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Letters to the Editor

Monk seal parasite

I am wondering if you have heard that *Toxoplasma gondii*, a parasite carried by domestic cats, has been found in Hawaiian monk seals. Toxoplasmosis has been implicated in the decline of southern sea otters off California, but I have not heard of it in relation to Hawaiian monk seals. However, I have received an inquiry – I was hoping you could clarify the situation.

Naomi A. Rose, Ph.D., Marine Mammal Scientist, Wildlife and Habitat Protection, The Humane Society of the United States.

✓ **Bud Antonelis, Chief, Protected Species Investigation at the NMFS Honolulu Laboratory, replies:**

Toxoplasma gondii is a single-celled protozoan that can infect many if not most mammals. The work by Melissa Miller with *Toxoplasma* and sea otters in California is well known to us. We also understand that the disease has been found in several free ranging wild dolphin species as well as many terrestrial mammals. It is also well known that *Toxoplasma* can be transmitted by a number of known and unknown vectors including cats, rodents, and birds.

In regard to wild Hawaiian monk seals, we have had an ongoing epidemiological survey for a number of potential diseases (including *Toxoplasma*) since 1998. We have also done necropsies and histopathology on almost every monk seal carcass recovered since the early 1980s. Thus, *Toxoplasma* has been evaluated as a potential pathogen as part of our routine epidemiological investigations. Serological testing, using the modified agglutination test (MAT) at the National Veterinary Disease Laboratory in Ames, Iowa; has only resulted in two positives from a sample size of more than ten percent of the population. Both were low titers, indicating possible exposure to *Toxoplasma gondii* or other cross reacting antigen(s). The samples were collected from two females that have been observed for five years subsequent to sampling and no apparent clinical or reproductive signs of abnormality have been detected. One female has given birth each year since 1990 and the other has given birth each year except one since 1998. Both females were observed during the 2002 field season and appeared to be normal and healthy. Judging from the condition and reproductive success of these females, we do not consider the low titer values to be indicative of disease. Both females will be carefully observed again during this field season.

Finally, our ongoing histological and necropsy evaluations have on a few occasions identified another protozoan called *Sarcocystis*, but we have not found *Toxoplasma* or pathology associated with it. We have considered the threat of toxoplasmosis to the monk seal population and we will continue to survey Hawaiian monk seals for this potential pathogen. Fortunately, we have found no significant evidence of disease from this potential pathogen in any of the subpopulations.

Congrats for Cabo Blanco

In the last issue of TMG, I was very pleased to read about the metamorphosis underway on the Cabo Blanco peninsula [[Conservation Actions on the Cabo Blanco Peninsula – A New Approach](#), TMG 5(2): November 2002], with conservation and management now taking precedence over pure scientific research and monitoring of the monk seal population.

Monk seal conservation cannot succeed without local participation and support. It is also important for locals to understand that conservation of monk seals is not an exclusive issue but involves many other ecological or environmental problems that face them on a daily basis.

At least in areas where habitat destruction is not a major force, the main problem issue facing both seals and humans is fisheries-related – as seen on the Cabo Blanco Peninsula, Mauritania and the Cilician Basin, Turkey.

With better management of local fish stocks – such as the establishment of No-Fishing Zones and proper guarding – and capacity building among local groups or cooperatives of artisanal fishermen, conservation of monk seals is inevitably given a better chance of success.

In this context, I am very happy to see the positive conservation results achieved by [Fundación CBD-Habitat](#) on the Cabo Blanco Peninsula, Mauritania. I would like to congratulate all their staff for their hard work.

Harun Güçlüsoy, [SAD-AFAG](#), Foça, Turkey.

Where are our hard copies of TMG?

Are the hard copies of The Monachus Guardian 2001 and 2002 available? You already kindly sent me the 1998, 1999 and 2000 editions; I'd like to receive the subsequent issues as well. Let me know if any subscription must be paid.

Claudio Groff, Italy

✓ **Editor's reply:** Unfortunately, budget cutbacks have prevented us from publishing the annual TMG compendium (hardcopy) which used to include each year's May and November issues (the last compendium was Vol. 3, 2000).

Although hardcopy publication has been suspended, readers of TMG may be interested to know that each issue can be downloaded either from its Contents page or from the [Monachus Library](#) as a single (Acrobat PDF) file, making it easier to print-out at home or in the office.

Keep on publishing (3)

I'm working at the Permanent Secretariat of the Commission on the Protection of the Black Sea Against Pollution as an in-kind support from the Turkish Ministry of Environment.

While reading the Mediterranean Seal Research Group [\[AFAG\]](#) Bulletin, I saw an article written by Mr. Cem Kirac [concerning TMG]. In this respect, I would like to voice my support for the continuation of your publication. I think that it is so important to protect marine and coastal zones and the Mediterranean seal.

Suna Gurler, Expert, Ministry of Environment, Ankara, Turkey.
web: www.blacksea-environment.org/

What about pollution?

Do you look systematically at factors that may afflict the endocrinological system of the seals (levels of pesticides and hormone disruptors etc.) and make them more vulnerable to secondary disease? When reading "Our stolen future" it occurred to me that there may be more connections than meets the eye... more focused disciplinary – eye...

Cornelia Nauen, Senior Scientific Officer, Research Directorate General, European Commission, Brussels, Belgium.

✓ **Editor's reply:** Scientific studies on the effects of pollution on the physical well being and reproduction of the Mediterranean monk seal are few and far between, even though pollution (mainly in the form of petrochemicals and heavy metals) has long been cited as a possible factor in the decline of the species. A thesis by Angeliki Dosi in 2000 [Available in the [Monachus Library](#)] looked at the incidence, from limited samples, of heavy metal contamination in the blubber and skin of monk seals originating from Greece, but found little cause for alarm – possibly because the Aegean is reputed to be one of the cleanest areas of the Mediterranean. On the other hand, we know of no study that has ever sought to identify the possible effects of hormone disrupters on the endocrinological system of the seals. Although such studies would probably be welcome, experience shows that human disturbance, habitat destruction and direct killing are likely to remain the single most important factors governing the decline of the monk seal.

Lefkada sighting



We have just had a very good sighting of a monk seal here in our area. We sighted the seal at 15.45 on 8th of May. The location was close to Nidri on the Island of Levkas [Lefkada, Ionian Sea], Greece. I wish to log the sighting and attach two photos taken by one of our clients. Our company is [Unique Excursions](#) and we run marine tours teaching people about the local marine life in the area.

I hope you can use the sighting for your records.

Steve Clarke-Jens, Unique Excursions, Lefkas, Greece.

Aristotle right or wrong?

I am a professor of Classics at Freiburg in Germany and I am working on a commentary on Aristotle's book *De partibus animalium*. Aristotle gives very good information about *Monachus monachus*, but also makes one observation which is doubtful. He claims that this seal does not possess a gall-bladder.

Could you tell me whether this is correct or not?

Prof. Dr. Wolfgang Kullmann, Freiburg, Germany.

✓ **Editor's reply:** Aristotle's observations of monk seal behaviour and anatomy were generally accurate. However, he erred in describing the monk seal as having 2 rather than 4 teats, and in reporting that the seal does not possess a gall bladder.* The latter error is somewhat mystifying, particularly since there is reason to believe that Aristotle studied monk seal anatomy on the dissection table, and that (at least according to later writers), seal gall was a valued commodity in medicine.**

For a reference on the presence of a gall bladder in the seal, consult (page 171, under "Liver"): King, Judith. 1983. *Seals of the World*. British Museum (Natural History) & Oxford University Press, London & Oxford: 1-240.

For further information on monk seals and their role in the history, culture and economy of the ancient world:



Johnson, W.M., & D.M. Lavigne. 1999. Monk seals in Antiquity. The Mediterranean monk seal (*Monachus monachus*) in ancient history and literature. Mededelingen 35: 1-101. The Netherlands Commission for International Nature Protection.

Publisher's information on the title is available at: <http://www.euronet.nl/users/backhuys/boekmonk.htm>.

View [abstract](#).

* "There is no gall-bladder in the seal, nor (among sea-animals) in the dolphin" (*On the Parts of Animals*, 676b, 28-29).

* "Some animals have, and some have not, a gall-bladder up against the liver. The deer is an example of a viviparous quadruped which has none: other examples are the roe, the horse, the mule, the ass, the seal, and some kinds of pig" (*Historia Animalium*, 506a, 21-25).

** "The seal... gets rid of its gall, which is useful for many drugs, by vomiting it up, and also its rennet, a cure for epileptic attacks; it does this because it knows that it is hunted for the sake of these products" (Pliny, *Natural History*, VIII.111).

The editor reserves the right to edit letters for the sake of clarity and space

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