

PROCEEDINGS
OF THE
NEW ENGLAND ZOÖLOGICAL CLUB

A NEW GEOEMYDA FROM COSTA RICA¹

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THE description of a *Geoemyda* from Costa Rica by Kanberg (1930, *Zool. Anz.*, 88, p. 162, *Geoemyda costaricensis*, Costa Rica) induces me to publish my notes on the species of this genus from lower Central America, which I made while working in Costa Rica, Panama, and Europe under a John Simon Guggenheim Memorial Fellowship.

I have seen three species, two of which I have caught in the field. These may be defined as follows:

A. Web well developed; mandibular symphysis less than eye diameter; second vertebral longer than wide; upper jaw notched and denticulated; whole mid-plastron dark.

..... *funerea* Cope.

1875 *Chelopus funereus* Cope, *Journ. Acad. Nat. Sci. Philadelphia* (2), p. 154.

1930 *Geoemyda costaricensis* Kanberg, *Zool. Anz.*, 88, p. 162.

I have seen the four types of *funereus* from Limon in the U. S. National Museum, and one which I caught at Zent. There is also a long series of this species in the Museum of Comparative Zoölogy from the Zent region. Semi-aquatic.

¹ Contribution from the Department of Biology, Haverford College, no. 2.

AA. Scarcely any web; mandibular symphysis less than eye diameter; second vertebral wider than long; humeral suture one half gular; upper jaw hooked in young, notched and smooth in older examples; a narrow black mid-plastral streak. *mannii* sp. nov.

AAA. Scarcely any web; mandibular symphysis less than eye diameter; second vertebral wider than long; humeral suture equal to gular; upper jaw hooked; whole mid-plastron dark *annulata* Gray.

1860 *Geoclemmys annulata* Gray, Proc. Zool. Soc. London, p. 231, pl. 29. (Esmeraldas, Ecuador).

1875 *Chelopus gabbii* Cope, Journ. Acad. Nat. Sci. Philadelphia (2), p. 153.

I have seen the type of *gabbii* from Sipurio, Costa Rica, in the U. S. National Museum, and several specimens, some caught by myself, from Barro Colorado Island in the Canal Zone. Terrestrial.

Cope (1887, Bull. U. S. Nat. Mus., 32, p. 21), has recorded *Geoemyda rubida* Cope (Proc. Amer. Phil. Soc., 1871, 11, p. 148, Tuchtan, Tehuantepec, Mexico,) in the McNeil collection, from Nicaragua. I have seen no specimens from there. It is quite distinct from the three above, and is most closely related to *annulata*, from which it differs in the coloration of the head and in the very long mandibular symphysis.

G. funerea is closely related to *melanosterna* Gray (*Geoclemmys melanosterna* Gray, Proc. Zool. Soc. London, 1861, p. 205, Cherunha [= Chirambira] near Buenaventura, Colombia) and may be identical. It is also closely related to *punctariola* Daudin, 1803, from La Mana, French Guiana, (type, Paris, 346). It does not seem to me to be the same, nor is it *nasuta* Boulenger (1902, Ann. Mag. Nat. Hist., (7), 9, p. 53, Rio Durango and Bulun, northwestern Ecuador).

G. manni is related to *pulcherimma* Gray (type, B. M. N. H., 57-8-25-24, Mexico), but differs decidedly, although it also has a short humeral suture, for *manni* has black plastral markings on a light ground, while *pulcherrima* has lighter markings on a

dark ground, and *pulcherrima* has also a broad black mid-plastral patch.

I have seen ten specimens of *manni*. Five, probably from San José, (one in the Museo Nacional, four in the Liceo, one of which was kindly given me); one young from Las Concavas near Cartago, in Mr. Lankaster's collection; Berlin, 119-120, Costa Rica; Paris, 354 beta, Costa Rica; Vienna, Mexico (?).

The new species may be defined thus:

Geoemyda manni sp. nov.

Adult female, probably from San Jose, Costa Rica, in my own collection, to be deposited in the M. C. Z. (29097)

Snout short, not projecting, lateral profile oblique, edges of jaws not denticulated; upper jaw slightly notched (hooked in small Berlin specimen); mandibular symphysis shorter than diameter of eye; head with smooth skin above; body fairly high, depth equals more than half width; carapace oval, slightly emarginate anteriorly; a poorly developed median keel, and traces of a lateral keel; shields with concentric lines; most vertebrals and costals with radiating lines; nuchal very small; first vertebral pentagonal, broadest in front, shortest of the series; second and third vertebrals about equal, broadest of the series; fourth longest of the series, as long as broad (the others broader than long); all about the same width as their corresponding costals; edges of marginal turned up, especially anteriorly; edge of carapace very slightly serrate; ninth marginal broadest; plastron slightly convex, slightly emarginate behind, truncate in front with three points on each gular, the outermost most prominent; shields with concentric lines; posterior lobe shorter than bridge, pectoral suture longest, longer than gular plus humeral; humeral shortest, one half gular; femoral shorter than anal; three axillary and two inguinal shields; forearm with large scales anteriorly; tibia with large scales on inner surface, irregularly arranged; a trace of web on fingers and toes; a trace of fifth toe but no claw; tail short, eight pairs of scales below. Light yellow; a narrow black mid-plastral streak, forking into gulars and onto anals; a W-shaped mark on anterior end of gular suture; a triangular mark on posterior end of anal suture; a narrow black line on plastral side of bridge; under marginals with black U-shaped marks, convexity towards plastron, and a few straight marks; vertebrals with two irregular concentric black lines; costals with two concentric black circles and a black dot in centre; marginals above with two concentric black lines; head above olive with many light, black-bordered lines,—principally: one around edge of upper surface

extending onto neck; one short one on frontal region; two from occiput onto neck; ventrally light with irregular black markings; limbs and tail with parallel black and lighter lines. Head width, 16; tail, 10; carapace length, 113; width, 94; depth, 51.5; plastron length, 106; hind lobe width, 59; bridge length, 50 mm.

I take pleasure in naming this very handsomely marked species after my friend Dr. William Mann, Director of the National Zoological Park, Washington, D. C., and an eminent fancier of all tortoises.