

7-1984

Alpheopsis harperi (Decapoda: Alpheidae): A New Species of Snapping Shrimp from Texas

Mary K. Wicksten
Texas A&M University

DOI: 10.18785/negs.0701.06

Follow this and additional works at: <https://aquila.usm.edu/goms>

Recommended Citation

Wicksten, M. K. 1984. *Alpheopsis harperi* (Decapoda: Alpheidae): A New Species of Snapping Shrimp from Texas. *Northeast Gulf Science* 7 (1).

Retrieved from <https://aquila.usm.edu/goms/vol7/iss1/6>

This Article is brought to you for free and open access by The Aquila Digital Community. It has been accepted for inclusion in *Gulf of Mexico Science* by an authorized editor of The Aquila Digital Community. For more information, please contact Joshua.Cromwell@usm.edu.

***Alpheopsis harperi* (DECAPODA: ALPHEIDAE): A NEW SPECIES OF SNAPPING SHRIMP FROM TEXAS**

Mary K. Wicksten

Department of Biology, Texas A&M University
College Station, TX 77843

Abstract: *Alpheopsis harperi* new species is described from the coast off Freeport, Texas. The shrimp most closely resembles *A. trispinosus* (Stimpson), a pantropical species. *Alpheopsis harperi* has a short rostrum, lacks carinae on the carapace, and has lamellate, toothless fingers of the chelae.

Snapping shrimps (family Alpheidae) are common inhabitants of both hard and soft bottoms in warm temperate and tropical waters. Species of soft bottoms (mud or sand) may burrow into the sediment, where they are collected by grabs or box cores.

In 1981-83, divers off Freeport, Texas collected specimens of an unusual, small snapping shrimp. The animals were taken in a 232 cm² Ekman grab in muddy sand with a thin covering of silt. All the specimens were broken. Donald Harper and Larry McKinney of Texas A&M University at Galveston sent the specimens to the main campus of the university at College Station for examination. The shrimp is described herein. Specimens were collected during studies sponsored by U.S. Department of Energy contract DE FC 96 79P010114 to the Environmental Engineering Department, Texas A&M University.

Alpheopsis harperi

NEW SPECIES

Figure 1A-G

Diagnosis

Small shrimp of soft bottoms. Rostrum triangular, not reaching end of first segment of antennular peduncle. Orbital teeth small and sharp, not as long as rostrum. Chelipeds assymetrical, without grooves or teeth. Large chela

with lamellate dactyl. Small cheliped with 2 meral spines. Second pereopod with 5 carpal articles.

Description

Rostrum triangular, slightly broader than long, not reaching end of first segment of antennular peduncle. Orbital teeth small and sharp, not as long as rostrum. Pterygostomial angle of carapace blunt.

Second segment of antennular peduncle longest. Statocyst present in first segment of antennular peduncle. Stylocerite about as long as first segment of antennular peduncle.

Scaphocerite with lateral tooth about as long as squamous portion or exceeding it, not reaching end of antennular peduncle. Basicerite with small, sharp superior and inferior teeth, reaching end of first segment of antennular peduncle.

Chelipeds assymetrical, laterally compressed and without grooves. Larger chela 3.5X as long as broad, with fingers 0.5X length of entire chela. Fingers of chela without teeth. Dorsal surface of dactyl rounded, entire dactyl lamellate. Tuft of setae at apex of fixed finger. Carpus about as long as broad. Merus broader distally than proximally, about 4X as long as wide. Ischium about 0.4X length of merus, with prominent spine on superior margin.

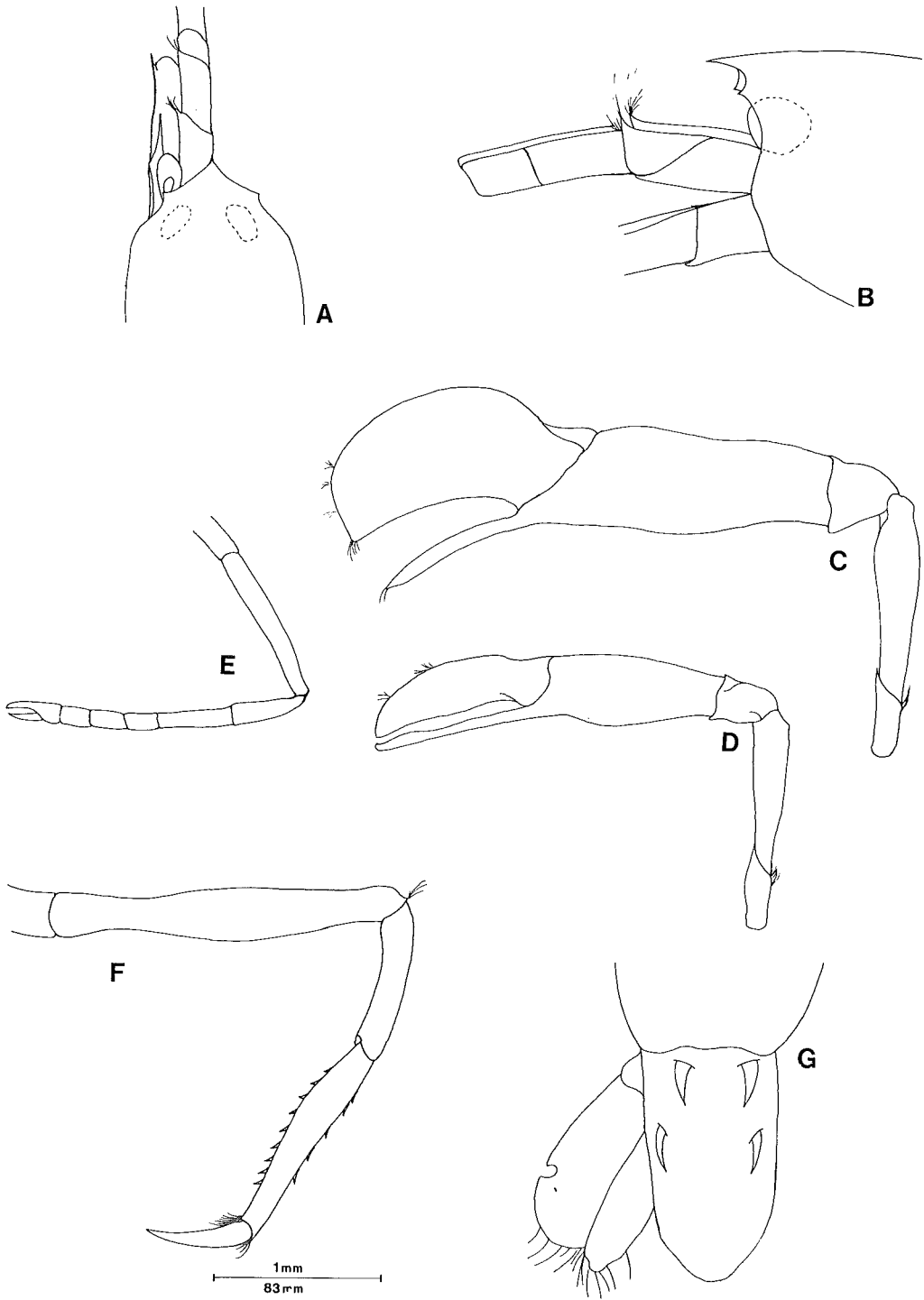


Figure 1. *Alpheopsis harperi* new species. A, frontal region in dorsal view. B, frontal region in lateral view. C, major cheliped. D, minor cheliped. E, second pereopod. F, third pereopod. G, telson and uropod.

Smaller chela similar to larger chela, but movable finger less convex on superior surface. Merus with 2 tiny movable spines.

Second pereopod with 5 carpal articles, their radio 10:11:5:5:5.

Third pereopod with long, simple dactyl. Propodus 2X length of dactyl, with 9 spinules on flexor margin and tuft of setae on extensor margin proximal to dactyl. Scattered spinules on extensor margin of propodus. Carpus 0.75X length of propodus. Merus 2X length of carpus. Ischium unarmed, 0.3X length of merus.

Fourth and fifth pereopods similar to third.

Telson 2X as long as broad, with 2 pair dorsolateral spines. Posterior margin rounded, fringed with long setae. Outer margin of uropod with deep, rounded notch, fringed with setae.

Material Examined

HOLOTYPE. — Female, total length in millimeters (TL) 7.1. Station 10 E2A, off Freeport, Texas (28°43'41"N, 95°14'10"W), 21 m, 19-20 Nov. 1982, U.S. National Museum of Natural History (Smithsonian Institution) catalog number 210513.

PARATYPES. — Station 10B1C, (28°44'20"N, 95°14'45"W), 23 June 1982, TL 4.9, Allan Hancock Foundation, University of Southern California catalog number 2499-01. Station 10 E3C, (28°44'12"N, 95°13'18"W), 25 May 1983, TL 6.1, Texas A&M University Oceanography collection catalog number 2-6408. Station 10 A1A, (28°42'42"N, 95°16'38"W), 23 Sept. 1982, TL 7.9. Station 10 A3C, (28°43'46"N, 95°15'03"W), 23 June 1982, TL 5.2. Station 10 A3A, (28°43'46"N, 95°15'03"W), 23 June 1982, TL 5.5. Station 10 A9B, (28°44'18"N, 95°14'18"W), Nov. 1982, TL 5.0. Station 10 D1B, (28°44'03"N, 95°15'47"W), 22 July 1982, TL 5.9. Station

10 E2A, same latitude and longitude as holotype, 27 Oct. 1981, TL 7.4. With the exceptions noted above, all specimens are in the reference collection of Texas A&M University at Galveston. All of the specimens were collected at a depth of 21 m.

Etymology

The species is named in honor of its discoverer, Donald Harper.

DISCUSSION

Alpheopsis harperi most closely resembles *A. trispinosus* (Stimpson), a pantropical species. The chelae of both species have similar shapes. However, *A. trispinosus* has teeth on the fingers of the chelae, a longer rostrum, and a groove on the major chela (Banner and Banner, 1973; Gore, 1981). *Alpheopsis shearmii* (Alcock and Anderson) also has similar chelae, but has at least one tooth on the finger and a groove on the major chela (Banner and Banner, 1977). *Alpheopsis shearmii* is known only from the Arabian Sea.

Two other species of *Alpheopsis* besides *A. trispinosus* have been reported from the Gulf of Mexico or the Caribbean region. *Alpheopsis labis* Chace lacks ocular teeth and has teeth on the fingers of the major chela; *A. trigonus* Rathbun has a tricarinate carapace (Chace, 1972). The peculiar toothless fingers of the chelae of *A. harperi* are very different from those of any other snapping shrimp in the coastal area of Texas. The only other alpheids collected off Freeport were *Alpheus floridanus* Kingsley and a broken specimen of *Salmoneus* sp.

Little is known about the natural history of any species of *Alpheopsis*. Specimens have been collected in dredges, grabs, and box cores. Perhaps

members of the genus are shallow burrowers. All of the specimens of *A. harperi* are small for snapping shrimps. None were ovigerous. Perhaps larger individuals are better hidden or buried deeper than the specimens collected to date.

At least twenty-three other alpheidids have been reported from the coast of Texas or from offshore banks. *Alpheus heterochaelis* Say lives among oysters or on jetties (Whitten, Rosene and Hedgpeth, 1950; Fotheringham, 1980). *Synalpheus fritzmuelleri* Coutiere has been collected on oil rigs and at Seven and One-half Fathom Reef (Felder and Chaney, 1979; Fotheringham, 1980). Felder and Chaney (1979) also reported the following species from Seven and One-Half Fathom Reef: *Alpheus armillatus* H. Milne-Edwards, *A. floridanus* Kinglsey, *A. intrinsecus* Bate, *A. thomasi* (?) Hendrix and Gore, *Synalpheus apioceros* Coutiere, *S. goodei* Coutiere, and *S. townsendi* Coutiere. Pequegnat and Ray (1974) listed the following species from the West Flower Garden Bank: *Alpheopsis labis* Chace, *Alpheus amblyonyx* Chace, *A. belli* Coutiere, *A. cristulifrons* Rathbun, *A. cylindricus* Kinglsey, *A. paracrinitus* Miers, *A. peasei* (Armstrong), *Alpheus* unidentified species, *Synalpheus apioceros* (?) Coutiere, *S. herricki* Coutiere, *S. pandionis* Coutiere, *S. townsendi* (?) Coutiere, *S. tanneri* Coutiere, *S. brooksi* (?) Coutiere, *S. disparodigitus* (?) Armstrong, and *S. rathbunae* (?) Coutiere. Verification of the identifications of many of these species cannot be made until more specimens are collected.

LITERATURE CITED

Banner, A.H. and D.M. Banner. 1977. *Alpheopsis shearmii* (Alcock and Anderson): a new combination with a

redescription of the holotype (Decapoda, Alpheidae). *Crustaceana* 32(2): 207-210.

Banner, D.M. and A.H. Banner. 1973. The alpheid shrimp of Australia. Part I: the lower genera. *Rec. Aust. Mus.* 28(15): 291-382.

Chace, F.A. Jr. 1972. The shrimps of the Smithsonian-Bredin Caribbean Expeditions with a summary of the West Indian shallow-water species (Crustacea: Decapoda: Natantia). *Smithson. Cont. Zool.* 98. 179 p.

Felder, D.L. and A.H. Chaney. 1979. Decapod crustacean fauna of Seven and One-half Fathom Reef, Texas: species composition, abundance, and species diversity. *Contr. Mar. Sci.* 22: 1-29.

Fotheringham, N. 1980. Beachcomber's guide to Gulf coast marine life. Gulf Publ. Co., Houston. 124 p.

Gore, R.H. 1981. Three new shrimps, and some interesting records of decapod Crustacea from a deep-water coral reef in the Florida Keys. *Proc. Biol. Soc. Wash.* 94(1): 135-162.

Pequegnat, L.H. and J.P. Ray. 1974. Crustaceans and other arthropods. P. 231-288 *In* T.J. Bright and L.H. Pequegnat, eds. *Biota of the West Flower Garden Bank*. Gulf Publ. Co., Houston.

Whitten, H.L., H.F. Rosene and J.W. Hedgpeth. 1950. Invertebrate fauna of the Texas coast jetties. *Publs. Inst. Mar. Sci. Univ. Texas* 1(2): 53-87.

Williams, A.B. 1965. Marine decapod crustaceans of the Carolinas. *U.S. Fish Wildl. Serv. Fishery Bull.* 65(1): 1-298.