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Source: *The Journal of Parasitology*, Vol. 15, No. 4 (Jun., 1929), pp. 276-279

Published by: Allen Press on behalf of The American Society of Parasitologists

Stable URL: <https://www.jstor.org/stable/3271983>

Accessed: 25-10-2018 03:00 UTC

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ON *HALOCERCUS PINGI* N. SP. A LUNG-WORM FROM
THE PORPOISE, *NEOMERIS PHOCOENOIDES**

HSIEN WEN WU

Since Baylis and Daubney's paper appeared in 1925, no new species has been added to the genus *Halocercus*. These authors mentioned three species none of which resembles the animal I am describing. I therefore establish a new species which I have the pleasure of naming after Professor C. Ping, Director of the Biological Laboratory, Science Society of China, Nanking, and also Professor of Zoology at this University. The genus *Halocercus* Baylis and Daubney, 1925, is well described in Yorke and Maplestone (1926).

Halocercus pingi sp. nov.

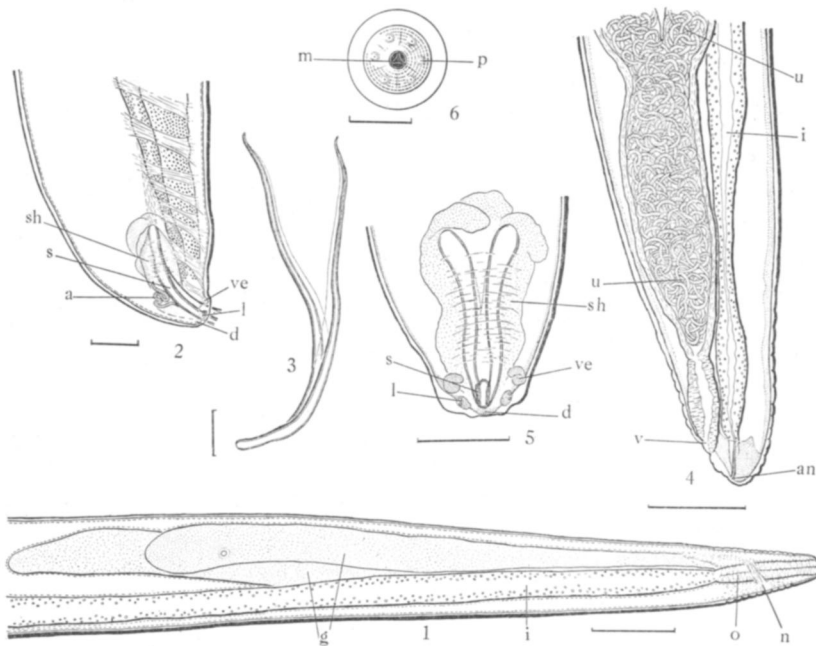
The worm occurs in the lung of the common Chinese porpoise, *Neomeris phocoenoides*. It is gray in color, the intestine forming a somewhat dark line during life. The male is 150 to 183 mm. and the female 255 to 364 mm. in length. The maximum thickness of the body is 0.45 to 0.6 mm. in the male and 0.55 to 0.68 mm. in the female. In the greater part of the body the cuticula is smooth. The anterior end in both sexes and the posterior region of the female show a series of circular rings in the cuticula. The posterior end of the male has no inflated cuticula. As I took every care in the preservation of my specimens, it is not very probable that the rings in the cuticula are simply due to some shrinking. Baylis also mentions similar rings in *H. lagenorhynchi*.

The six cephalic papillae are more or less distinct; the mouth opening round; the cylindrical esophagus extremely short, 0.19 to 0.22 mm. long, 0.035 to 0.039 mm. thick. The nerve ring is situated slightly posterior to the middle of the esophagus. In the anterior part of the body cavity there are two very large, unicellular glands about 5 to 7 times longer than the esophagus. These glands open so far as I could make out, into the most posterior part of the esophagus. In some specimens one of the glands appears to be twined around the intestine.

The bursa is disc-like, with the margin slightly curved between the rays. The thin cuticular part of the bursa is not distinguishable from the general cuticula. The lateral rays have double papillae and the ventral ones have pedunculate terminations. The spicules are long and slender, 0.77 to 0.82 mm. in length and are enclosed in a well-marked sheath. The thin alate parts of the spicules extend nearly to the tips. The accessory piece is rope-like with a triple coil. The male genital tube

*From the Parasitological Laboratory of the University of Amoy, Amoy, China.

is single, commencing a short distance behind the bases of the great glands of the anterior end. The posterior end of the female is somewhat obtuse. The anus is located a little ventral to the tip of the tail. The rectum is not clearly differentiated from the hind gut. The vulva has thick musculature opening at a short distance in front of the anus, its distance from the posterior end is 0.07 to 0.1 mm. The combined length of the vagina and common trunk of uterus is 0.65 to 0.87 mm. *H. pingi* seems to be viviparous because in my specimens the uterus always contains larvae in large numbers.



Text-figure 1, anterior end of male; 2, posterior end of male, lateral view; 3, spicules; 4, posterior end of female, lateral view; 5, posterior end of male, ventral view; 6, head, front view, mouth opening.

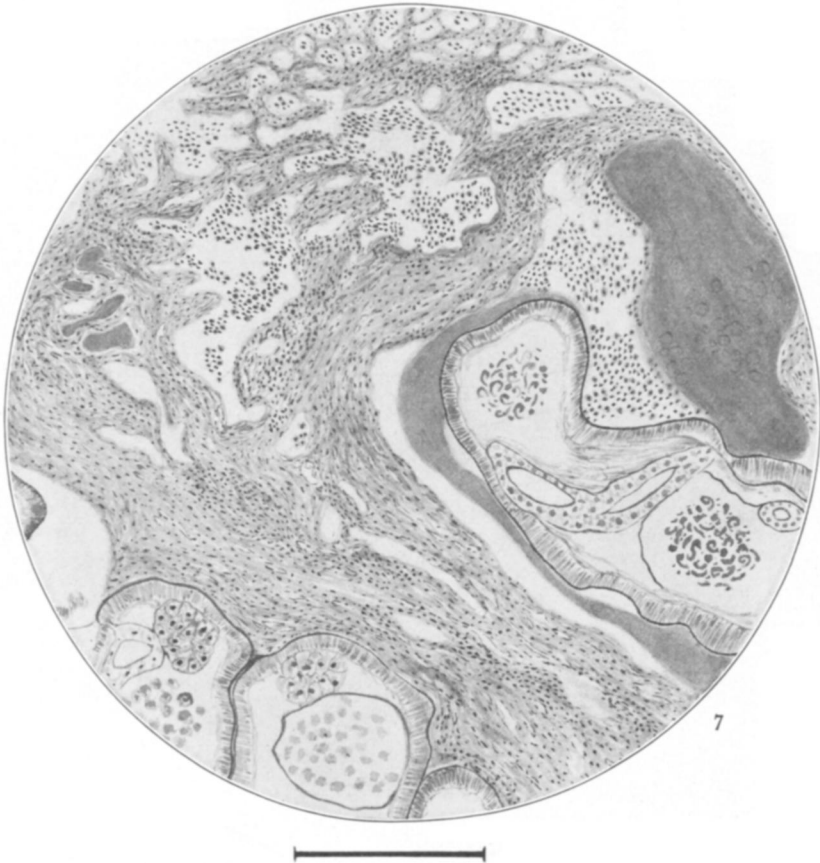
Scale represents 0.02 mm., except that on figure 5 represents .01 mm.

<i>a</i> , accessory piece	<i>l</i> , lateral ray	<i>sh</i> , sheath of spicules
<i>an</i> , anus	<i>n</i> , nerve ring	<i>u</i> , uterus
<i>d</i> , dorsal ray	<i>o</i> , esophagus	<i>v</i> , vulva
<i>g</i> , glands	<i>p</i> , cephalic papilla	<i>ve</i> , ventral ray
<i>i</i> , intestine	<i>s</i> , spicule	

COMPARISONS WITH RELATED SPECIES AND BIOLOGICAL DATA

There are well-marked differences between the new species and *H. delphini* Baylis and Daubney, 1925 and *H. gymmurus* (Railliet, 1899), a discussion of these differences seems unnecessary. *H. pingi* is nearly related only to *H. lagenorhynchi* Baylis and Daubney which

differs from the new species as follows: The new species has two very large glands at the anterior end which are so conspicuous that they can not be overlooked. The presence of these glands may perhaps justify placing the new species later in a new genus. *H. pingi* is doubtless very much longer than *H. lagenorhynchi* even if one considers that Baylis had only fragments of the animal for study. *H. pingi* has the accessory



Text-figure 7. Section of the lung of the host, showing worm in cavities and desquamations within alveoli.

piece in triple coil instead of double fold as is the case in *H. lagenorhynchi*. In the latter the cuticula is inflated at the posterior end of the male and this peculiarity is absent in the new species. The nerve ring of the new species has a more posterior position than that of *H. lagenorhynchi*.

In sections through the parasitised part of the lung one finds a number of worms lying close to each other in large cavities within the

lung tissue. These cavities contain besides the parasites a liquid which is coagulated by the fixation and stains pinkish red with eosin. Distributed in such coagulated masses and between the bodies of the worms are desquamated cells chiefly of the epithelial type together with polynuclear leukocytes. The cavities are surrounded by a wall formed partly by compressed lung tissue but chiefly by layers of connective tissue. The fibers of this connective tissue are mostly arranged parallel to the surface of the cavity whereas in the outer layers of this wall the fibers and the protoplasm show the ordinary type of connective tissue. One recognizes in the innermost layers a more homogeneous, finely granulated protoplasm. The inner zone shows a slight infiltration with polynuclear leukocytes. Eosinophiles are likewise present within the wall of the cavities and the neighboring lung tissue. These eosinophiles are as a whole not numerous; only in a few places within the wall of the cavity do they occur in a greater number.

The lung tissue in the neighborhood of the cavities is more or less compressed. The alveoli which are farther distance from them show a marked desquamation of the epithelial cells. Some of these isolated epithelial cells are loaded with yellow brownish pigment. I found also a marked edema in various parts of the lung, but it is difficult to say whether this is due to the parasite or not. The fluid seems a little different from that of the coagulated masses within the cavities as it is less stained by eosin. The wall is not very strong and at some places the cavities may be in open communication with the bronchial system, so that mucous or other liquid substances may enter them. The question may remain open whether the great amount of liquid within the cavities around the worms has something to do with the secretion of the glands in the anterior end of the worm.

REFERENCES CITED

- Baylis and Daubney. 1925.—A Revision of the Lung-worms of Cetacea. *Parasit.*, 17: 201.
Yorke and Maplestone. 1926.—The Nematode Parasites of Vertebrates. London.