NOTES ON AN APPARENTLY NEW OR RARELY KNOWN HARD-SHELLED TURTLE FROM FUCHOW T. H. CHANG

(From Biological Laboratory of the Science Society of China)

Last year, ('27) Prof. C. Ping brought to the Biological Laboratory his collection of specimens from Foochow and Amoy, among which was a dry stuffed specimen of a hard-shelled turtle. It was collected at Fuchow in the summer of the year. By the posteriorly emarginate plastron, the presence of both axillary and inguinal shields, the unhooked upper jaw and the posterior half of the top of the head with the skin divided into small shields, it undoubtedly belongs to the *Genus Geoclemys*, and it is indeed so close to *G. recvesii*, that there are scarcely any distinct characters between them except that the present species has five pairs of costal and thirteen pairs of margnal plates instead of four and twelve pairs respectively. As we now secure only one single specimen, the following name is provisionally given and requires verification.

Geoclemys paracaretta, sp. n.

Type.-No. 134; Fuchow; 1927, Summer.

Description of Type—Snout pointed and projecting; edges of jaws smooth, upper jaw without hooks or median notch; triturat-

ing surface of upper jaw broad, without any longitudinal ridge; anterior part of head covered with a large smooth shield on crown and snout, another on each side covering the whole temporal region, and the usual rostro-labial shield; parietal and auricular regions covered by small polygonal shields, most of those on the former region with a central round tubercle.

Body moderately depressed, length of carapace about one and half times its width and two and half the depth of body; sides of carapace nearly parallel, slightly concave above the inguinal region; carapace broadly emarginate in front, with three strong keels, the median one much more elevated at posterior third of the fourth vertebral shield; five vertebral shields, five pairs costal, a nuchal, thirteen pairs marginal, all with deep-cut concentric lines, radiating lines also fairly distinct; nuchal small, somewhat irregular in shape, the narrow and round anterior end projecting in front, emarginate behind, slightly longer than broad; first vertebral, pentagonal, with subparallel wavy sides, much narrower than others. which are of subequal width and of the same width as the anterior four costals; boundary line between the second and third vertebrals abnormally twitched at the middle (perhaps through wound), third vertebral partly divided into two, all dorsal shields normal, although the four anterior costals of one side not strictly symmetrical in level; edge of marginals from third to nineth turned up; the posterior outline of the shell nearly even, not serrated; first two marginals broadest.

Plastron somewhat angularly notched behind, truncate in front, bridge angle rounded; shields with distinct median and anterior growth lines; posterior lobe (measured to the points of anals) a little longer than bridge, nearly as wide as openings of shell: pectoral and abdominal in contact with fifth to seventh marginals; abdominal seam longest, slightly less than gular and humeral together, and slightly longer than pectoral which is much longer than femoral; gular seam longer than anal, humeral shortest; inguinal shield larger than axillary; toes webbed to the tips; tail tapering, somewhat compressed at tip.

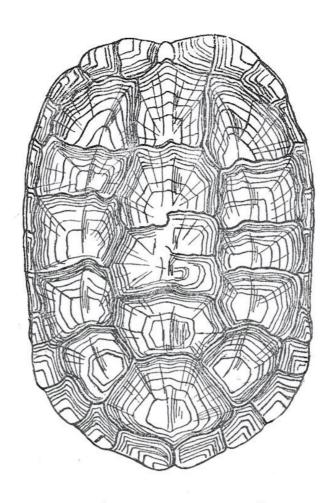
Carapace brown, darker on median keel, each shield marginated with darker and bordered with light suture lines; yellow spots on the edges of the five most posterior marginals on each side, plastron yellow, each shield with a diffused spot, the main part of which is on the "umbo" of the shield, sending out radiating lines therefrom; the spots on pectoral and abdominal each divided into two, perhaps by friction; a similar spot on each lateral marginal.

Neck with a very faint median line, faintest at the mid neck, a supratemporal line, which after a downward bending and once interrupted behind eye runs posteriorly along the neck as the dorsolateral line; a mediotemporal line, a supra-pre-auricular line, a subpostauricular line, a line on both lips and surrounding angle of mouth, a line on the surface of each ramus of lower jaw, which after once interrupted courses posteriorly as the ventrolateral line; between these two long lines a frequently interrupted line; undersides of head, neck and forelimbs with numerous spots; all the lines and spots mentioned above being yellow; posterior surface of hind limbs and areas between them with series of small white tubercles, arranged somewhat concentrically around roots of limbs and tail; a few similar ones on dorsal surface of hind limbs.

The measurements of the shell and the plastral sutures are as follows:

Greatest length of carapace	186 mm
Greatest breadth of carapace	142
Greatest depth of the body	74
Greatest length of plastron	170
Greatest breadth of plastron	140
Gular suture	28
Humeral suture	13.5
Pectoral suture	36
Abdominal suture	39.3
Femeral suture	27.3
Anal suture	21.5
Length of carapace Breadth of carapace	1.5

In the Genus Geoclemys, none of the known species has five pairs of costal and thirteen pairs of marginal plates. Although these same features have been found in the Loggerhead Turtles (Caretta caretta), but they, as members of Chelonidae, are aptly discerned from all the forms of the Testudinidae by their paddle-shaped limbs. Should this species prove invalid, it may represent an atavistic feature, as it has been stated by Gadow ('20) that it is absolutely certain that the number of the transverse rows of shields was originally much greater than it is now.



 $\begin{array}{c} \textit{Geoclemys paracaretta, new species.} \\ \text{Carapace of type.} \end{array}$