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The Taxonomic Status of the Pleistocene Turtle *Geoclemys sivalensis*

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The genus *Geoclemys* is known from the Plio-Pleistocene to recent times. Only one species, *G. hamiltonii*, described by Gray (1831), with numerous synonyms, is considered valid. Tewari and Badam (1969) described a fossil turtle, *Geoclemys sivalensis*, from the Upper Siwaliks of Punjab, in northern India. The present paper re-evaluates the taxonomic status of this fossil material, based on the published description and illustrations provided by Tewari and Badam (1969), and on photographs provided by Prof. Ashok Sahni, Punjab University. The material is preserved in the Museum of the Centre of Advanced Study in Geology (MCASG), Punjab University, Chandigarh (Reg. No. A/665).

Recent examples of *Geoclemys hamiltonii* with which the fossil of *G. hamiltonii* was compared were examined at the National Zoological Collection, Zoological Survey of India (ZSI), Calcutta; the Madras Crocodile Bank Trust (MCBT), Madras; and the British Museum (Natural History) (BM[NH]), London. Fossil materials were studied at the Geological Survey of India (GSI), Calcutta. Scute and bone terminology follows Zangerl (1969).

Geoclemys sivalensis was described by Tewari and Badam in 1969 (description republished by Badam in 1979), based on an incomplete shell from the Pinjar stage of the Upper Siwaliks (basal Pleistocene), 1 km SE of Quranwalla, Punjab, India.

The type specimen (MCASG A/665) is an incomplete shell (Fig. 1). Preserved parts of the carapace include vertebrals 1 and 2 (both entire), vertebral 3 (partial), pleural 1 (both left and right entire), pleural 2 (left and right partial), four left and three (?) right anterior marginals (mostly damaged on the free ends), and a cervical (partially damaged anteriorly). Plastral characters that are discernible include the following preserved scutes: left pectoral, left abdominal, left femoral, and two left marginals. In addition, the right hyoplastral and right hypoplastral bones are exposed. Head and limb bones are not preserved.

Tewari and Badam (1969) gave the estimated shell measurements (carapace length and width) as 23 and 21.5 cm, respectively. However, based on the restored shell (Fig. 2A, B) my estimates are as follows: straight carapace length (SCL; distance between cervical at restored carapace midline to posterior-most point of the 12th marginal) = 33 cm; straight carapace width (SCW; distance across widest part of restored carapace, perpendicular to the longitudinal body axis) = 21 cm; and plastron length (PL; distance between the anterior-most tip of the gulars and the posterior-most tip of the anals) = 28 cm. The shell height, SH, of the fossil material has been given as 9.5 cm in the type description.