Additional Information on Hoploparia bearpawensis Feldmann (Crustacea: Decapoda) from the Bearpaw Shale (Cretaceous: Campanian) of Northeastern Montana

Thomas W. Kammer; Rudolf A. Raff


Stable URL: http://links.jstor.org/sici?sici=0022-3360%28197811%2952%3A6%3C1388%3AAIOHBF%3E2.0.CO%3B2-R

*Journal of Paleontology* is currently published by SEPM Society for Sedimentary Geology.

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at http://www.jstor.org/about/terms.html. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at http://www.jstor.org/journals/sepm.html.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

JSTOR is an independent not-for-profit organization dedicated to and preserving a digital archive of scholarly journals. For more information regarding JSTOR, please contact support@jstor.org.
Hoploparia bearpawensis Feldmann is known to occur only in the zone of Baculites eliasi in the Bearpaw Shale exposed along the shoreline of Ft. Peck Reservoir in northeastern Montana. Specimens of H. bearpawensis are extremely rare and prior to this study only the holotype and one paratype were known (Feldmann, Bishop & Kammer, 1977). Since the original species description, a new specimen was found by E. C. Raff and R. A. Raff among concretions collected along the shoreline of Ft. Peck Reservoir in Secs. 18 and 20, T24N, R40E, Valley County, Montana. Except for poor preservation of the cephalic region, the specimen consists of a complete heterochelous lobster. This specimen forms the basis of the description of the chelipeds, telson and uropods of H. bearpawensis.

A fourth specimen cataloged as H. westoni Woodward was located in the collections of the Chicago Field Museum (PE 3493). This specimen was collected at Ft. Peck Reservoir by Eugene Richardson of the Field Museum. Based on the cephalic groove pattern, the nodose axial ridge on the thoracic midline and the smooth tergal surface of the abdomen, this specimen is assigned to H. bearpawensis.

SYSTEMATIC PALEONTOLOGY
Order Decapoda Latreille, 1803
Suborder Pleocyemata Burkenroad, 1963
Infraorder Astacidea Latreille, 1803
Table I.—Summary of measurements (in mm) taken on *Hoploparia bearpawensis* Feldmann. Abbreviations of measurements are the same as in Text-figs. 6A and 7 from Feldmann, Bishop & Kammer (1977). For PE 3493 the abdomen is too poorly preserved to measure the individual lengths of each somite. Total length of abdomen, including the articulating surfaces, is approximately 44 mm.

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Carapace</th>
<th>Abdomen</th>
<th>Telson</th>
</tr>
</thead>
<tbody>
<tr>
<td>USNM 251320</td>
<td>L1 17.6 L2 1.9 LA1 &gt;3.9 LA2 4.1 LA3 4.6 LA4 5.3 LA5 8.1 LA6 15.8 WA 18.5 HA 17.2 LT 20.0 WT 12.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PE 3493</td>
<td>46.2 20.5 33.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chelipeds

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Manus</th>
<th>Carpus</th>
<th>Merus</th>
</tr>
</thead>
<tbody>
<tr>
<td>USNM 251320</td>
<td>L 14.0 H 7.3</td>
<td>L 8.6 W 7.0</td>
<td>L &gt;13 W 7.0</td>
</tr>
<tr>
<td>LEFT</td>
<td>20.1 13.8</td>
<td>10.5 &gt;6.3</td>
<td>---</td>
</tr>
</tbody>
</table>

Family NEPHROPIDAE Dana, 1852
Genus HOPLOPARIA McCoy, 1849

**HOPLOPARIA BEARPAWENSIS** Feldmann, 1977
Text-fig. 1


**Description.**—Chelipeds heterocheilous, right cheliped larger than left. Manus of right cheliped approximately one half the length of the cephalothorax; flattened, length 1.45 times the height; surface pustulose. Dactylus and fixed finger preserved as stubs, length unknown; two denticles preserved as molds are pustulose. Manus of left cheliped elongate, twice as long as high, approximately two-thirds the length and one-half the height of right manus; surface smooth. Dactylus and fixed finger slim and elongate; denticles are elongate cutting teeth. Carpus of both chelipeds heavily ornamented with coarse spines. Merus poorly known but apparently without ornamentation, best preserved on left cheliped. Ischium unknown.

Telson subrectangular, tapering distally; a single prominent node at the center of the anterior margin; a low ridge extends medially along each lateral margin of the telson. Uropods ovoid; endopod and exopod with a prominent medial ridge originating at the protopod and extending the entire length of the uropod; excluding the medial ridges, the surface of the uropods is smooth.

**Remarks.**—The specimen collected by Raff and Raff does not alter the original description of the cephalothorax and abdomen but it does add new information on the chelipeds and telson of *H. bearpawensis*. A single right cheliped assigned to *Palaeonephrops browni* (Whitfield) by Feldmann, Bishop & Kammer (1977, pl. 2, fig. 5) should probably be assigned to *H. bearpawensis* because of the similar shape and pustulose surface of the manus. The specimen from the Chicago Field Museum is less well preserved and measurements (Table 1) are included to add to the completeness of the description. Position of measurements are the same as shown in text-figs. 6A and 7 of Feldmann, Bishop & Kammer (1977). The specimen collected by Raff and Raff, USNM 251320, is deposited in the Division of Invertebrate Paleontology of the U.S. National Museum of Natural History, Washington, D.C.

**Acknowledgments**

We thank Larry Eichhorn of Lewistown, Montana for directing Raff and Raff to the collecting site, and Rodney M. Feldmann, Department of Geology, Kent State University, who reviewed the preliminary manuscript and assisted with the photography.

**Reference**


Manuscript received February 7, 1978