

HARBANSUS SLATTERYI, A NEW SPECIES OF
MYODOCOPINE OSTRACODE FROM THE
GREAT BARRIER REEF OF AUSTRALIA
(PHILOMEDIDAE)

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Abstract.—*Harbansus slatteryi*, new species, is described and illustrated. The specimens were collected from the Lizard Island Group, Great Barrier Reef, Australia. The genus had not previously been recorded from Australia.

The genus *Harbansus* Kornicker, 1978, was proposed for numerous species collected in the Atlantic Ocean, and also in the Pacific Ocean as far west as Hawaii. The present report extends the range farther west and south to the Great Barrier Reef in the Coral Sea off Queensland, Australia.

Harbansus Kornicker, 1978

Type-species.—*Harbansus bradmyersi* Kornicker, 1978.

Harbansus slatteryi, new species

Figs. 1–4

Etymology.—The species is named for Peter N. Slattery who collected some of the specimens.

Material.—Palfrey Island, Lizard Island Group, Great Barrier Reef, Queensland, Australia. Collected by Peter N. Slattery, Sept–Oct 1977: core sample, water depth 12 m, quartz sand substrate, 1 adult female, USNM 157790, holotype; station 8, at far edge of reef flat adjacent to coral head at edge of coral reef, probably exposed only twice a year at extreme low tides, fine to medium fine sand, 5 large cores (each 0.0176 m²) sieved through 500 μ mesh, 1 adult female, USNM 158490, paratype. West of Lizard Island Research Station, off Casuarina Beach, station AC-4A, 27 May 1980, 200–300 yards offshore of sandy beach, small sand patch between coral heads in patch reef near edge, about 2 m deep, 3 adult males, USNM 158491, paratypes, collected by Anne C. Cohen. Lagoon south of Lizard Island, between Lizard Island and Palfrey Island, station AC-6, 28 May 1980, off sandy beach with 1 palm tree, about 200–300 yards from shore, sparse *Thalassia* bed in very silty sand, about 2 m deep, collected by Anne C. Cohen, paratypes: 1 adult male, USNM 158492; 1 adult male, USNM 158627; 1 adult female, USNM 159092; 1 adult male, USNM 159093.

Description of adult female (Figs. 1–3).—Carapace elongate with long narrow rostrum and caudal process (Figs. 1, 2). Ornamentation (Fig. 1): Each valve with 3 horizontal ribs and additional smaller rib near and parallel to anterodorsal margin; on some specimens, anterior end of rib dorsal to adductor muscle attachment area joining anterior end of anterodorsal rib to form small process extending very slightly past anterior end of rostrum (Fig. 1); on other specimens, anterodorsal

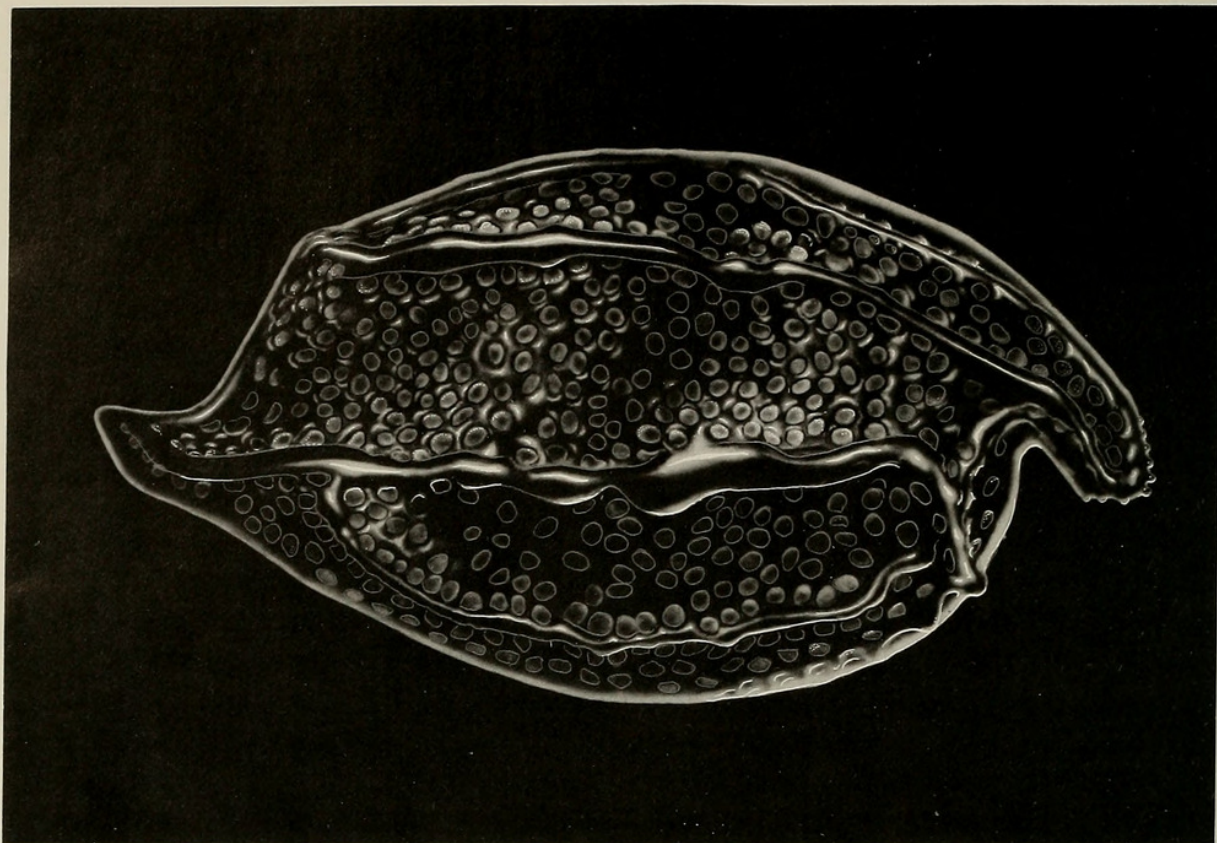


Fig. 1. *Harbanus slatteryi*, adult female, holotype, USNM 157790, lateral view of complete specimen, length 1.00 mm.

rib not reaching anterior margin; midrib passing through area of central adductor muscle attachments; its anterior end bending ventrally to join with anterior end of ventral rib to form small process extending slightly past anteroventral margin of valve; low vertical rib connecting anterior ends of rib dorsal to adductor muscle attachments and midrib. Surface of valves with abundant oval fossae (Fig. 1). Long bristles forming row near distal end of caudal process (Fig. 2c), along ventral margin of each valve, and sparsely distributed over valve surface (these bristles not shown in illustrations).

Infold (Fig. 2): Infold of rostrum with 4 long bristles forming row (Fig. 2a, b); 2 bristles present at inner end of incisure; anteroventral infold with 1 short bristle ventral to inner end of incisure and with ridges paralleling valve margin; inner edge of infold anterior to caudal process with about 6 small bristles; ridge forming anterior end of pocket in caudal process with 6 frondlike bristles forming row (Fig. 2c); 2 minute bristles along posterior edge of caudal process.

Selvage (Fig. 2b): Narrow lamella with short marginal fringe present along dorsal and anterior edges of rostrum (Fig. 2b) and becoming wider along ventral margin of rostrum; narrow lamella with short marginal fringe present along anteroventral edge of valve becoming wider in vicinity of incisure; ventral lamella wide with long marginal fringe; narrow lamella with short fringe present along posterior margin of valve; lamella apparently absent along posterior edge of caudal process.

Size: USNM 157790, length 1.00 mm, height 0.53 mm; USNM 158490, length 1.07 mm, height 0.60 mm; USNM 159092, length 1.08 mm, height 0.57 mm.

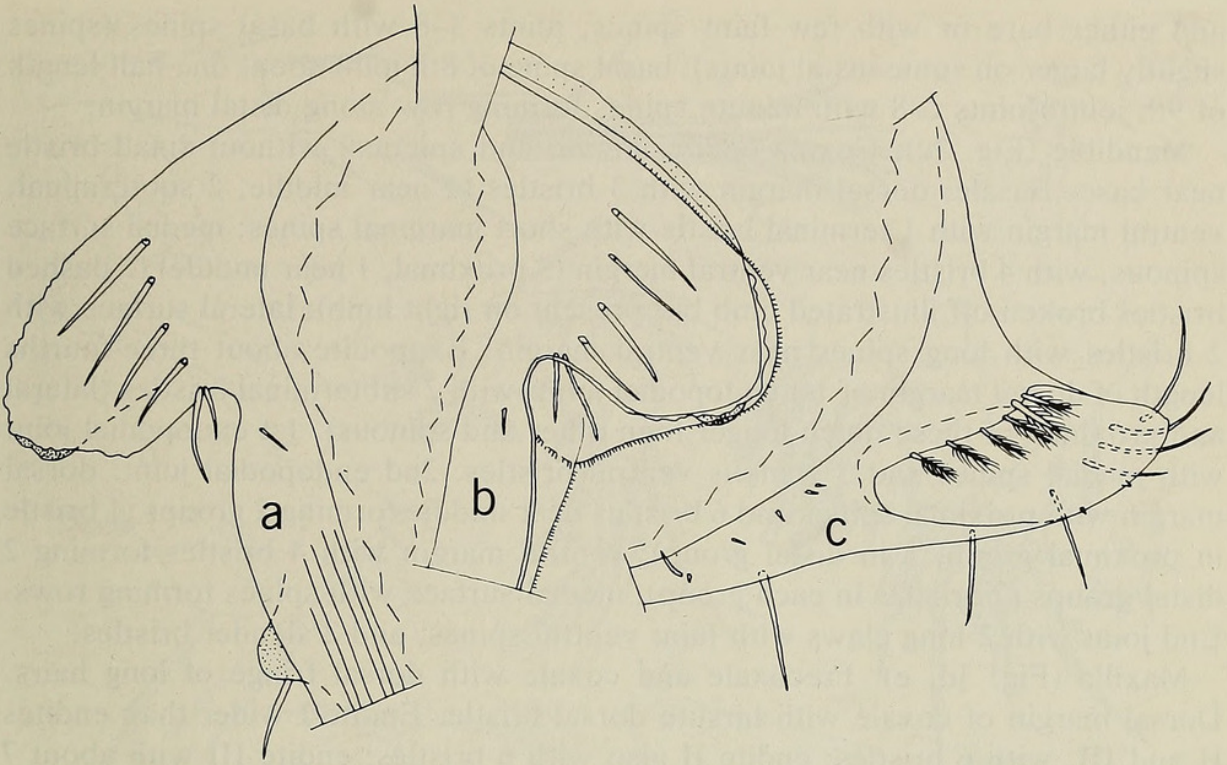


Fig. 2. *Harbanus slatteryi*, adult female, holotype, USNM 157790: a, Anterior of right valve, inside view; b, Rostrum and incisure of left valve, including selvage, inside view; c, Caudal process of right valve, inside view.

First antenna (Fig. 3a): Joints 1–4 with surface spines forming rows. 2nd joint with 1 dorsal bristle. 3rd joint short, with 3 bristles, 1 ventral, 2 dorsal. 4th joint elongate, with terminal bristles, 2 ventral, 1 dorsal. 5th joint elongate; sensory bristle with 2 short proximal filaments, 3 longer distal filaments, and 2 minute spines at tip. 6th joint fused with 5th, with 1 small medial bristle. 7th joint: a-bristle about twice length of bristle of 6th joint; b-bristle about twice length of a-bristle, shorter than sensory bristle of 5th joint, with 1 distal marginal filament, and tip with 2 minute spines; c-bristle with 1 short proximal filament and 1 short and 2 long distal filaments. Eighth joint: d- and e-bristles about same length as sensory bristle, bare with blunt tips; f- and g-bristles about same length as sensory bristle; f-bristle with 1 short proximal filament and 3 longer distal filaments, and with 2 minute spines at tip; g-bristle with 1 short proximal filament and 2 longer distal filaments, and with 2 minute spines at tip; all filaments on bristles of joints 5, 7, 8 with spine at tip.

Second antenna (Fig. 3b): Protopodite with few faint spines forming rows on medial and lateral surfaces near dorsal margin. Endopodite 2-jointed: 1st joint with 2 short proximal anterior bristles; 2nd joint elongate with bare rounded or tapering tip and 1 long spinous ventral bristle. Exopodite: Elongate 1st joint with 1 minute terminal medial bristle; bristle of 2nd joint reaching past 9th joint, with about 10 stout ventral spines followed by numerous slender ventral spines; bristles of joints 3–7 with few long proximal dorsal hairs; bristles of joints 3–8 with stout proximal ventral spines followed by long natatory hairs on both margins; 9th joint with minute lateral tooth and 3 bristles: 1 long with stout proximal ventral spines and distal natatory hairs, 1 medium with short marginal spines, 1 short

and either bare or with few faint spines; joints 3–8 with basal spines (spines slightly larger on some distal joints); basal spine of 8th joint about one-half length of 9th joint; joints 2–8 with minute spines forming row along distal margin.

Mandible (Fig. 3c): Coxale endite hirsute and spinous, without small bristle near base. Basale: dorsal margin with 3 bristles (1 near middle, 2 subterminal; ventral margin with 1 terminal bristle with short marginal spines; medial surface spinous, with 4 bristles near ventral margin (3 proximal, 1 near middle) (2 dashed bristles broken off illustrated limb but present on right limb); lateral surface with 2 bristles with long spines near ventral margin. Exopodite about three-fourths length of dorsal margin of 1st endopodial joint, with 2 subterminal bristles (lateral and proximal of these much longer than other and spinous). 1st endopodial joint with medial spines and 3 spinous ventral bristles. 2nd endopodial joint: dorsal margin with proximal spines and 6 bristles near middle forming 2 groups (1 bristle in proximal group, 5 in distal group); ventral margin with 4 bristles forming 2 distal groups (2 bristles in each group); medial surface with spines forming rows. End joint with 2 long claws with faint ventral spines, and 3 slender bristles.

Maxilla (Fig. 3d, e): Precoxale and coxale with dorsal fringe of long hairs. Dorsal margin of coxale with hirsute dorsal bristle. Endite I wider than endites II and III, with 6 bristles; endite II also with 6 bristles; endite III with about 7 distal bristles and 1 proximal lateral bristle. Basale with 3 bristles along distal margin. Exopodite small, with 3 bristles (2 long, 1 short) (Fig. 3e). Endopodite: 1st joint with 1 spinous alpha-bristle and 2 beta-bristles (beta-bristles obscure and number approximate); end joint with about 7 claws and bristles.

Fifth limb (Fig. 3f–h): Endite I with 1 bristle; endite II with about 5 bristles; endite III with 6 or more bristles. Exopodite: 1st joint with main tooth consisting of 3 bilobed teeth and 2 pointed smooth peglike teeth, 1 at each end of the bilobed teeth (Fig. 3f, g); 1 small spinous bristle proximal to inner peglike tooth; additional bristles on 1st joint obscure; large tooth of 2nd joint triangular with large node near middle of inner margin (Fig. 3h); bristles of 2nd joint obscure; 3rd joint with 2 bristles on outer lobe and 3 on inner lobe; 4th and 5th joints fused, hirsute, with total of 6 bristles.

Sixth limb (Fig. 3i): 1 short spinous bristle in place of epipodial appendage; endite I small, with 2 short spinous bristles; endite II narrow, with 3 spinous terminal bristles; endite III broad with 6 spinous terminal bristles; endite IV broad with 5 spinous terminal bristles; end joint not prolonged posteriorly, with 5 or 6 bristles (3 or 4 anterior bristles spinous, 2 posterior bristles hirsute); limb hirsute.

Seventh limb (Fig. 3j): Each limb with 6 bristles (2 proximal, 4 terminal), each bristle with marginal spines and 1–4 bells; terminal comb with about 5 recurved teeth; 4 or 5 short pegs present opposite comb.

Furca (Fig. 3k): Each lamella with 6 claws; claws 1, 2, 4 stout, claw 3 and claws following claw 4 slender. Claw 1 with teeth along posterior edge and also with fairly large medial teeth forming row; distal medial tooth especially prominent; remaining main claws with teeth along posterior edge; edge of lamella following claw 6 hirsute.

Bellonci organ (Fig. 3l): Elongate with rounded tip and 2 or 3 weak proximal sutures.

Eyes (Fig. 3l): Medial eye with light brown pigment. Lateral eye small, unpigmented, with 2 light-amber ommatidia.

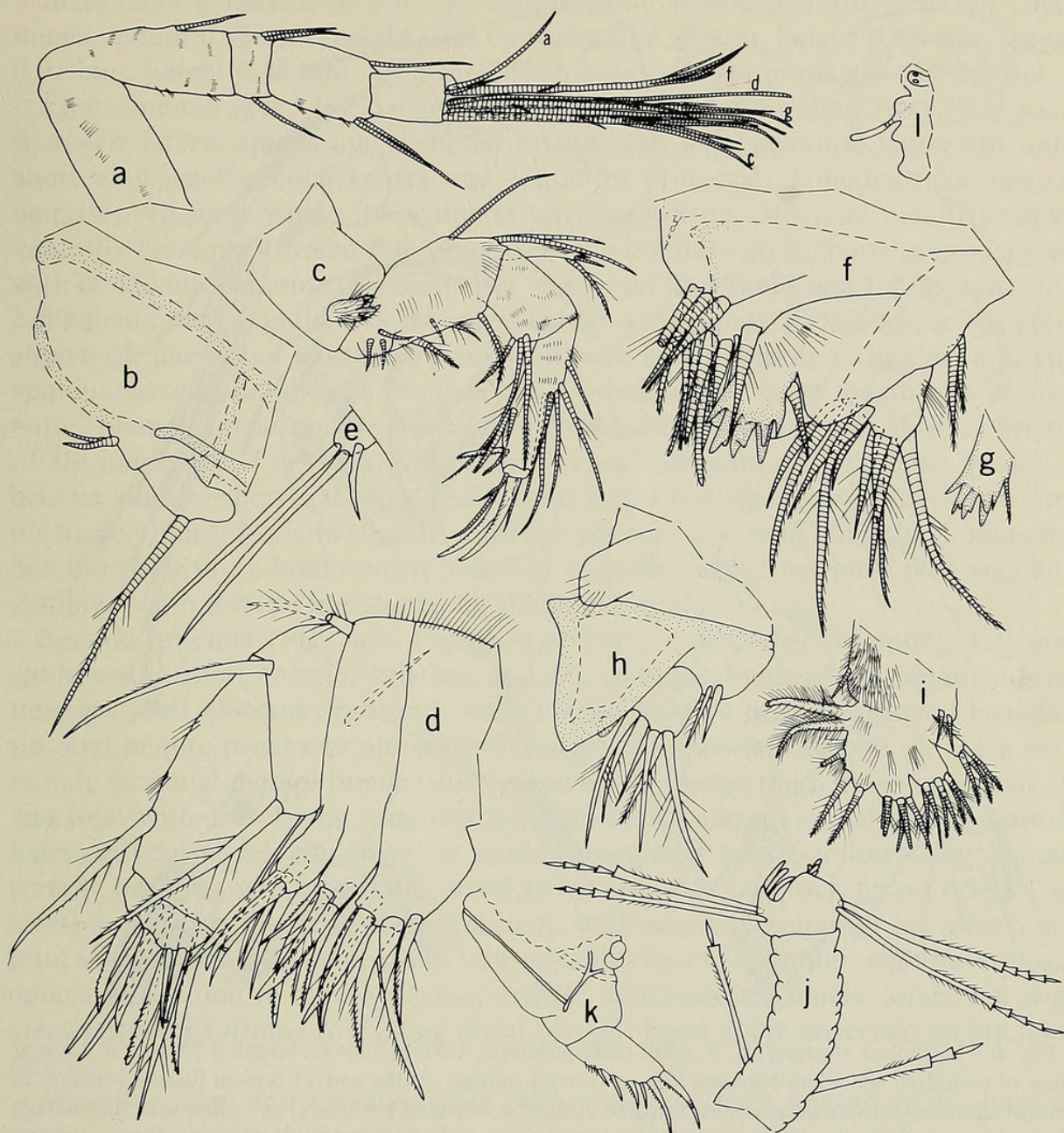


Fig. 3. *Harbanus slatteryi*, adult female, holotype, USNM 157790: a, Left 1st antenna, medial view; b, Endopodite and distal part of protopodite of left 2nd antenna, lateral view; c, Left mandible, medial view; d, Right maxilla, medial view; e, Exopodite of right maxilla, medial view as seen through limb shown in "d"; f, Distal part of left fifth limb, anterior view; g, Detail of tooth of 1st expodal joint of 5th limb shown in "f"; h, Distal part of right 5th limb, tooth of 1st expodal joint not shown (posterior view); i, 6th limb; j, 7th limb; k, Posterior of body showing right lamella of furca, right genitalia, right Y-sclerite, right segment of girdle; l, Anterior of body showing left lateral eye, medial eye and bellonci organ, and upper lip.

Upper lip (Fig. 3l): Consisting of single lobe.

Genitalia (Fig. 3k): Consisting of sclerotized ring on each side of body, each with attached spermatophore.

Y-sclerite (Fig. 3k): Typical for genus.

Eggs: USNM 157790 with 3 eggs in marsupium; USNM 158490 with 2 eggs.

Description of adult male (Fig. 4).—Except for having a slightly broader ros-

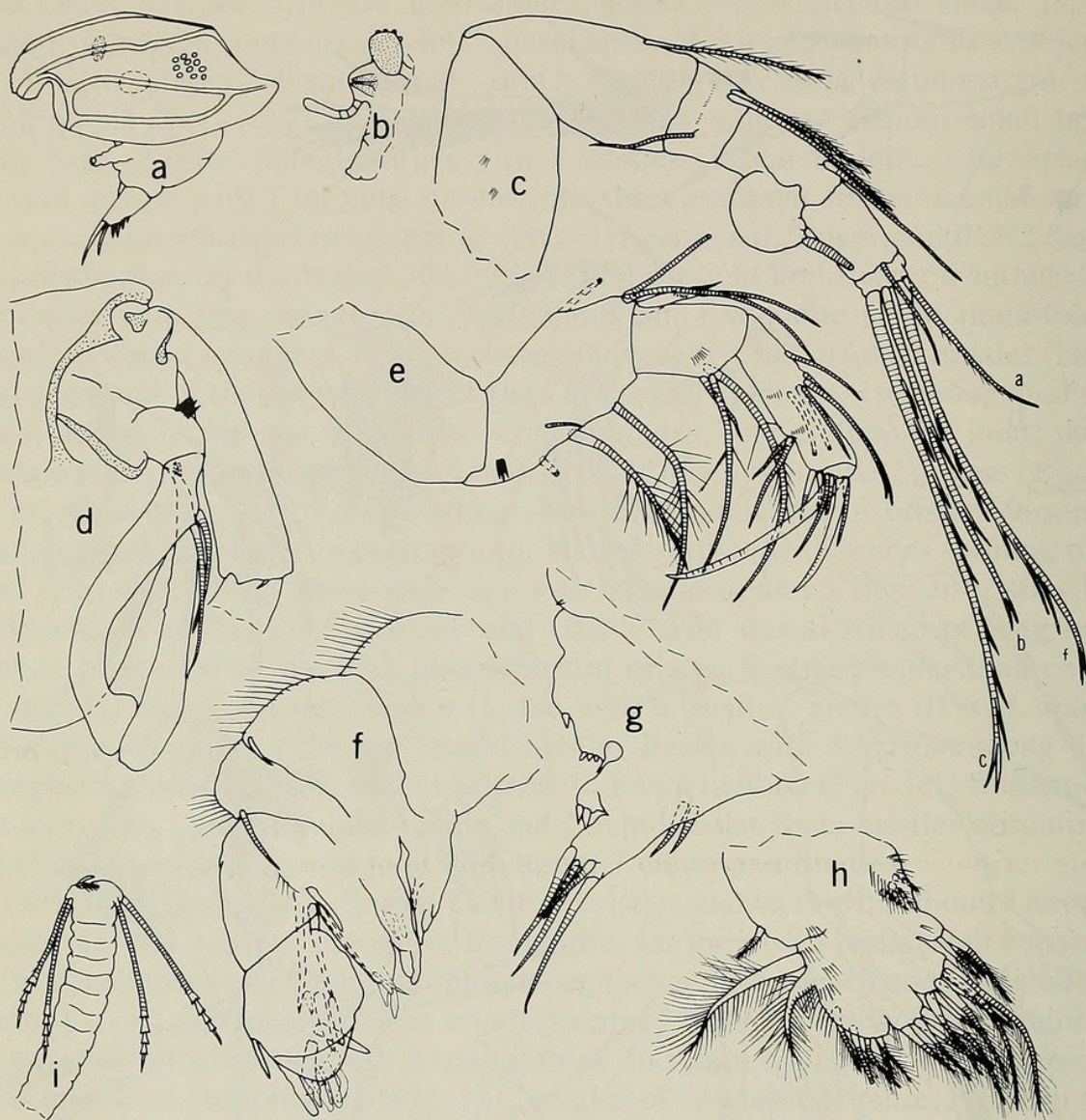


Fig. 4. *Harbanus slatteryi*, a, b, adult male paratype, USNM 158492, length 0.95 mm; a, Lateral view of complete specimen showing left valve with outline of ribs and 11 typical fossae, position of central adductor muscle attachments (dashed circle), position of left lateral eye (stippled), left lamella of furca, and left copulatory organ; b, Anterior of body showing left lateral eye with few ommatidia along dorsal margin, medial eye and bellonci organ, and upper lip. c-i, Adult male paratype, USNM 158627, length 0.97 mm: c, Left 1st antenna, medial view; d, Endopodite, distal part of protopodite, 1st joint of exopodite of left 2nd antenna, medial view; e, Left mandible, medial view; f, Maxilla; g, Distal part of 5th limb; h, 6th limb; i, 7th limb.

trum and caudal process, carapace of male similar in shape and ornamentation to that of adult female (Fig. 4a).

Infold: Infold of rostrum with 4 long bristles; 2 bristles present at inner end of incisure; anteroventral infold with 1 short bristle ventral to inner end of incisure and with ridges paralleling valve margin; inner edge of infold anterior to caudal process with about 4 small bristles; ridge forming anterior edge of pocket in caudal process with 5 or 6 frondlike bristles forming row; 2 or 3 minute bristles forming row along posterior edge of caudal process.

Selvage: Similar to that of female.

Size: USNM 158492, length 0.95 mm, height 0.46 mm; USNM 158491, 3 specimens, length 0.98 mm, height 0.48 mm, length 0.94 mm, height 0.45 mm, length 0.95 mm, height 0.48 mm; USNM 158627, length 0.97 mm, height 0.47 mm.

First antenna (Fig. 4c): 1st joint with medial spines forming rows. 2nd joint with few lateral spines and 1 dorsal bristle with long marginal hairs. 3rd joint short with small medial spines and 3 bristles (2 dorsal, 1 medial near ventral margin); 4th joint with 1 bare dorsal terminal bristle. 5th joint small, wedged ventrally between 4th and 6th joints; sensory bristle with bulbous proximal part with abundant filaments (filaments not shown on illustrated limb), and stem with 3 filaments near middle and 2 minute spines at tip (only proximal part of stem shown on illustrated limb). 6th joint with bare medial bristle. 7th joint: a-bristle spinous, longer than bristle of 6th joint; b-bristle about twice length of a-bristle, with 2 filaments near middle and bifurcate tip; c-bristle longer than sensory bristle of 5th joint, with 7 or 8 marginal filaments and bifurcate tip. 8th joint: d- and e-bristles slightly shorter than c-bristle, bare with blunt tips (bristles not shown on illustrated limb); f-bristle slightly shorter than c-bristle, with 6 marginal filaments and bifurcate tip; g-bristle same length as c-bristle, with 5 marginal filaments and 2 spines at tip (bristle not shown on illustrated limb).

Second antenna (Fig. 4d): Protopodite bare. Endopodite 3-jointed: 1st joint short with 4 short anterior bristles; 2nd joint elongate with 2 long proximal bristles; 3rd joint elongate, reflexed, with 2 small bristles near sclerotized beaklike tip, and minute processes along inner margin. Exopodite: 1st joint elongate with minute terminal medial bristle; 2nd joint slightly longer than 3rd joint; bristle of 2nd joint with 3 or 4 long proximal hairs on dorsal margin and about 6 proximal hairs on ventral margin; hairs on ventral margin of bristle followed by 3 stout spines; both margins of bristle distal to spines with natatory hairs; bristles of joints 3–8 longer than bristle of 2nd joint, with natatory hairs but no spines; 9th joint with 3 bristles (1 long, stout, with natatory hairs; 1 medium with few ventral spines in addition to natatory hairs; 1 short with natatory hairs); joints 2–8 with slender spines forming row along distal margin; basal spine observed on 8th joint only.

Mandible (Fig. 4e): Coxale endite represented by faint minute spine. Basale: medial surface with 4 short bristles near ventral margin (3 proximal, 1 near middle); ventral margin with 3 long spinous bristles (2 proximal of these with bases on lateral surface slightly inward from ventral margin); dorsal margin with 3 long bristles, 1 near middle, 2 terminal. Exopodite spinous, reaching past middle of dorsal margin of 1st endopodial joint, with 1 long and 1 short bristle. 1st endopodial joint with few medial spines and 3 ventral bristles (2 long, 1 short). 2nd endopodial joint: medial surface with spines forming rows; ventral margin with bristles forming 2 distal groups, each with 2 bristles; middle of dorsal margin with 6 bristles. End joint with 2 stout claws and 3 bristles (1 dorsal, lateral; 2 ventral).

Maxilla (Fig. 4f): Limb reduced and with weakly developed bristles.

Fifth limb (Fig. 4g): Epipodial appendage with 35 bristles. Endites weakly developed with few bristles. Exopodite: 3rd joint with 2 ringed outer bristles, inner bristles obscure; remaining joints obscure, with total of about 5 bristles.

Sixth limb (Fig. 4h): A single spinous bristle in place of epipodial bristle. Endite I with 3 bristles; endite 2 with 3 terminal bristles; endite III with 5 or 6 bristles;

endite IV with 4 or 5 bristles. End joint not prolonged posteriorly, with 6 or 7 bristles (4 or 5 anterior bristles either spinous, hirsute, or with long proximal hairs and short distal spines; 2 posterior bristles stout, hirsute); limb hirsute.

Seventh limb (Fig. 4i): 4 bristles in terminal group, 2 on each side, each with 4 bells; some bristles with few faint, distal, marginal spines; proximal bristles absent. Terminus with comb of 3 teeth, each lateral tooth with long proximal spines; surface opposite comb without pegs.

Furca (Fig. 4a): Similar to that of female except claw 1 without stout, distal, medial tooth present on female.

Bellonci organ (Fig. 4b): Elongate with round tip and about 4 proximal sutures.

Eyes (Fig. 4b): Medial eye bare with reddish brown and black pigment. Lateral eye about same size as medial eye or slightly larger, with about 7 ommatidia but difficult to count because of black pigment.

Upper lip (Fig. 4b): Consisting of single lobe.

Genitalia (Fig. 4a): Each copulatory limb elongate, lobate, with terminal process with marginal teeth.

Y-sclerite: Similar to that of female.

Comparisons.—Previously described species of *Harbansus* having lateral ribs on the carapace are *H. paucichelatus* (Kornicker, 1958:233), *H. bradmyersi* Kornicker (1978:24), and *Harbansus* species B (Kornicker, 1978:49). The adult females of the last two species differ from the new species *H. slatteryi* in not having natatory hairs on the exopodal bristles of the 2nd antenna. The adult female mandible of *H. slatteryi* differs from all previously described species of the genus in having only two claws instead of three on the end joint of the mandible. The adult female of *H. slatteryi* bears four or five (usually five) pegs on the tip of the 7th limb compared to only two or three pegs on *H. paucichelatus*.

Acknowledgments

My thanks to the following individuals for their help: Peter N. Slattery, Moss Marine Laboratory, Moss Island, California, and Anne C. Cohen, Department of Invertebrate Zoology, Smithsonian Institution, for collecting specimens studied herein; to Carolyn Bartlett Gast, Smithsonian Institution, for the shaded rendering of the carapace, and to Thomas E. Bowman, Smithsonian Institution, for commenting on the manuscript.

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