

Turtles have been long placed outside the group known as the diapsids, which includes the supposedly more modern reptiles, like crocodiles, snakes and lizards. But based on morphological studies, Rieppel has been arguing for turtles to be placed among the diapsids, which is exactly where they are in the new study.

In addition, an obscure morphological study published by a Swedish researcher 20 years ago indicated, as does the new paper, that the closest relatives of turtles were crocodiles. Until now, all such claims had been pretty much ignored.

The new paper is only the latest molecular study to flout long-accepted evolutionary trees that were based on more traditional, low-tech methods. Dr. Gary Packard, physiological ecologist at Colorado State University who works with turtles, described the publication of the new work as something "like throwing gasoline on a fire."

Part of the problem for turtle experts is that the notion of turtles and crocodiles together at the top of the tree just does not fit in with everything else they know. Gaffney said that turtles showed a whole suite of characteristics that were considered to be very ancient. If the new tree is correct, then turtles are modern animals that just happened to have re-evolved all those ancient characteristics. "They would have lost two sets of holes in their heads, re-evolved a primitive brain case, palate, lower jaw," Gaffney said. "I have to see better evidence than this to convince me that that's what happened."

Rieppel, though, asserts that such changes as the loss of the holes happen quite commonly in reptiles. Packard, who is particularly interested in reptile eggs, said that many things about their eggs did not make sense either in light of the new tree. The eggs of crocodylians and birds have a similar structure and are made of the mineral calcite. Turtle eggs are very different in structure and are made with aragonite.

But Hedges suggested that part of the difficulty of thinking of characteristics that link crocodiles and turtles could be that researchers were just so used to thinking of them as distant relations. "We are going to have to rethink everything," he said.

Researchers suggested that a powerful next test would be to combine morphological and molecular data and see which holds sway. As to whether the new tree can withstand such scrutiny and further testing, Avise said, "Only time will tell."

CAROL KAESUK YOON, New York Times, 12 February 1999

Sri Lanka Herpetological Publications Available

The following recent publications on herpetology and turtles of Sri Lanka are available for purchase:

1. *Lyriocephalus* (Journal of the Amphibia and Reptile Research Organization of Sri Lanka - ARROS). Vol. 1 (1 & 2), Vol. 2 (1 & 2), Vol. 3 (1), and Vol. 4 (2) for US \$10

each, with a trade discount of 30% for more than 5 copies of each.

2. Amphibia of Sri Lanka: a checklist and an annotated bibliography (1996).
3. Snakes of Sri Lanka: a checklist and an annotated bibliography (1998).
4. Sauria (lizards) of Sri Lanka: a checklist and an annotated bibliography (1998).
5. Testudines and crocodylians of Sri Lanka: a checklist and an annotated bibliography (1998).
6. The Herpetofauna of Sri Lanka: a review (1996).

Each of the above books are US \$10 each. Air Mail postage is extra depending on the number of copies ordered. Checks should be payable to K.A.L de Silva in US \$ or International money order in US \$. For checks please add US \$ 3 as bank charges. Place orders with:

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Chelonian Research Foundation Announces a New Turtle and Tortoise Newsletter and Web Site: www.chelonian.org

Chelonian Research Foundation (CRF) announces the formation of a new newsletter dedicated to freshwater turtles and tortoises. Entitled *Turtle and Tortoise Newsletter*, it will be produced in association with Conservation International and IUCN/SSC Tortoise and Freshwater Turtle Specialist Group, and will incorporate and merge two previous publications: *Newsletter of the IUCN Tortoise and Freshwater Turtle Specialist Group* and *Box Turtle Research and Conservation Newsletter*. Editors for the new newsletter will be Heather J. Kalb and Allen Salzberg. Distribution of the newsletter by hardcopy will be free and will include all current recipients of *Chelonian Conservation and Biology* and *Box Turtle Research and Conservation Newsletter*, as well as members of the IUCN/SSC Tortoise and Freshwater Turtle Specialist Group.

The newsletter will also be available online at the recently established CRF web site: <www.chelonian.org>, managed by Michael S. Coyne. The web site will also include information concerning *Chelonian Conservation and Biology*, *Chelonian Research Monographs*, and *The Linnaeus Fund Annual Turtle Research Awards*. The *Turtle and Tortoise Newsletter* will be similar in format to the *Marine Turtle Newsletter*, and will hopefully fill a similar publication niche, but dedicated to freshwater turtles and tortoises rather than sea turtles. For information, contact:

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