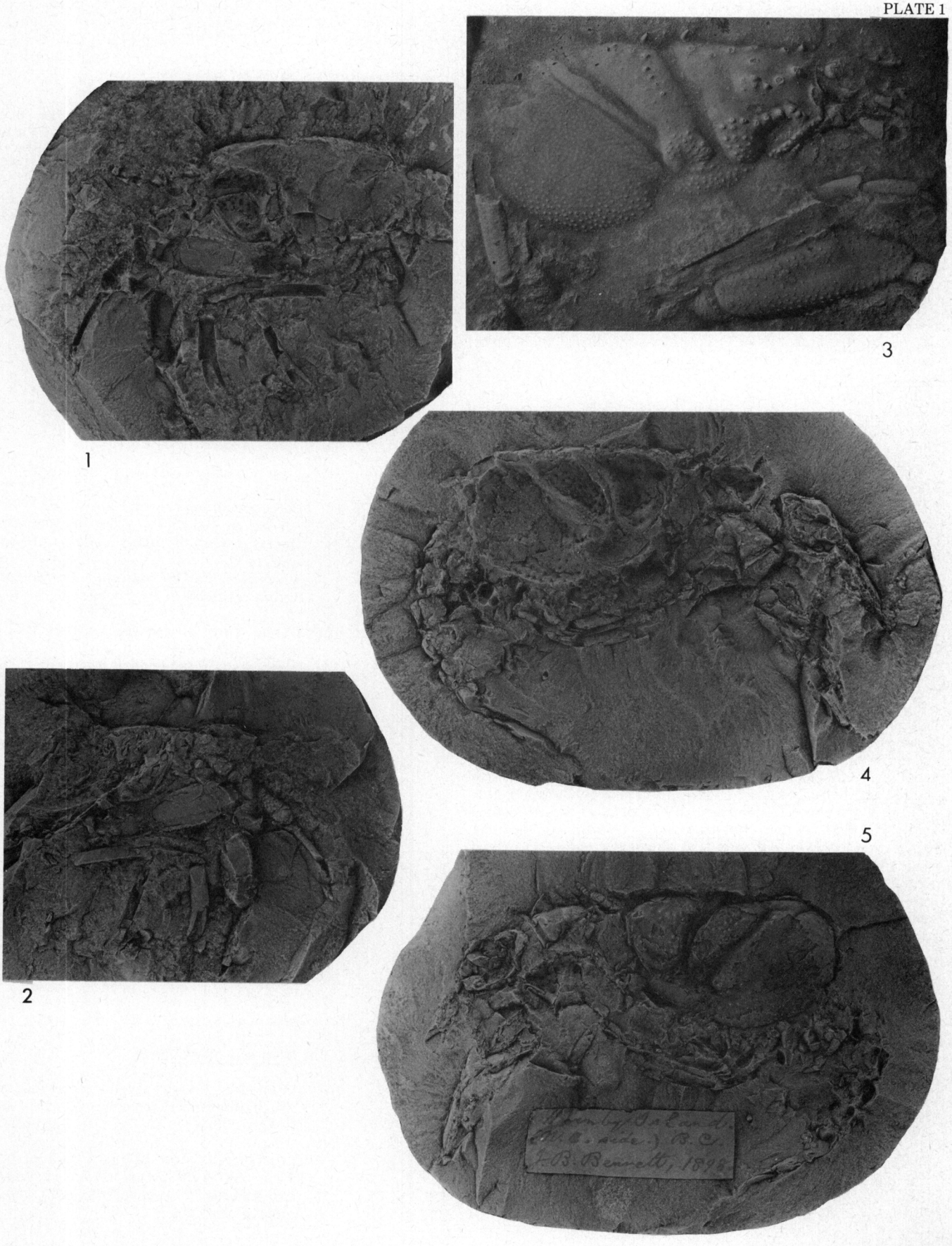

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Examination of Woodward's (1900, Pl. 17, fig. 1a-c) illustration and types of Hoploparia westoni, herein reassigned to Palaeonephrops, suggests that, although there is some similarity in form of Rathbun's and Woodward's specimens, primarily in the abdominal pleura, the morphology of the two is significantly different. The pleural elements of the two species appear to be very similar to one another, although those of H. westoni are poorly preserved. The terga, however, are quite different. The terga of P. browni are characterized by having a pronounced axial keel on all segments and ridges marking the anterior and posterior margins of each segment. These features are apparently absent on H. westoni, although a very faint axial keel may be present on at least the terminal segments. The fifth tergum is ornamented by a row of very small nodes along the dorsal midline and the sixth segment, which is badly crushed on the type specimen, seems to show a broad keel which widens toward the posterior termination. Another apparent difference in the abdominal region between the two species is that the sixth somite of H. westoni is much longer than wide, whereas it is about equant in P. browni. The cephalothorax of Hoploparia westoni does not seem to have the coarse ornamentation characteristic of P. browni, although Woodward (1900, p. 28) stated that the cephalothorax was "tuberculated". The cephalothorax of H. westoni, is, however, incomplete and better material would be necessary to make a complete and proper comparison. The only remnant of the walking legs is the left manus of the first pereiopod which is large, inflated, and covered with coarse tuberculations. The form appears to be more robust than would be typical of P. browni but, because the form of these claws in P. browni is extremely variable (Feldmann et al., 1977, p. 1168), it does not provide a significant point of distinction.

Another specimen appears to be best referred to Palaeonephrops browni. In 1887, Whiteaves described a specimen from Sounding Creek, Alberta and considered it the type of a new species, Palaeastacus(?) ornatus. This species subsequently has been referred to on only two occasions (Whiteaves, 1889; Woodward, 1900). Examination of the type specimen of this species indicates that it is identical to Palaeonephrops browni both in the details of the cephalothorax and that portion of the abdomen which is preserved (compare Pl. 2, fig. 1. and Pl. 2, fig. 10). Palaeastacus(?) ornatus is the senior name by 20 years but, because the name has not been referred to in the literature since 1900 and because Palaeonephrops browni has become firmly established in decapod literature, the former must be considered a nomen oblitum under Article 23 (b) of the International Code of Zoological Nomenclature (1961, p. 23).

Occurrences. Palaeonephrops browni has been collected from the following localities in western Canada:

1. Glenwoodville map area, south bank of Waterton River, 0.8 km below bridge, NW Sec. 23, T4, R28, W of 4th, Alberta; GSC loc. 18430; Field No. 49-1-31 Bearpaw Formation [middle or late Campanian], Late Cretaceous; collected by R.J.W. Douglas, 1949.

2. SE Sec. 7, T20, R12, near T18A, W of 4th(?), Alberta; Bur. Econ. Geol. No. 44999; Bearpaw Formation, Sand E, Campanian, Late Cretaceous; collected by R. Graham.

3. Willow Creek, Alberta(?); hypotype GSC 45739, Benton Shale, Late Cretaceous; collected by Sommers (Feldmann et al., 1977). [Probably from an outcrop of the Alberta Group (Cenomanian to Santonian) at the headwaters of Willow Creek.]

4. Misty Hills, T37(?), R5(?), W of 4th(?), Alberta; hypotype GSC 45740; Late Cretaceous; collected by G.S. Hume, Oct. 3, 1935 (Feldmann et al., 1977). [If the co-ordinates are correct, this refers to Neutral Hills, Bearpaw Formation (Campanian).]

5. South of Pincher Creek, NE Sec. 26, T4, R1, W of 5th, Alberta; sandstone in Benton Formation [Wapiabi Formation (Santonian or possibly Coniacian)], Cretaceous; collected by A.O. Hayes, July 6, 1920.

6. Sounding Creek, T30, R8, W of 4th, Alberta; holotype (of Palaeastacus ornatus) GSC 12397 [Bearpaw Formation (Campanian or possible early Maastrichtian)], Late Cretaceous; collected by J.B. Tyrrell, 1886 (Whiteaves, 1887).

7. Sec. 32, T6, R22, W of 4th, Alberta; Catalogue No. 409 (University of Alberta?); Bearpaw Shale, 71.9 m above base, L.S. 4, Late Cretaceous; collected by J.O.G. Anderson (Rathbun, 1930, p. 180).

PLATE 2

All figures x1, unless otherwise indicated

Figures 1, 10. Palaeonephrops browni (Whitfield)

1. Dorsal view of plaster cast of holotype GSC 12397, of Palaeastacus(?) ornatus Whiteaves, nomen oblitum. The specimen is herein referred to P. browni.

10. Dorsal view of syntype, AMNH 9572, of P. browni. This specimen was collected 200 km northwest of Miles City, Montana, U.S.A. by Barnum Brown in 1908.

Figures 2-7. Palaeonephrops westoni (Woodward)

2, 4, 5. Dorsal, lateral, and posterior views of part of the syntype GSC 5377, showing last four abdominal segments and the telson.

3. Left lateral view of part of the syntype GSC 5377a, showing posterior part of the cephalic region and anterior part of the thoracic region.

6. Left lateral view of part of syntype GSC 5377, showing posterior part of cephalothorax and first two somites of the abdomen.

7. Upper surface of the left manus of the first propodus, syntype GSC 5378.

Figures 8, 9. Glyphea robusta n. sp.

8. Left lateral view of endophragmal skeleton, x4, photographed from latex cast of holotype GSC 61398.

9. Left lateral view of latex cast of holotype, x1.5, GSC 61398, showing entire left side of exoskeleton and endophragmal skeleton, in molted position.