

With this number we have exhausted our backlog of material for publication. We think we have been fortunate this year in the quality of the papers presented. It is hoped that their distribution will bring forth some new subscriptions and enable some of the members to secure additional support in the form of advertising for these pages.

The circumstances which resulted in the undue delay in publication of manuscripts received last fall or early in the spring appear now to have been eliminated. We feel confident that better service can be rendered in the future.

So send in those manuscripts and let's get on with this business of making the Florida Entomologist a bigger and better journal. Manuscripts may be submitted by non-members as well as members.

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**A KEY TO THE CRAYFISHES OF THE PICTUS SUBGROUP  
OF THE GENUS *PROCAMBARUS*, WITH THE DESCRIPTION  
OF A NEW SPECIES FROM SOUTH CAROLINA**

(Decapoda, Astacidae)

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The Pictus Subgroup of the Genus *Procambarus*, as defined by Hobbs (1942: 129), comprises six species (including the one described below) which inhabit various types of lotic situations in Florida, Georgia and South Carolina. Ecological data and notes on the distribution of these crayfishes have been summarized by Hobbs (1942 and 1947).

All of the described species of the Pictus Subgroup are poorly known, and in the collection of the Charleston Museum there are at least two undescribed ones which were collected from South Carolina.<sup>1</sup> It seems highly probable that further collecting along the Atlantic Seaboard from Florida to North Carolina will disclose the presence of several other closely related species.

*Procambarus lepidodactylus* sp. nov.

DIAGNOSIS.—Rostrum with lateral spines; acumen long and slender; areola broad with four to six punctations in narrowest part; male with hooks on ischiopodites of third and fourth pereopods; palm of chela of

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<sup>1</sup> A report on the crayfishes in the Charleston Museum is soon forthcoming.

first form male not bearded but bears two or three irregular rows of tubercles; postorbital ridges terminate cephalad in sharp spines; one acute lateral spine present on each side of carapace. First pleopod of first form male reaches coxopodite of third pereopod: *mesial process* with a blade-like edge, and directed caudolaterad and somewhat distad; *cephalic process lateral in position with its cephalic margin lying caudad to the cephalic margin of the central projection*; *caudal element with caudal knob* obsolete, a caudolaterally-excavate *caudal process*, and an *adventitious process*, consisting of a corneous ridge along the mesial side of the central projection; *central projection* a prominent corneous tooth directed at a right angle to the main shaft of the appendage. Sternum of female just cephalad of annulus ventralis trough-like with caudally projecting bituberculate prominences on either side of the median area.

**HOLOTYPIC MALE, FORM I.**—Body subovate, compressed laterally. Abdomen narrower than thorax (9.6 - 10.5 mm. in widest parts respectively). Width and depth of carapace in region of caudodorsal margin of cervical groove subequal.

Areola broad (3.3 times longer than broad) with five or six punctations in narrowest part (punctations widely spaced); cephalic section of carapace about 2.5 times as long as areola (length of areola about 28.6% of entire length of carapace).

Margins of rostrum subparallel at base and converging cephalically to base of acumen; upper surface slightly concave caudad and subplane cephalad, with scattered setiferous punctation, and a row of similar ones along inner sides of margins; margins slightly raised, not swollen, and acumen distinctly set off by acute lateral spines; acumen long and slender, almost reaching distal end of peduncle of antennule; setae on acumen long and extending cephalad slightly beyond its cephalic end. Subrostral ridges clearly defined but not evident in dorsal aspect.

Postorbital ridges prominent, shallowly grooved laterad, and terminating cephalad in long acute spines; suborbital angle not prominent and obtuse; branchiostegal spine well developed and long. Strong acute lateral spine present on either side of carapace. Surface of carapace punctate dorsad and strongly granulate laterad.

Abdomen long than carapace (29.2 - 23.1 mm.).

Cephalic section of telson with four spines in each caudolateral corner.

Epistome broadly triangular and bearded cephalad; an acute spine present on cephalomedian angle.

Antennules of the usual form with a strong acute spine on ventral surface of basal segment.

Antennae extend caudad to caudal margin of fifth abdominal segment. Antennial scale of moderate width with a strong acute spine on outer distal margin; lamellar portion with no distinct angles (see Fig. 9).

Right chela elongate, slender, and covered with setose tubercles and punctations. Inner margin of palm with three poorly defined rows of small squamous tubercles, the middle one consisting of nine. Lower surface of palm with setiferous squamous tubercles. Fingers not gaping. Opposable margin of dactyl with one knob-like tubercle near base; if others are present they are completely obscured by the broad band of

minute scale-like denticles extending the length of the opposable margin (hence the name *lepidodactylus*). Mesial margin of dactyl with a clearly defined longitudinal keel, and with a few scattered tubercles at base; upper surface with a submedian longitudinal ridge; lower surface without a median longitudinal ridge. Opposable margin of immovable finger with a small knob-like tubercle near base and another one just proximad of midlength, and the lower surface bears a longitudinal submedian ridge; otherwise the two fingers are very similar. Both fingers studded with setiferous punctations which give them a hirsute appearance.

Carpus of first right pereopod about 1.7 times longer than broad with a very faint oblique furrow above; surface laterad of furrow punctate, mesiad of it tuberculate; tubercles of mesial upper surface arranged roughly in two rows. Mesial surface, in addition to several small tubercles, with two prominent acute spines—one on cephalic margin, and the other only a short distant caudad to it; cephaloventral margin with two large acute spines, the outer one larger.

Merus of first right pereopod with an irregular longitudinal row of very small tubercles on upper surface, and near distal margin two very prominent acute spines; mesial surface punctate proximad and tuberculate distad; lateral surface punctate; lower surface with two rows of tubercles—an inner row of about 18 only three of which are spiniform, and a poorly defined outer row, three of which are large and spike-like; additional small tubercles present on either side and between these two rows.

Ischiopodites of third and fourth pereopods bearing hooks; hooks large but simple; basiopodite of fourth pereopod with a prominent simple knob-like swelling extending toward terminal end of hook on ischiopodite.

Coxopodites of fourth and fifth pereopods with ventrally projecting prominences—those on fourth moderately heavy and rounded, and directed caudomesiad; those on fifth compressed, plate-like and directed caudolaterad.

First pleopod reaching coxopodite of third pereopod when abdomen is flexed (left pleopod not reaching quite so far cephalad as right one). Mesial process long, slender, somewhat compressed with the distal edge sharp, and directed caudolaterad and somewhat distad. Cephalic process compressed, truncate, and directed caudodistad; the whole process lies laterad of the central projection, and its cephalic margin lies caudad of the cephalic margin of the central projection. Caudal element consisting of (1) the caudal process, a corneous caudolaterally-excavate tooth directed caudodistad and (2) the adventitious process which is a corneous ridge along the mesial margin of the central projection; the caudal knob is obsolete. Central projection a large corneous tooth, the most conspicuous of the terminal elements, acute and directed caudad at approximately a right angle to the main shaft of the appendage.

ALLOTYPIC FEMALE.—Differs from the holotype in the following respects: cephalic section of telson with three spines in each caudolateral corner; chelae weaker than that of male (see measurements); opposable margins of fingers of chelae with a single row of minute denticles; merus of first pereopod with only two spike-like tubercles in outer row on lower

surface (the other tubercles in this row practically obsolete). Annulus ventralis as figured (Fig. 8).

**MORPHOTYPIC MALE, FORM II.**—Differs from the holotype as follows: cephalic section of telson with three spines in the caudolateral corners; outer row of tubercles on merus of first pereopod with only two spike-like ones, others obsolete. First pleopod without corneous terminal elements; caudal element represented by a very small tubercle; cephalic process cephalolateral in position. All secondary sexual characters much reduced.

**MEASUREMENTS.**—**HOLOTYPE:** carapace, height 10.0, width 10.5, length 23.1 mm.; areola, width 2.0, length 6.6 mm.; rostrum, width 3.4, length 7.0 mm.; abdomen, length 29.2 mm.; right chela, length of inner margin of palm 5.8, width of palm 3.7, length of outer margin of hand 15.0, length of dactyl 7.5 mm. **ALLOTYPE:** carapace, height 10.4, width 10.6, length 23.9 mm.; areola, width 1.6, length 6.4 mm.; rostrum, width 3.6, length 7.8 mm.; abdomen, length 30.4 mm.; right chela, length of inner margin of palm 4.3, width of palm 3.0, length of outer margin of hand 11.6, length of dactyl 5.7 mm.

**TYPE LOCALITY.**—Juniper Creek, a small, clear, moderately swift, sand-bottomed stream flowing through swampy terrain, one mile southwest of Patrick, Chesterfield County, South Carolina, on U. S. Highway 1. Little vegetation was present in the creek where the collections were made, and most of the specimens were taken in a dipnet pushed through the roots of plants growing along the banks. Here *P. lepidodactylus* was associated with an unidentified crayfish of the genus *Cambarus*.

**DISPOSITION OF TYPES.**—The male holotype, the female allotype and the second form male morphotype are deposited in the United States National Museum (Nos. 84198 and 84199). Of the remaining paratypes two first form males, one second form male, three females and three immature females are in my personal collection at the University of Virginia.

**SPECIMENS EXAMINED.**—**South Carolina: Chesterfield County** (Peedee River Drainage)—the type locality—two males, form I, and one female; similar stream, with more abundant vegetation, six miles northeast of Patrick, U. S. Highway 1—one male, form I, two males, form II, two females, two immature females. Both lots were collected on July 28, 1947.

**VARIATION.**—In the few specimens at hand I can detect no decided variations.

**RELATIONSHIPS.**—*Procambarus lepidodactylus* is probably most closely allied to *P. enoplosternum* Hobbs (1947: 5), differing from it principally in the structure of the first pleopod of the male—i.e., in *P. lepidodactylus* the caudal knob is lacking, and the cephalic process is lateral in position. The opposable

margins of the fingers of the chelae with thickly crowded minute denticles and reduced knob-like tubercles are similar to those of *P. pubescens* (Faxon).

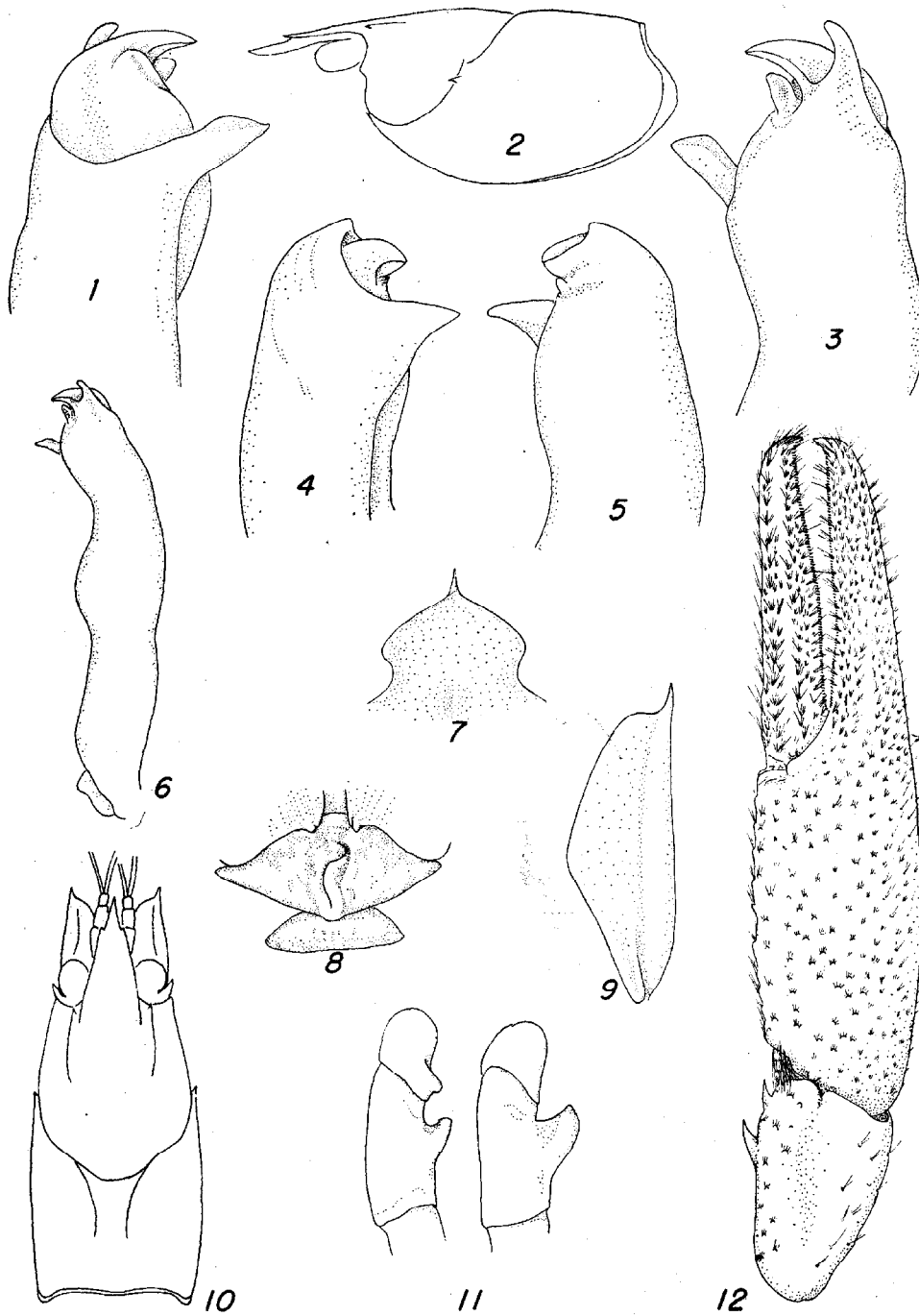
KEY TO THE SPECIES OF THE PICTUS SUBGROUP<sup>2</sup>  
(Based on the First Form Male)

- 1 Length of inner margin of palm of chela greater than length of dactyl; acumen of rostrum as long as or longer than rest of rostrum.....*Procambarus youngi* Hobbs (1942: 131)
- 1' Length of inner margin of palm of chela less than length of dactyl; acumen of rostrum not as long as rest of rostrum..... 2
- 2(1') Cephalic surface of first pleopod with an angular hump at base of cephalic process; caudal knob extending almost as far distad as central projection.....*Procambarus litosternum* Hobbs (1947: 9)
- 2' Cephalic surface of first pleopod with a rounded shoulder; caudal knob, if present, not extending almost as far distad as central projection..... 3
- 3(2') First pleopod with central projection directed caudad; viewed laterally, no distinct gap between bases of the central projection and cephalic process..... 4
- 3' First pleopod with central projection directed caudodistad; viewed laterally, a distinct gap between bases of the central projection and cephalic process..... 5
- 4(3) First pleopod with cephalic margin of cephalic process distinctly cephalad of cephalic margin of central projection; caudal knob clearly defined.....*Procambarus enoplosternum* Hobbs (1947: 5)
- 4' First pleopod with cephalic margin of cephalic process distinctly caudad of cephalic margin of central projection; caudal knob obsolete.....*Procambarus lepidodactylus* sp. nov.
- 5(3') First pleopod with caudal knob knob-like; caudal process viewed caudally a subacute spine; cephalic process directed caudodistad.....*Procambarus pictus* (Hobbs) 1940: 419
- 5' First pleopod with caudal knob in the form of a ridge; caudal process viewed caudally a broad triangular tooth; cephalic process directed distad.....*Procambarus pubescens* (Faxon) 1884: 109

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<sup>2</sup> Hobbs 1942: 129.



## EXPLANATION OF PLATE

*(Procambarus lepidodactylus* sp. nov.)

Pubescence removed from all structures illustrated except in Figure 12.

- Fig. 1. Mesial view of distal end of first pleopod of first form male.  
 Fig. 2. Lateral view of carapace.  
 Fig. 3. Lateral view of distal end of first pleopod of first form male.  
 Fig. 4. Mesial view of distal end of first pleopod of second form male.  
 Fig. 5. Lateral view of distal end of first pleopod of second form male.  
 Fig. 6. Lateral view of first pleopod of first form male.  
 Fig. 7. Epistome.  
 Fig. 8. Annulus ventralis.  
 Fig. 9. Antennal scale.  
 Fig. 10. Dorsal view of carapace.  
 Fig. 11. Basiopodites and ischiopodites of fourth and third pereopods of first form male.  
 Fig. 12. Distal three podomeres of first pereopod of first form male.

A NEW SPECIES OF *GYRETES* FROM WESTERN FLORIDA

(Coleoptera; Gyrinidae)

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The new species of *Gyretes* described below represents a remarkable record for the genus in the Eastern United States. It was at first thought to be *Gyretes sinuatus* LeConte, the only member of the genus reported east of the Rocky Mountains, but comparison with specimens in the United States National Museum and the Museum of Comparative Zoology indicates that its closest allies are South American and Mexican. It may possibly be a chance introduction by commerce, but this seems improbable.

The genus *Gyretes* can easily be distinguished from the other genera of the "whirligig beetles" or "mellowbugs" (Gyrinidae) which occur in North America by the peculiarly elongate last abdominal segment, which is conical and has a row of hairs on the middle of the upper surface.

*Gyretes iricolor* sp. nov.

DIAGNOSIS: A small, iridescent, *Gyretes* with the elytra and pronotum narrowly margined with yellow, and the epipleura yellowish. Elytra truncate in both sexes, the posterior margin convex in the male, concave in the female; sutural angles produced in female but not dehiscent, only slightly produced in male; outer angle of elytral truncation not produced, but forming nearly a right angle. Pubescent border of pronotum and elytra