

a separate proximal centrale, at least in the juveniles; and the position and shape of carpal 4, which completely separated the ulnare from medial 3.

Carsi were examined in 32 specimens of *G. polyphemus*, 7 of *G. flavomarginatus*, 31 of *G. agassizi*, and 37 of *G. berlandieri* with the following results:

*Gopherus polyphemus*—Except for a slight difference in degree of phalangeal fusion in digit 5, there is little variation correlated with tortoise size. The proximal centrale is present in all specimens. Carpal 1 is fairly large and articulates broadly with the radius, the radius being bordered below by four elements (carpal 1, radiale + mediale 2, proximal centrale, and intermedium). There are no intercarpal fusions and the metacarpals are typically fused to adjacent phalanges (14 of 32 specimens in all 5 digits, 18 in all digits except number 5). Carpal 4 is wedged between the ulnare and mediale 3, but not so extensively as in *G. agassizi* and *G. berlandieri*. Carpal 5, the ulnare, and intermedium are all in broad contact with the ulna. The pisiform is absent in all but three specimens.

*Gopherus flavomarginatus*—The carpus in this species is similar to that of *G. polyphemus*, with four subradial elements (carpal 1, radiale + mediale 2, proximal centrale, and intermedium), and three subulnar elements (intermedium, ulnare and carpal 5). The metacarpals are fused to adjacent phalanges.

*Gopherus agassizi*—The arrangements of elements in *G. agassizi* is different from those of *G. polyphemus* and *G. flavomarginatus* and similar to that of *G. berlandieri*. The proximal centrale sometimes is a separate element, as in *G. polyphemus*; this was observed in four of eight specimens smaller than 150 mm shell length and in 11 of 23 larger specimens. In those smaller specimens lacking a separate proximal centrale, the bone is fused to the intermedium. In all 11 larger specimens having a separate proximal centrale, carpal 1 is fused to the composite radiale, whereas in 10 of the other 12 specimens (*i.e.* in which the proximal centrale was fused to the intermedium), carpal 1 is free in 21 of the 23 specimens over 150 mm, although in some the fusion is not complete. No such fusion can be seen in six of eight specimens less than 150 mm in shell length. The radiale and mediale 2 and 3 are solidly fused together in 11 specimens over 150 mm, and in all individuals carpals 1 and 2 are also fused into this mass. Carpals 1 and 2 are fused in 21 of the specimens over 150 mm. All the metacarpals are fused to the adjacent phalanges in all specimens examined, regardless of size. Carpal 5 is fused to both the pisiform and ulnare in 13 of the 23 specimens over 150 mm; in every larger individual in which carpal 5 is free, the pisiform is fused