lying inbetween the two testes and measures 0.12 - 0.18 in diameter. Two oval and symmetrical testes, are lying at the same level of the acetabulum. They are not indented or lobed and have smooth outline. The right testis measures 0.36 - 0.50 in length and 0.40 - 0.66 in width, while the left measures 0.36 - 0.56 in length and 0.42 - 0.56 in width. The cirrus pouch is almost spherical in shape, pre-acetabular and measures 0.15 - 0.17 in diameter. The genital pore is pre-acetabular and measures 0.02 - 0.03 in diameter. The ovary is round, lies to the right side of the acetabulum and measures 0.24 - 0.30 in length and 0.22 - 0.34 in width. The vitellaria are pretesticular, lying in two clusters which may not be completely separated in few specimens where certain median extension of vitellaria is observed; each band consists of 30 - 40 follicles. The uterus fills most of the posterior half of the body, ascending up to the genital pore level. The eggs are yellowish and oval in shape measuring 20 - 24 X 8 - 16  $\mu$ m.

## Discussion

Little information is available on the mammals in Qatar [21]. Bats are uncommon members of the mammalian fauna in the Qatari Peninsula. So far, only two species of bats were reported in Qatar: the trident leaf-nosed bat *Asellia tridens* and the Hemprich's longeared bat *Otonycteris hem-*

*prichi* (cited from [22]). The naked-bellied toms bat, *Taphozous nudiventris* has been recorded during the present work for the first time in Qatar, bringing the number of known species of bats in this country to three. The same species has been reported from Kuwait [22].

*Lecithodendrium cardiforne parvouterus* was originally described from *Tadarida plicata* Burma [7]. The subspecies *parvouterus* was later raised to the rank of a species and transferred to the genus *Prosthodendrium* [5]. This species belongs to the subgenus *Prosthodendrium* since the ovary is not lobed [2, 4, 5, 6]. The present description of *P. (parvouterus)* generally agrees with those given by Saoud and Ramadan [6] from Egypt and Hafeezullah [12] from India. There are minor infraspecific variations in the length/width ratio, measurements of the oral sucker and cirrus pouch together with the median extension of the vitellaria in few specimens. The present report of *P. parvouterus* from Qatar in the Arabian Peninsula is a new locality record.

The geographical distributions of *P. parvouterus* appears to be extremely wide. In Asia, the trematode extends from Japan to the Arabian peninsula, passing through Korea, Vitnam, Burma, Malaya, India, Afghanistan and Qatar [16, 17, 18, 19, 20, 13, 7, 10, 12, 14]. In North Africa it is reported from Egypt and Morocco in the north and Zambia in the south [6, 11, 9]. In Europe, the reported from Hungary, Czechoslovakia, Poland and Italy [8, 11, 15].

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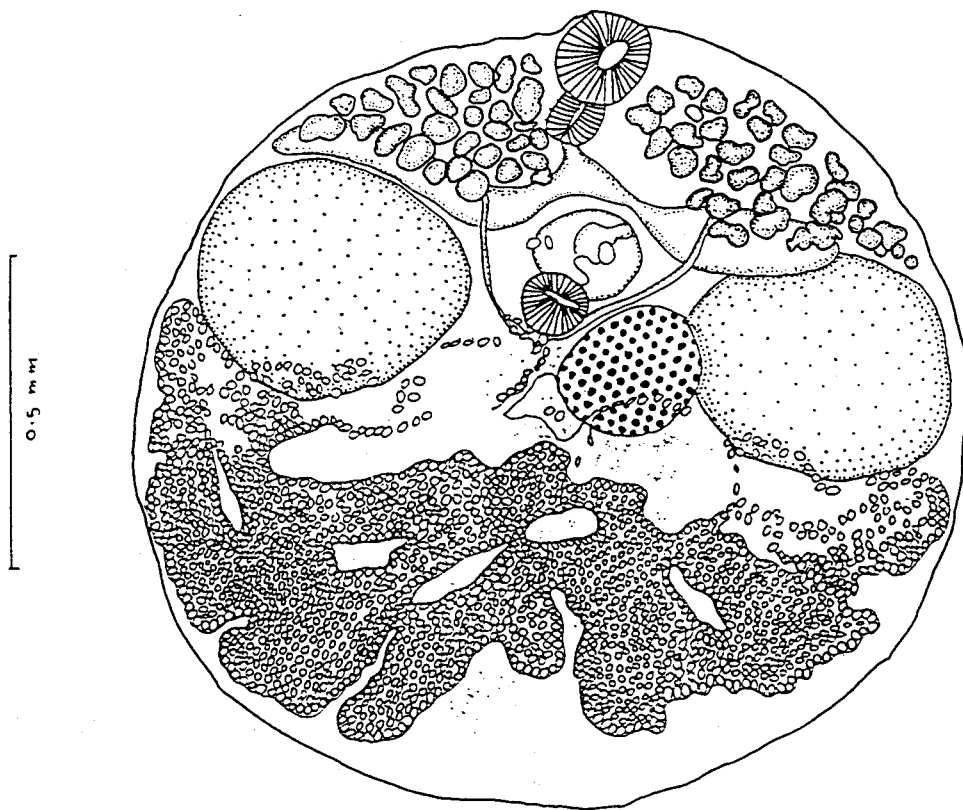
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**Fig. 1:** *Prosthodendrium (P.) parvouterus* ventral view