

CONSERVING SEA TURTLES: HATCHET FAILS TO CRACK CARAPACE

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I am flattered, though not flattened, that my small book should be receiving so much attention and that I should be invited to reply. But it is difficult to respond to such an outpouring of little points without boring readers, so before they sign off, I hope they note that Dodd's complaints are directed more at style than substance. Indeed he says that "many of the criticisms are valid" and that many of the same points have been made in the Marine Turtle Newsletter in a "quite effective manner". I urge people interested in turtle conservation to attend to issues rather than to prose style.

Dodd complains that "the author's biases are immediately apparent". I confess to having tried to make my views clear. To call them biases reveals as much about Dodd's as my own.

Of course, to the extent that facts are wrong or omitted, I have been remiss. It seems virtually impossible, even in a short book, to avoid errors altogether. I take this opportunity in rectifying two of these. Page 80 gives the West coast of Florida, rather than the East coast, for releases of certain green turtles. Page 117, for some reason, says that green turtles from Tortuguero feed off Brazil, but of course that has never been shown. However, as another reviewer said, only "few factual errors have been perpetrated" (Pritchard, 1983). I do not consider Dodd's criticism of my brief chapter on life history to be justified when this stated at the outset that "any account of sea turtles in general, including features from different species, as here, is more like a composite painting than an accurate photograph of any particular one" species. Of course olive ridleys nest by day during arribadas, and of course leatherbacks undertake many migrations not mentioned in my book. My ten page chapter gave broad outlines of sea turtle

biology; it did not attempt to mention every detail, every exception.

Dodd also makes some of my remarks appear erroneous by oversimplifying what I said and leaving out my qualifiers. For example, he says that I stated "that 40,000 Kemp's ridleys nested per year in 1947". In fact I stated that "the number of females laying at Rancho Nuevo had fallen from around [italics added] 40,000 a year in 1947 to some 1,200 in 1974". The exact number of course is hard to estimate from a film, and if many turtles show up in other arribadas, the number would be greater. But my characterization of the situation for Kemp's ridley was not misleadingly accurate, and I think few would dispute it as a general statement based on the best information we have. This may be a small point, but it seems typical of an attempt to discredit the accuracy of my book and divert attention from its main points. Here is another example. Dodd says I state "that there is an upward trend in the population at Tortuguero". In fact what I wrote is this: "if anything there are upward trends ... but because of the problem of erratic fluctuations a more cautious statement is preferable: between 1971 and 1980 there was no downward trend in the numbers nesting at Tortuguero". Then, on the next page, I discuss Bjorndal's estimates of survival rates, as well as raising some problems about these estimates. It would also be interesting to see her methods applied to data for the last few years, and to have an updated version of her paper include information that would enable the reader to tell exactly which segments of the curves are projected, and the numbers of turtles contributing to the various points. It is true that usually I feel more comfortable with data on numbers nesting than with estimates of numbers surviving, but to imply that I ignored Bjorndal's work, and that I simply asserted that there was an upward trend at Tortuguero, is a distortion of what I wrote.

Dodd suggests I do not understand that "there is a difference between survival of a group of animals, and the maintenance of short term heterozygosity and long term evolutionary potential". I wrote populations "as small as 50 may be able to survive while those in the order of 500 probably also preserve the capacity for evolutionary change as circumstances alter (Franklin, 1980)".

The Cayman Turtle Farm or its predecessors have released turtles on several occasions, some before the Washington conference. I never supported these releases (can Dodd really have read my book twice as he says -- or should he read it three times?), but said it was ironic that people criticized them without criticizing operation green turtle.

As to whether the numbers of hawksbills on Cousin Island are holding or not, of course any new data on the subject are welcome. A recent report by Mortimer (1983) does not give any data showing nesting declines of this species on this beach (which is not to say that the situation of hawksbills in the Seychelles is satisfactory). And -- even if I do say so myself -- one of the valuable things about my book is that it contains graphs of past data, year by year, not only for Cousin Island but for a good number of other areas. Readers can see at a glance what the situation has been on these beaches, add in any new data, and come to their own conclusions about nesting trends in particular populations.

On the question of whether the East Pacific green turtle is a full species or is being promoted as part of a particular conservation strategy, I concede that the use of Chelonia agassizi by Bocourt in the last century is a technical knock out to my argument that this name is being introduced without proper precedent. But to raise what people called this turtle so long ago

seems more a debating point than a refutation of my fears that the difficult matter of classifying turtles might be prejudged by a particular conservation outlook. It remains true that in the last 30 years or so the East Pacific green has not been widely recognized as a separate species. Hendrickson (1980), however much he may feel it should be a full species, is careful to speak of the seven official species of sea turtle. I am not necessarily against a full species status for the East Pacific green, but would like to see a rigorous presentation of the case. Dodd seems to agree with me on this point!

Dodd seems upset that I did not quote his and another paper on turtle farming. At the time my book was sent to the publishers, Dodd's paper was not published. I did obtain preprints at various stages of some of the papers of the Washington turtle conference, but unless I felt the papers were exceptionally important, did not insert further references at the advanced production stage of my manuscript.

My chapter did not gloss over the problems about turtle farming, but for some minds the distinction between being pro-farming and being anti anti-farming is evidently too subtle. I cite in defense the comments of another reviewer: "this chapter [on farming] is well done and presents a great many generally hard to find facts" (Pritchard, 1983).

Dodd says I provide incorrect figures on the hawksbill shell trade in Japan. "He [Mrosovsky] quotes a 40,000 kg amount per year being imported between 1976-1979". What I said was "Japan imports large quantities, for instance more than 40,000 kg a year from 1976 to 1979" and then gave references. By omitting my qualifier 'more than', Dodd makes out that my statement

is inaccurate. Anyway exact amount is quite unimportant, and probably unreliable, although elsewhere (p.145) I gave it more accurately as 44,265 kg a year, for these three years. The slight discrepancy in this average from that obtainable from Mack's subsequently published paper is because I took my figures from one of the prepublication versions of Mack's paper.

As to the portion of these imports that came from the Cayman Islands, I am well aware that this does not necessarily all come from the Cayman Farm. That was made clear in my book when I wrote "it is not certain that the exports from the Cayman Islands all or mostly come from the Cayman Turtle Farm". Dodd makes out that I naively accepted figures at their face value. What I said was: "According to compilations of government statistics (Mack et al, in press), exports from the Cayman Islands accounted for about 1/10th of the imports of raw tortoise-shell to Japan from January 1977 to October 1979. There are, of course, numerous problems with such trade figures". Some of these were then mentioned. Unfortunately, despite the efforts of Mack and others we do not have a complete picture of trade in turtle products. I feel it is still legitimate, perhaps even useful, to try to estimate, as best one can, given what figures have been reported, whether mariculture operations of the capacity of the Cayman Turtle Farm would be capable of supplying a significant portion of the present Japanese turtle market. Maybe hawksbill farms (if they were feasible) would be required, although it seems premature to assume that green turtle shell will not be able to displace some of the imports to Japan. There are some ways of welding pieces of green turtle shell together in an attractive and workable product. I do not press a rigid case but ask only for more open-mindedness on these issues.

The arguments over farming, and turtle conservation in general, are interesting precisely because there is something to be said on both sides of many of the issues. The literature is, I believe, well stocked with arguments of a particular kind. I thought that some of the less frequently presented views (biases Dodd would call them) should be developed, even if that meant breaking taboos. As another reviewer has put it "The main value of Mrosovsky's book is that it provides arguments not usually encountered in printed discussions" (Frazer, 1983/84). I could go on and on refuting misrepresentations in Dodd's review, but hope that enough has already been said to persuade the reader to look at my book first hand, rather than accepting Dodd's oversimplified interpretations. It costs a mere ten dollars (profits, if any, go to the British Herpetological Society). It provides an index so that readers can easily find recent references on such techniques as head-starting, notching or transplantation of eggs. There are also specific suggestions about how to combine conservation and utilization of eggs laid below high tide lines, the doomed eggs. And do not be too sure from Dodd's review that you will find the style so objectionable. Many people have told me how much they enjoyed it, even when they did not agree with what I wrote. So, to echo a famous author:

When I am dead, I hope it may be said:

'His sins were scarlet, but his books were read'

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