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PERCINA AUSTROPERCA: A NEW SPECIES OF LOGPERCH (PERCIDAE, SUBGENUS PERCINA) FROM THE CHOCTAWHATCHEE AND ESCAMBIA RIVERS IN ALABAMA AND FLORIDA

By Bruce A. Thompson

The species here designated Percina austroperca, the southern logperch, until fairly recently was poorly represented in museum collections and not well known to ichthyologists. Specimens were collected first by C. L. Hubbs and E. P. Creaser in 1929 from the upper Conecuh River in Alabama, but not reported. Bailey et al. (1954), in discussing the fishes of the Escambia River drainage of Alabama and Florida, first reported a logperch from Florida. They considered it to represent Percina caprodes carbonaria, the designation usually given to logperches from southern United States possessing a red band in the first dorsal fin. Thompson (1978) was the first to recognize the logperch of the Escambia and Choctawhatchee drainages as a distinct species and referred to it as Percina "D". Thompson (1980) reported it as an "undescribed relative" of Percina caprodes, and he (1985) substantiated that it was a new species. The species is now represented by 154 specimens, and is here described and compared to other logperches from the southern United States, subgenus Percina.

The genus Percina Haldeman has eight subgenera. The subgenus Percina is recognized by its distinctive wide-frenumed snout, wide interorbital distance, and barred body. Thompson (1985) provided a key to the species in the subgenus.

1 Coastal Fisheries Institute, Center for Coastal, Energy and Environmental Resources, Louisiana State University, Baton Rouge, LA 70803-7803
MATERIALS AND METHODS

Specimens used in this study were from the collections of the Academy of Natural Sciences of Philadelphia (ANSP); Geological Survey of Alabama (GSA); Illinois Natural History Survey (INHS); Louisiana State University Museum of Natural Science (LSUMZ); Mississippi State University (MSU); Northeast Louisiana University (NLU); Tulane University (TU); University of Alabama (UAIC); Florida Museum of Natural History, University of Florida (UF); University of Michigan Museum of Zoology (UMMZ); University of New Mexico (UNM); University of New Orleans (UNOV); United States National Museum of Natural History (USNM); University of Tennessee (UT); and University of West Florida (UWF).

In addition to type material of the new species, the following comparative material was examined. Numbers in parentheses represent numbers of specimens examined. Complete locality and specimen data may be obtained from the author on request.

Meristics and Body Pattern Comparisons.—Percina "B", Mobile logperch (31, Alabama or lower Tombigbee river drainages): GSA 5301.14 (1), 6936.22 (1), 6942.24 (1), 6985.19 (1), 7405.20 (1), 7417.24 (2), 7433.20 (1), 7439.22 (1), 7757.23 (7); LSUMZ 10346 (4); TU 47773 (1), 168976 (1), 168974 (2), 168978 (1), 168975 (2), 168977 (3); UAIC 7089.17 (1). Percina "C", Gulf logperch (75, Alabama River drainage): TU 32583 (1), 32637 (8), 35326 (3), 35362 (2), 38726 (4), 47507 (1), 56878 (1), 62734 (1), 62784 (2), 62809 (1), 62822 (1), 64553 (1), 64569 (1), 64583 (1), 64617 (1), 64756 (1), 65387 (3), 66315 (5), 66352 (4), 66371 (2), 67429 (1), 68359 (5), 70827 (1), 78558 (1), 80666 (1), 83431 (6), 83516 (1), 90011 (2), 99039 (1), 99929 (1), 99977 (1), 101788 (1), 103549 (1), 108787 (1), 130756 (1), 139680 (1); UAIC 9708.15 (4). Percina c. caprodes, logperch (27, Lower Mississippi River basin): LSUMZ 3311 (1), 4468 (1), 10150 (1), 10342 (18), 10343 (1), 10344 (1), 10345 (3); UNOVC 5907 (1).

Comparative Fin Measurements.—Percina "B", Mobile logperch (20, Coosa, Cahaba, and Black Warrior river drainages): GSA 7687.12 (2); NLU 9640 (2); TU 40608 (1), 69114 (3), 121094 (1); UF 86191 (2), 86214 (2), 91408 (5), 91966 (1), 94173 (1). Percina "C", Gulf logperch (20, Pearl River drainage): TU 39378 (9), 42971 (2), 43020 (3), 56004 (2), 56577 (1), 111570 (3). Percina carbonaria, Texas logperch (20, Colorado River drainage): TU 97397 (20). Percina macrolepid, Bigscale logperch (20, Neches and Rio Grande river drainages); TU 111670 (1), 111805 (4), 111875 (7), 116113 (4), 120560 (1); UNM 7120 (1), 7148 (2).

Counts and measurements were made according to Hubbs and Lagler (1964) except as discussed by Thompson (1985). Measurements were made with needle-point dial calipers and recorded to the nearest 0.1 mm. Lengths for all specimens are expressed as standard length (SL) in millimeters. Logperch bar and body-pattern terminology follow Thompson (1985). Proportional measurements were taken on male and female specimens from both Escambia and Choctawhatchee drainages, but data from the two
drainages were combined when no significant differences were found. All count and measurement differences discussed are significant at the $\alpha = 0.05$ level using student/Newman/Keuls multiple range tests. Names of fish species follow Robins et al. (1991).

Type material is listed as follows: drainage, state, county, catalog number (number of specimens, size range in mm SL), date, and locality. Abbreviations used are: standard compass directions (with "of" deleted), hwy. = highway, km = kilometer(s), standard two letters for states, Co. = county, U.S. = United States, T = Township, R = Range, sec. = section, and trib. = tributary.

**Percina austroperca** new species
Southern Logperch

Figure 1


**PARATYPES.**—a total of 144 specimens from the Choctawhatchee and Escambia River drainages of Alabama and Florida:

**Choctawhatchee River drainage (57 specimens total):** Alabama: Geneva Co.: GSA 5475.21 (1: 115.7 mm SL), 27 Aug 1991, Pea River, upstream from boat launch (TIN, R19E, sec. 12). Florida: Holmes Co.: TU 20412 (4: 90.6-126.1), 12 Jul 1959, Wright's Creek, 10.24 km N Bonifay, Hwy. 177; TU 92376 (1: 51.6), 5 Jul 1973, FL Hwy. 2, 2.4 km W Pittman (T5N, R16W, Sec. 9); TU 101995 (8: 19.9-67.0), 30 Apr 1977, FL Hwy. 2, 2.2 km W Pittman; UAIC 3126 (1: 96.2), 28 Sep 1968, FL Hwy. 2, 2.4 km W Pittman; UAIC 4449.09 (1: 93.6), 21 Oct 1972; 3.6 km N Caryville; UF 55461 (4: 57.3-92.5), 11 Sep 1959, 9.6 km S Geneva, Alabama, FL Hwy. 2 crossing; UF 68961 (1: 78.7), 4 May 1968, Wright's Creek, 9.4 km N Bonifay, FL Hwy. 79 crossing; UF 70996 (3: 68.8-77.2), 4 Nov 1972, Choctawhatchee River, FL Hwy. 2, 9.6 km S Geneva, Alabama; UF 72471 (6: 55.6-63.6), 8 Nov 1969; Choctawhatchee River, FL Hwy. 2, 9.6 km S Geneva, Alabama; UF 73739 (5: 52.2-63.2), 11 Jul 1975, Choctawhatchee River, 4.3 km NW U.S. Hwy. 90 at Caryville. Walton Co.: TU 20558 (6: 42.5-51.8), 16 Jun 1959, Mitchell River, 0.4 km upstream from Choctawhatchee Bay; TU 22728 (8: 62.7-74.8), 27 Oct 1959, Live Oak cut-off, 0.8 km from Choctawhatchee Bay; UF 53098 (2: 58.6-61.6), 8 Oct 1957, Choctawhatchee River, 3.2 km below Morrison Spring Run; UF 55578 (1: 57.9), same data as UF 53098. Washington Co.: TU 20840 (1: 100.7), 24 Jul 1959, Choctawhatchee slough, 0.8 km upstream from Ebro; UF 59044 (1: 120.0), Jul 1960; Holmes Creek, near Vernon; UF 79495 (2:...
Figure 1. A. *Percina australroerca* n. sp., CSA 4045, 34, 125.5 mm SL, paratype male, Conecuh River, Alabama. B. *Percina* "B", Mobile logperch, UF 91966, 135.4 mm SL, tuberculate male, Shoal Creek, Alabama. C. *Percina* "C", Gulf logperch, TU 111570, 97.9 mm SL, male, Pearl River, Louisiana.
95.2-127.0), 3 Nov 1988, Holmes Creek at New Hope, state Hwy. 284; UF 84455 (1: 127.4), 2 Nov 1989, Holmes Creek near New Hope (end of canoe trail).

Escambia River drainage (87 specimens total): Alabama: Covington Co.: GSA 5486.23 (1: 88.3), 29 Aug 1991, Conechu River at head Garitt Lake (T6N, R17E, sec. 30). Escambia Co.: GSA 4043.32 (2: 71.8-79.4), 19 Sep 1991, Conechu River at Pollard (T1N, R9E, sec. 33); GSA 4044.24 (4: 63.3-85.3), 19 Sep 1991, Conechu River at Riverview (T1N, R10E, sec. 9); GSA 4045.34 (6: 71.9-126.4), 20 Sep 1991, Conechu River at Riverview 2 (T1N, R10E, sec. 9); GSA 4067.33 (6: 67.7-117.2), 2 Oct 1991, Conechu River, upstream from Hwy. 4 (T2N, R11E, sec. 35); GSA 4068.34 (1: 79.2), 3 Oct 1991, Conechu River downstream from Hwy. 4 (T2N, R11E, sec. 34); GSA 4291 (6: 100.0-116.7), 17 Aug 1992, Conechu River below Recreational Landing (T2N, R12E, sec. 21); GSA 5222.14 (1: 98.8), 7 Sep 1990, Cedar Creek (T2N, R10E, sec. 13); GSA 5237.22 (1: 113.8), 22 Oct 1990, Murder Creek (T3N, R10E, sec. 26); GSA 5238.10 (1: 104.9), 23 Oct 1990, Sizemore Creek (T2N, R6E, sec. 35); GSA 5483.15 (1: 126.1), 30 Aug 1991, Conechu River, Hwy. 29 (T2N,R13E, sec.6); GSA 5914.22 (1: 67.6), 22 Apr 1981, Little Escambia Creek, Hwy. 31 (T1N, R9E, sec. 30); INHS 86973 (1: 101.4), 24 Jun 1980, Escambia Creek, 6.4 km E Flomaton, Hwy. 29 (T1N, R9E, sec.30); NLU 23431 (2: 77.2-83.2), 5 Apr 1972, Big Escambia Creek, ca. 3.2 km N Little Rock, Escambia Hwy. 27 (T2N, R7E, sec. 16); TU 15954 (2: 123.5-130.1), 18 Jul 1957, Conechu River, 4.8 km SE Flomaton; UF 53777 (3: 88.8-116.3), 27 Aug 1958, Conechu River, 11.2 km N bridge on Hwy. 4, E of Century, at Pollard landing; UAC 53512.19 (2: 107.6-108.6), 9-10 Apr 1969, Big Escambia Creek, I-65, 19.2 km NE Atmore (T2N, R7E, sec. 4); UMMZ 163556 (4: 65.9-69.8), 11 Apr 1941, Big Escambia Creek, below U.S. 31 bridge at Flomaton (T1N, R8E, sec. 33); USNM 331974 (4: 99.3-117.6), same data as GSA 4291; UT 91.1267 (1: 106.2), 6 Oct 1970, same data as UAC 53512.19; UT 91.634 (3: 86.5-101.3), 8 Apr 1972, same data as NLU 23431. Pike Co.: UMMZ 88704 (1: 73.2), 16 Sep 1929, High water pond of Conechu River, 12.8 km W Troy, Hwy. 10. Florida: Escambia Co.: UF 9342 (18), 14 Oct 1954, Escambia River, due E of Pine Barren; UF 53527 (3: 48.6-92.6), 26 Aug 1958, Escambia River, 8.0 km N bridge, FL Hwy. 4, E of Century; UF 55007 (4: 48.8-64.8), 14 Aug 1959, Backwater slough on W bank of Escambia River, 4.3 km E Quintette, FL Hwy 184; UF 84164 (6: 57.1-93.9), 1 Nov 1988, Escambia River, FL Hwy 4 bridge, 1.6 km E Century. Santa Rosa Co.: UF 57730 (1: 61.4), 14 Jan 1960, Mineral Springs Run, 14.4 km SW Jay; UF 73144 (1: 47.8), 13 Jul 1974, Escambia River, 1.6 km downstream from Century-Jay bridge (FL Hwy.4); UF 73435 (2: 77.0-106), 8 Mar 1975, Escambia River, at bar above Look and Tremble Oxbow Lake.

Barrens Cr., Florida: Santa Rosa Co.: UWF 273 (3; 77.6-83.8), 25 Apr 1972, Escambia R. 8.8 km W and 0.8 km S Jay.

DIAGNOSIS.—Percina austroperca (Fig. 1a) is distinguished from all other members of the subgenus Percina Haldeman by the following combination of characteristics: 1) thin red submarginal band in first dorsal fin; 2) nape always entirely scaled; 3) scales absent on top of head and anterior part of breast; 4) prepectoral blotch absent in adults; 5) lateral pattern dominated by thin vertical bars, with nine whole bars developed and anterior whole bars only slightly widened into blotches; and 6) only slight dark gray breeding shading on anterior portion of body.

Percina austroperca is separable from P. jenkinsi, P. macrolepida, P. caprodes semisfasciata, and P. c. caprodes by having a red band in the spinous dorsal fin. Percina austroperca and six other logperches (P. burtoni, P. caprodes fulviaeni, P. carbonaria, P. rex, and the undescribed Mobile logperch Percina "B" and Gulf logperch Percina "C") possess distinct red bands in that fin (Table 1). Percina austroperca is distinguished from P. carbonaria, P. caprodes fulviaeni, P. rex, and Percina "B" (Fig. 1b) in that the red band is thin. Percina austroperca also differs from Percina "B" in possessing higher second dorsal and pectoral fin ray counts (Table 2), and lower diagonal scale counts (Tables 3 and 4). It differs from P. burtoni in having a completely submarginal red band in the spinous dorsal fin, having thin whole and half bars well developed on the body, and always possessing a fully-scaled nape. This last character also separates P. austroperca

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Table 1. Comparison of size and position of the red band in the spinous dorsal fin of male logperches.

<table>
<thead>
<tr>
<th>Species</th>
<th>Band Size</th>
<th>Band Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>P. austroperca</td>
<td>narrow, 20-25% of fin width</td>
<td>submarginal; below black marginal band only slightly narrower than red band along entire length of fin</td>
</tr>
<tr>
<td>P. burtoni</td>
<td>narrow; 20-25% of fin width</td>
<td>marginal; except at posterior fin where thin black band is present</td>
</tr>
<tr>
<td>P. caprodes fulviaeni</td>
<td>wide; 25-35% of fin width</td>
<td>submarginal; thin black band at margin only anteriorly</td>
</tr>
<tr>
<td>P. rex</td>
<td>moderately narrow; 25-30% of fin width</td>
<td>submarginal; thin marginal black band wider at posterior of fin</td>
</tr>
<tr>
<td>P. &quot;B&quot;</td>
<td>very wide; 40-50% of fin width</td>
<td>submarginal; moderately wide black band only entire margin of fin</td>
</tr>
<tr>
<td>P. &quot;C&quot;</td>
<td>narrow; 15-25% of fin width</td>
<td>submarginal; marginal black band can be wider than red band</td>
</tr>
</tbody>
</table>
from *P. caprodes semifasciata*. *Percina macrolepida* has larger scales, is scaled both on the top of the head and most of the breast and often possesses half bars nearly as long as its whole bars. *Percina austroperca* most closely resembles the Gulf logperch, *Percina "C"*, with which it is allopatric. *Percina "C"* (Fig. 1c) shares a thin red band in the spinous dorsal and thin body bars with *P. austroperca* but differs in having lower counts of total dorsal elements, anal rays, total pectoral rays (Table 2), pored lateral line scales (Table 3), diagonal scales (Tables 4 and 5), and caudal peduncle scales (Table 6). *Percina austroperca* also has a higher average vertebral number than *Percina "C"*; the mode being 44 in *P. austroperca* and 43 in *Percina "C"*.

**DESCRIPTION.**—*Percina austroperca* is a large logperch (maximum size 130 mm SL). It is not as robust as other large logperch such as *P. burtoni*, *P.*

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**Table 2. Frequency distributions of fin counts in *Percina austroperca*, *P. "B"*, and *P. "C"*.**

<table>
<thead>
<tr>
<th>Species/Drainage</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>N</th>
<th>MEAN</th>
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<td><strong>DORSAL SPINES</strong></td>
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<td><em>P. austroperca</em></td>
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<tr>
<td>Choctawhatchee</td>
<td>--</td>
<td>--</td>
<td>32</td>
<td>20</td>
<td>--</td>
<td>52</td>
<td>15.4</td>
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<td>9</td>
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<td>97</td>
<td>14.9</td>
<td>0.52</td>
<td>3.5</td>
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<tr>
<td><em>P. &quot;B&quot;</em></td>
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<td>12</td>
<td>16</td>
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<td>75</td>
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<td>--</td>
<td>16</td>
<td>30</td>
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<td>34</td>
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<td>--</td>
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<td>--</td>
<td>1</td>
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<td>9</td>
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<td>32</td>
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<td>31</td>
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<td>6</td>
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Table 2, continued. Frequency distributions of fin counts in *Percina astroperca*, *P. "B"*, and *P. "C"*.

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<td>Species/Drainage</td>
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<th>TOTAL PECORAL RAYS</th>
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<td>Escambia</td>
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<tr>
<td><em>P. &quot;B&quot;</em></td>
</tr>
<tr>
<td><em>P. &quot;C&quot;</em></td>
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</table>

Carbonaria, *P. rex*, and *Percina "B"*. Frequency distributions of fin-ray and scale counts are given in Tables 2 through 6. *Percina astroperca* has intermediate to high meristic counts overall; usually higher than *Percina "C"*, but often lower than *P. jenkinsi* (Thompson, 1985) or *Percina "B"*.

Proportional measurements for adult male and female *P. astroperca* are presented in Table 7. There is no significant sexual dimorphism in most body proportions. Branchiostegals membranes are separate or rarely slightly conjoined in larger adults. The broad frenum and conical overhanging snout characteristic of logperch is present. The cephalic sensory canal system is typical for the subgenus *Percina* (Page, 1977, 1983; Thompson, 1985): one coronal pore, three supratemporal canal pores, four supraorbital canal pores, eight infraorbital canal pores, and ten preoperculumandibular canal pores. All canals are normally uninterrupted and complete.

Dorsal spines usually number 15 or 16, and dorsal rays range from 16 to 18 (modally 17). There are usually the same number of spines as rays, as in *Percina "C"*, or more rays than spines in the dorsal fin, as in *P. caprodes* and *Percina "B"*. This differs from *P. jenkinsi* which has more spines than rays in the two dorsal fins (Thompson, 1985). There are 31-34 total dorsal elements. The anal fin has two (rarely one) spines and 10-12 rays. Total pectoral rays number 30-32, being modally higher than both *Percina "B"* and *Percina "C"*. There is slight geographical variation in pored lateral line scales; specimens from the Choctawhatchee drainage have a higher count than from the Escambia. The
Table 3. Frequency distributions of pored lateral line scales in *Percina austroperca*, *P. "B"*, and *P. "C"*.

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<th>Species/Drainage</th>
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</table>

1 Totals include one count of 102 not shown.
Table 4. Frequency distributions of diagonal (transverse) scale counts in *Percina australoporta*, P. "B", and P. "C".

### Anal Fin to Spinous Dorsal

| Species/Drainage | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | N  | MEAN | SD   | CV  |
|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|
| *P. australoporta* |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |      |      |
| Chocawhatchee    |    |    |    |    | 1  |    | 4  | 15 | 15 | 11 | 5  |    |    |    |    |    |    |    |    |    |    | 52  | 29.9 | 1.38 | 4.6 |
| Escambia         |    |    |    |    |    |    | 4  | 12 | 19 | 31 | 20 | 5  |    |    |    |    |    |    |    |    |    | 95  | 29.9 | 1.37 | 4.8 |
| P. "B"           |    |    |    |    |    |    | 1  | 1  | 2  | 5  | 6  | 6  | 4  | 2  | 2  | 2  | 1  |    |    |    |    |    | 32  | 32.2 | 2.39 | 7.4 |
| P. "C"           |    |    |    |    |    |    | 3  | 4  | 8  | 16 | 24 | 13 | 5  | 2  |    |    |    |    |    |    |    |    | 75  | 23.6 | 1.53 | 6.5 |

### Second Dorsal to Anal Fin

| Species/Drainage | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | N  | MEAN | SD   | CV  |
|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|
| *P. australoporta* |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |      |      |
| Chocawhatchee    |    |    |    |    |    |    | 1  | 1  | 3  | 19 | 19 | 9  |    |    |    |    |    |    |    |    |    | 52  | 24.6 | 1.04 | 4.2 |
| Escambia         |    |    |    |    | 1  | 13 | 27 | 38 | 13 | 3  |    |    |    |    |    |    |    |    |    |    |    | 95  | 23.6 | 1.02 | 4.3 |
| P. "B"           |    |    |    |    |    |    | 1  | 1  | 3  | 12 | 4  | 2  | 1  | 4  |    |    | 3  |    |    |    |    |    | 32  | 26.3 | 2.59 | 9.8 |
| P. "C"           |    |    |    |    | 2  | 8  | 24 | 19 | 17 | 2  | 3  |    |    |    |    |    |    |    |    |    |    | 75  | 19.8 | 1.29 | 6.5 |

### Above Lateral Line

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<th>12</th>
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<th>MEAN</th>
<th>SD</th>
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Table 5. Frequency distributions of "diagonal sum" in Percina australis, P. "B", and P. "C".

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<td>5.8</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>P. &quot;B&quot;</strong></td>
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<tr>
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1 Sum of diagonal scale counts: anal fin-spinous dorsal fin, second dorsal-anal fin, lateral line to spinous dorsal fin insertion.
Table 6. Frequency distributions of caudal peduncle circumference scale counts of *Percina aquilonia*, P. "B", and P. "C".

### ABOVE LATERAL LINE

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<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
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### BELOW LATERAL LINE

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Table 7. Proportional measurements of *Percina austroperca*, expressed as thousandths of standard length.

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<td>Mean</td>
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<td>Thousandths of SL</td>
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</table>

Lateral line count overlaps that of *Percina "B"*, but is significantly higher than *Percina "C"*. Diagonal scales counts are lower than *Percina "B"* but higher than *Percina "C"*. The diagonal sum separates *P. austroperca* from *Percina "C"*, but has about 50% overlap with *Percina "B"*. Caudal peduncle scale counts show a similar pattern, overlapping with *Percina "B"* but showing little overlap with *Percina "C"*.

The total vertebral number is 43-45, with a mode of 44 and a mean a 44.0 (N = 70); no evidence of geographical variation has been observed in this character.

The nape, cheek, and opercle are completely scaled with exposed ctenoid scales. The breast is naked, lacking the large central modified scute(s) found in the subgenera *Swainia*, *Cottogaster*, *Alvordius*, and *Ericosma*. Modified scutes on the pelvic arch usually number 3-7 in males but often are absent in females. The modified midventral row of scutes becomes 2-3 scales wide immediately anterior to the vent, and is well developed in adult males. Scutes number 22-37, with mean = 28.7 in males. Although usually absent in females, up to eight modified scutes towards the posterior section of the belly have been found.
No reproductively active *P. austroperca* have been collected, so little is known about its breeding habits. The holotype, taken 16 January, lacks breeding tubercles but possesses tubercular ridges on the spines and rays of the anal fin. Slight development of these ridges occurs on the ventral surface of the pelvic rays. The specimen is probably a prespawning adult. Collections of small (20-25 mm SL) young-of-the-year taken in early (UMMZ 165154, ANSP 73000) to late (TU 101995) April indicate a spawning season in February and March.

Table 8 compares median fin proportions of *P. austroperca* with other logperches from the southern United States. The only sexual dimorphism in this species is found in the length of the second dorsal fin. This contrasts with several other logperches that are sexually dimorphic in several median fin proportions, particularly in both the second dorsal and anal fin being longer in males. Occasionally, females have larger fins such as the anal fin base in *P. macrolepida*. The strongest dimorphism is found in the two sister species *P. carbonaria* and *Percina “B”*.

COLOR PATTERN.—The body pattern of *P. austroperca* consists of numerous narrow vertical bars. These are dark brown in contrast to the yellow-tan tone of the upper half of the body. The lower body is a pale yellow to light cream, devoid of melanophores. There are 9 whole body bars that are slightly expanded into lateral blotches immediately below the lateral line. The posterior blotches are less elongate than the anterior ones. Between the whole bars are half and quarter bars that are always shorter than the whole bars and are never widened into lateral blotches. The quarter bars are very narrow and are sometimes irregularly missing. Anterior to the spinous dorsal fin there are usually four narrow bars crossing the midline, but sometimes these become broken into “dashes and dots”. A prepectoral blotch is absent. Head pigment is very diffuse. The subocular bar, if present, is usually faint. There are no distinctive markings on either the cheeks or opercles. The upper part of the head and snout has a distinctive pattern of reticulations. *Percina austroperca* does not show the secondary intense blackening on the head and anterior body similar to that found in *P. carbonaria* and other logperches, but nuptial males have yet to be collected.

The spinous dorsal fin of *P. austroperca* has a narrow red band that is always submarginal to a dusky black distal band. Proximal to the red band the fin is usually clear in both sexes. The basal half of the fin has a dark wash on the interspinous membranes that is darker in males than females. The second dorsal fin possesses a series of dashes on the rays that form 3-4 irregular lines across the fin. The edge of the second dorsal fin is dusky, similar to the spinous dorsal fin. The caudal fin pattern is similar to that of the second dorsal, with a series of dashes on the caudal rays forming 3-4 irregular lines across the fin. The anal fin is usually white or translucent, lacking melanophores. The pelvic fins are usually clear, although there is slight secondary darkening on the holotype. The pectoral fins are clear/white with no development of dashes that are present in some logperch species. The
Table 8. Proportional measurements of medial fins for six species of logperch, subgenus *Percina*, measured in thousandths of SL (Mean, Range).

<table>
<thead>
<tr>
<th>Species</th>
<th>First Dorsal Base</th>
<th>Second Dorsal Base</th>
<th>Anal Fin Base</th>
<th>Second Dorsal Fin Length</th>
<th>Anal Fin Length</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>P. austroperca</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>male (18)</td>
<td>326, 305-342</td>
<td>229, 212-249</td>
<td>156, 148-174</td>
<td>282, 268-327</td>
<td>231, 213-250</td>
</tr>
<tr>
<td>female (10)</td>
<td>323, 311-349</td>
<td>227, 210-239</td>
<td>158, 142-170</td>
<td>269, 246-283</td>
<td>220, 206-257</td>
</tr>
<tr>
<td><em>P. &quot;B&quot;</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>male (10)</td>
<td>325, 315-337</td>
<td>221, 216-238</td>
<td>171, 161-180</td>
<td>304, 295-332</td>
<td>269, 252-285</td>
</tr>
<tr>
<td><em>P. &quot;C&quot;</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>male (10)</td>
<td>329, 315-341</td>
<td>209, 197-221</td>
<td>130, 117-143</td>
<td>286, 266-301</td>
<td>239, 213-262</td>
</tr>
<tr>
<td><em>P. macrolepidia</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>male (10)</td>
<td>318, 306-341</td>
<td>224, 196-214</td>
<td>109, 96-119</td>
<td>263, 248-268</td>
<td>206, 194-225</td>
</tr>
<tr>
<td>female (10)</td>
<td>325, 314-348</td>
<td>199, 173-220</td>
<td>115, 103-135</td>
<td>240, 214-262</td>
<td>182, 156-206</td>
</tr>
<tr>
<td><em>P. carbonaria</em></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>male (10)</td>
<td>307, 287-325</td>
<td>231, 216-249</td>
<td>172, 158-188</td>
<td>326, 310-344</td>
<td>277, 261-293</td>
</tr>
<tr>
<td><em>P. jenkinsi 1</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>male (5)</td>
<td>310, 289-322</td>
<td>206, 198-216</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>female (5)</td>
<td>307, 293-320</td>
<td>205, 197-220</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

1 Data from Thompson (1985)
typical large basicaudal spot present in most logperches is very well developed in *P. australperca*.

**SIZE.**—*Percina australperca* is one of the larger logperches, with a known maximum size of 130.1 mm SL. Only three logperches are known to exceed this size: *P. burtoni*, *P. c. caprodes*, and *Percina "B"* all reach 145 to 160 mm SL.

**HABITAT.**—*Percina australperca* appears to prefer rivers and larger creeks. The largest number of specimens have been taken from the main channel of the Conecuh River in southern Alabama. These were collected during the summer from gravel and rubble shoals with permanent current. Three collections (UMMZ 165154, ANSP 73000, TU 101995) include small young-of-the-year *P. australperca* from quiet, backwater areas.

Species collected with *Percina australperca* from three localities in the Choctawhatchee drainage were: *Anguilla rostrata*, *Alosa alabamae*, *Cyprinella venusta*, *Notropis buccatus*, *N. harperi*, *N. longirostris*, *N. texanus*, *N. winchelli*, *Opsopoeodus emiliae*, *Erimyzon succetta*, *Minytrema melanops*, *Moxostoma poecilurum*, *Esox americanus*, *E. niger*, *Fundulus lineolatus*, *F. olivaceus*, *Labidesthes sicculus*, *Lepomis megalotis*, *L. macrochirus*, *Micropterus salmoides*, *Pomoxis nigromaculatus*, *Ammocrypta bifascia*, *Ethoestoma dauisoni*, *Percina nigrofuscata*, and *Trinectes maculatus*. Additional species collected with *P. australperca* from the main Escambia River include: *Macrocheirus cf. aestivalis*, *Capriodes veller*, *Ictalurus punctatus*, *Ambloplites arionnus*, and *Micropterus punctulatus*.

**DISTRIBUTION.**—*Percina australperca* is known from the Choctawhatchee and Escambia River drainages in Alabama and Florida (Figure 2). It is uncommon in the Florida (lower) reach of the Choctawhatchee River and its larger tributaries, but only one specimen (GSA 5475.21) is known from the Alabama portion of the river. It is found throughout the Escambia/Conecuh River and several of its main tributaries, being most common in the middle reaches of the main channel of the Conecuh River in Alabama. This species is allopatric to all other logperch species and is the easternmost logperch on the Gulf coast. *Percina australperca* has a unique range, being the only fish species restricted to the Escambia and Choctawhatchee drainages. Gilbert (1992) showed *Ethoestoma proliare* to have this same range in Florida, but it has a more widespread distribution overall. Several fish species such as *Macrocheirus cf. aestivalis*, *Lepisosteus spatula*, *Ammocrypta bifascia*, and *Ethoestoma dauisoni* are present in the Choctawhatchee and Escambia drainages, but are also found in the coastal rivers and streams between them.

**STATUS.**—Gilbert (1992) categorized *P. australperca* as one of the 13 rare fishes in Florida although few data were available for the species. Alabama has not listed this species in any conservation category. Based on the number of specimens available, particularly from recent collections, a conservation listing for *P. australperca* in Alabama seems unwarranted at present.

**RELATIONSHIPS.**—Relationships within the subgenus *Percina* are incompletely resolved. As noted by Thompson (1985) and Ethier and Starre (1993) the systematics of the subgenus is complex. *Percina australperca* appears
Figure 2. Distribution of *Percina australopsia* in the Choctawhatchee (east) and Escambia (west) drainages in Alabama and Florida. The type locality is marked with an open triangle.

to be the sister species to the undescribed Gulf logperch *Percina "C"*, found in Gulf of Mexico drainages from the Mobile drainage to northern tributaries of Lake Pontchartrain. These two species share thin red bands in the spinous dorsal fin and thin whole and half bars on the body. Both species also often possess well-developed quarter bars. Neither is known to possess tubercles on their body scales nor develop dark breeding pigment on the head, body, or fins. The ancestral form probably occupied Gulf drainages east of the Mississippi River. Populations east of Mobile Bay became *P. australopsia* and more western populations evolved into the smaller, more specialized *Percina "C"*, possessing greatly reduced meristic characters.

ETYMOLOGY.—This species is one of the most southern species of logperch, with the name being derived from the prefix "austral", meaning southern, and "perca", a perch (Jaeger, 1966). The common name, southern logperch, is in reference to this geographic range. Thompson (1985) used Florida logperch as a common name when most records were from that state.
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