The systematic status of *Trichosoma carbonis* Rudolphi, 1819 and a description of *Baruscapillaria rudolphii* n. sp. (Nematoda: Capillariidae), an intestinal parasite of cormorants

F. Moravec, T. Scholz and V. Našincová
Institute of Parasitology, Academy of Sciences of the Czech Republic, Branišovská 31, 370 05 České Budějovice, Czech Republic

Accepted for publication 26th February, 1993

Abstract

A revision of the literary data showed that the name *Trichosoma carbonis* Rudolphi, 1819 has to be considered a nomen nudum, which is invalid and unavailable according to the International Code of Zoological Nomenclature. The first recognisable description of the nematode designated *Capillaria carbonis* (Rudolphi) is that by Dubinin & Dubinina (1940) and, consequently, the correct valid name of this species is *Baruscapillaria carbonis* (Dubinin & Dubinina, 1940) n. comb. However, due to its inadequate description, it should be considered a species inquirenda. It is highly probable that the records of "*Capillaria carbonis" by subsequent authors related, in fact, to more than one species. The nematodes recently collected from the small intestine of the common cormorant *Phalacrocorax carbo* (L.) from southern Moravia, Czech Republic, differ considerably from *Baruscapillaria carbonis* mainly in the structure of the male caudal end and are considered to represent a new species, *B. rudolphii* n. sp. This is characterised mainly by the length of spicule (1.25 mm), presence of a non-spiny spicular sheath, structure of the male caudal end, absence of a vulvar appendage in female and by various body and organ measurements. Since *Trichosoma corvorum* Rudolphi, 1819 is also a nomen nudum, the valid name of the intestinal capillariid which parasitises mainly birds of the genus *Corvus* in the Palaearctic region is *Baruscapillaria resectum* (Dujardin, 1845) n. comb. (syn. *Trichosomum resectum* Dujardin, 1845).

Introduction

During recent studies on the helminth parasites of the common cormorant *Phalacrocorax carbo* (L.) in the Czech Republic, capillariid nematodes referable to the genus *Baruscapillaria* Moravec, 1982 were found in the small intestine of these fish-eating birds. Since their morphology appeared to be very similar to that of the species *B. carbonis* (Rudolphi, 1819), as redescribed by Baruš & Sergejeva (1990), they were first considered to belong to this species. However, an examination of the Rudolphi's original book (1819) showed that the name *Trichosoma carbonis* Rudolphi, 1819 (= *Baruscapillaria carbonis* Rudolphi, 1819) should be considered a nomen nudum, which is invalid and inapplicable. The solution of this nomenclatural problem showed that, in accordance with the International Code of Zoological Nomenclature, the name *Baruscap-
illaria carbonis related to the species described by Dubinin & Dubinina (1940), which differs markedly from nematodes of the present material. These are considered to belong to a new species which is described below.

Materials and methods

The nematodes were collected from the small intestines of two of fourteen adult cormorants Phalacrocorax carbo (L.) examined (intensity two nematodes per bird) after being shot at the Nové Mlýny water reservoir near the village of Dolní Věstonice, South Moravia, Czech Republic, in April 1992 [according to Hudec et al. (1972), the only subspecies of Phalacrocorax carbo occurring in former Czechoslovakia is P. c. sinensis (Shaw & Nodder, 1801)]. They were fixed and stored in 4% formaldehyde. For examination the specimens were cleared in glycerine. Drawings were made with aid of a Zeiss microscope drawing attachment. After examination the nematodes were transferred to 70% ethanol and deposited in vials in the Helminthological Collection of the Institute of Parasitology, Academy of Sciences of the Czech Republic, in České Budějovice and The Natural History Museum in London. All measurements are in millimetres unless otherwise indicated.

Baruscapillaria rudolphii n. sp. (Fig. 1)

Description

Body comparatively long; male somewhat smaller than female. Two distinct lateral bacillary bands extending along almost entire body length. Head end narrow, rounded; oral papillae indistinct in lateral view. Muscular oesophagus long, gradually expanded posteriorly; nerve-ring situated approximately at border of first and second thirds of length of muscular oesophagus. Stichosome formed by single row of stichocytes provided with large nuclei; stichocytes long, subdivided into numerous annuli. Two medium-sized, wing-like cells present at oesophago-intestinal junction.

Male (one specimen, holotype). Length of body 11.82, maximum width 0.068. Width of lateral bacillary bands 0.012. Length of entire oesophagus 5.99 (51% of body length), of muscular oesophagus 0.267, of stichosome 5.72; number of stichocytes not determined. Distance of nerve-ring from anterior extremity 0.087. Spicule well sclerotised, smooth; its proximal end expanded, distal end obtusely conical; length of spicule 1.25, its width at anterior end 0.018, in middle 0.006. Spicular sheath smooth, invaginated. Proximal end of spicule in cloacal tube. Length of seminal vesicle 3.59. Caudal end bifurcate, provided with small, round membraneous bursa supported by 2 wide lateral lobes, not reaching to posterior margin of bursa, each lobe provided with small ventral projection bearing papilla. Cloacal aperture subterminal; length of caudal lobes 0.015.

Female (3 specimens; measurements of allotype in parentheses). Body length of gravid females 11.89–17.47 (11.89), maximum width 0.068–0.082 (0.082). Width of lateral bacillary bands 0.021–0.027 (0.021). Length of entire oesophagus 6.61–9.26 (6.61) [51–56 (56)% of body length], of muscular oesophagus 0.330–0.381 (0.330), of stichosome 6.28–8.88 (6.28); stichocytes 41–43 (43) in number. Distance of nerve-ring from anterior end 0.084–0.111 (0.111). Vulva situated at level of oesophageo-intestinal junction (in allotype) or 0.027–0.042 posterior to this level. Anterior lip of vulva slightly elevated; vulvar appendage absent. Eggs arranged in 2 rows, oval, thick-walled; size of fully-developed eggs 0.051 × 0.024. Egg wall (0.003 thick) 2-layered; inner layer thin, hyaline; outer layer thick, with distinct net-like sculpture on surface; polar plugs not protruding; length of polar plug (0.005), its width (0.006). Contents of mature egg uncleaved. Rectum 0.060–0.075 (0.060) long. Ovary reaching posteriorly approximately to middle of rectum. Anus subterminal; tail rounded, 0.012–0.015 (0.012) long.