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Nominated neotype specimen for a decapod crustacean, *Neptunus vectensis* Carter, 1898 from the Oligocene of the Isle Wight, Hampshire, U. K.

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Abstract

James Carter first described *Neptunus vectensis* (now *Portunus vectensis*) in 1898 from several specimens, two of which were in the Woodwardian Museum, Cambridge, UK. All specimens he studied came from the Hampstead Beds, Isle of Wight, one of which was a partially preserved underside. Unfortunately, none of the specimens which Carter originally used can now be found (Quayle and Collins, 2012); therefore, a recently obtained and better-preserved specimen (IWCMS: 2020.424) is designated as the neotype for *Neptunus vectensis* and allows to re-describe the species.

Key words: Portunidae, *Portunus*, neotype, Cenozoic

Introduction

The specimens used in the original description by Carter (1898) can no longer be traced (pers. comm., M. Riley, Sedgwick Museum, Cambridge in 2012 and again 2020). No other type material is believed to be in existence. Specimens which we have at the present time are currently held in the Natural History Museum and Dinosaur Isle (Museum of Isle of Wight Geology) (NHM IC 614, IC 615 and MIWG 6284; Quayle and Collins, 2012), which have all been collected recently and are incomplete specimens. In addition to this, the original specimen figured by Carter (1898) was also incomplete, with the lateral spines and parts of the margin missing, which would account for the measurement “a fourth wider than long” in Carter's original description.

Karasawa et al. (2008: 108) carried out a detailed study of the Portunoidea Rafinesque, 1815, and stated “Evaluation of all of the fossil species of *Portunus* is

beyond the scope of this paper” and continued “a revision of all of the species, at least the extinct ones, currently referred to the genus seems to be warranted.” At that time Karasawa et al. (2008: 127) moved *Neptunus vectensis* to *Portunus* Weber, 1795 because *Neptunus* De Haan, 1833, is considered a junior objective synonym of *Portunus* (ICZN Opinion 394).

The purpose of this note is to designate a neotype for *Neptunus vectensis* and re-describe it. The specimen is housed in the Dinosaur Isle, Sandown, Isle of Wight (IWCMS).

Systematics

Family Portunidae Rafinesque, 1815

Genus *Portunus* Weber, 1795

Type Species: *Cancer pelagicus* Linnaeus, 1758, by selection by Rathbun (1926: see Opinion 394, Inter-

national Commission of Zoological Nomenclature, 1956, name 986 on Official List).

***Portunus vectensis* (Carter, 1898)**

(Fig. 1)

Neptunus vectensis Carter, 1898, p. 33, fig. 2.

Portunus vectensis (Carter); Karasawa et al., 2008, p. 127; Quayle and Collins, 2012, p. 41, pl. 3, figs. 13a–15; Collins et al., 2020, p. 45, fig. 10I.

Revised diagnosis: Carapace slightly granulate, oval, length, nearly half the width: front dentate with

six teeth (includes the large pre-orbital spines): anterolateral margin with a large postorbital spine and eight other spines, the last lateral spine being longer and larger than the other spines. Chelipeds massive: propodi and dactyli of fifth pereiopods ovate.

Material: The specimen (IWCMS: 2020.424) is derived from the Cranmore Member of the Bouldner Formation (Rupelian), Isle of Wight. The stratigraphic horizon of the present material corresponds to the Hampstead Beds (*Corbula*-bed) of Carter (1898). A neotype for *Neptunus vectensis*

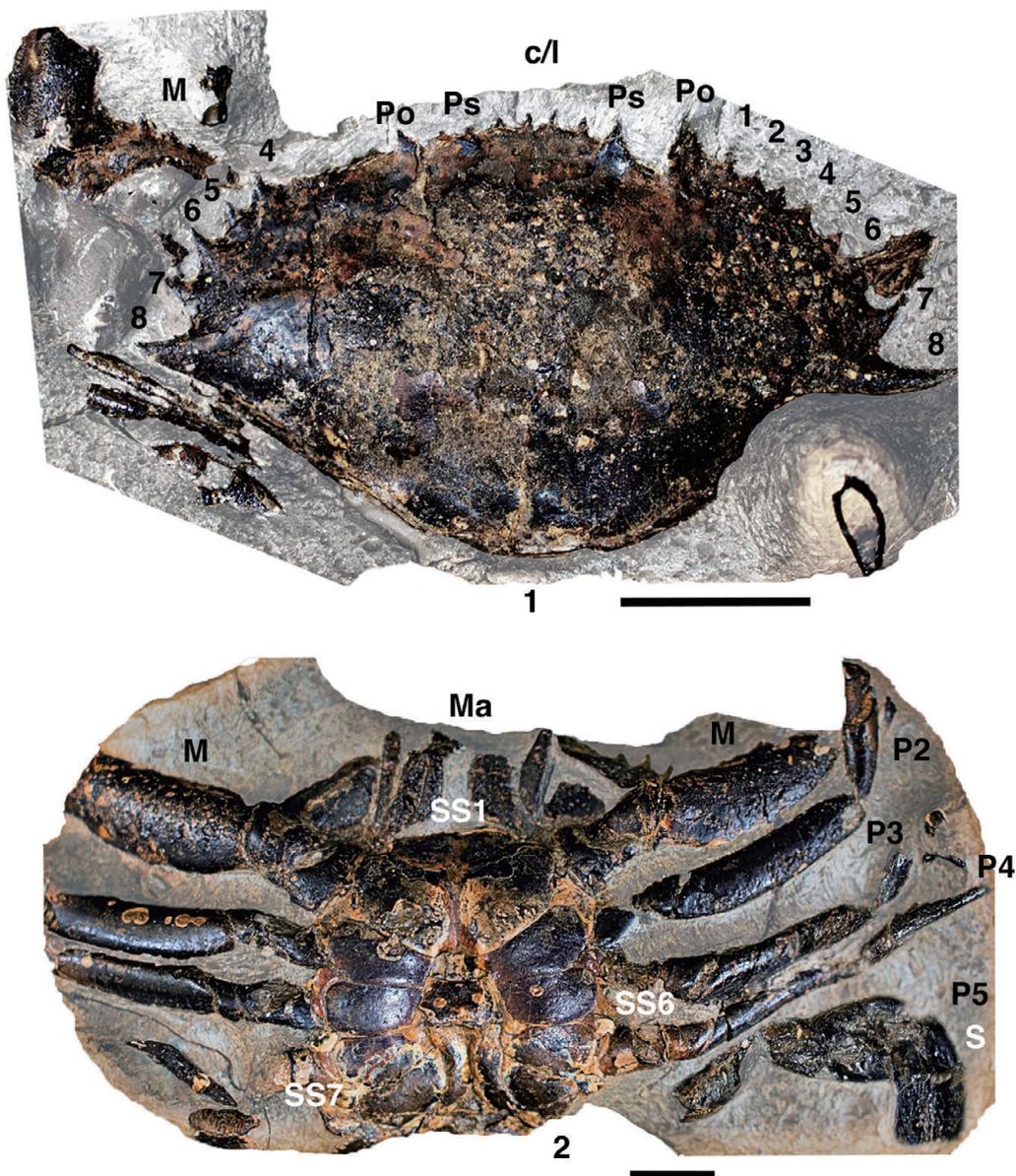


Fig. 1. *Portunus vectensis* (Carter, 1898), IWCMS: 2020.424, Early Oligocene, Bouldner Formation, Hampstead. 1, dorsal view, scale bar = 20 mm. 2, ventral view, scale bar = 10 mm. Abbreviations: 1–8 = anterolateral spines; P2–P5 = pereiopods 2–5; c/l = vertical centre line of carapace; M = merus of cheliped; Ma = maxillipeds (ischium, merus, and exognath); Po = preorbital spine; Ps = postorbital spine; S = swimming leg; SS = somites.

is herein designated as neotype to stabilize the nomenclature and taxonomy of the species. The neotype is deposited in the Dinosaur Isle, Sandown, Isle of Wight.

Description: Carapace oval, nearly twice as wide as long (45 mm in length \times 85 mm in width) from tip to tip of lateral spines, slightly convex transversely and longitudinally. The normal carapace regions are indistinct, dorsal surface is granulated weakly and sparsely, and a line of small single granules runs along the top of the lateral spines and continues along the epibranchial ridge, another running parallel to the anterolateral margin. There are lines of simple, small granules on carapace regions and dorsal ridges. Towards the centre of the carapace in the cardiac region the area is depressed and forms a hollow (20 mm in diameter), to the surface of the carapace. The granulations get larger with some indistinct discs (up to 4 mm in diameter), with three in a line at the bottom of the circle. These turns to larger granules towards the centre of the carapace with a horizontal line of six? indistinct discs (3.5 mm in diameter).

The interorbital portion of the frontal margin (15 mm) is dentate with four equally spaced, forward pointing, triangular spines (3 mm) with a furrow (7 mm in length) between the two central spines. The frontal margin ends with a large, forward pointed triangular pre-orbital spine (3.5 mm). Orbits large, transversely oval, the orbits erupt from the slightly rounded carapace with orbital spines pointing slightly upwards. The postorbital spine merges, with two other forward pointing spines (5 mm), to form a ridge that joins the anterolateral margin. The last of these spines angle upwards. The curving anterolateral margins are eight triangular spines; one to four equally sized and spaced; four to seven with a slightly larger gap; and the gap between seven and eight increases significantly to double the previous. The first to seventh teeth (3 mm) pointing obliquely outward, the longest, eighth (8 mm) has a slightly upwards curve, pointing outward. The posterior margin is equal to the width of the frontal margin, it has a thin rim which continues around the coxigeal incisions.

Sternum (34 mm in length \times 31 mm in width), ovate, minutely punctate. Large external maxillipeds (21 mm), two thirds the width of the sternum; ischium and

exognath have vertical rows of pores. Male abdomen wide at the base, tapering rapidly to a small triangular telson; third, fourth, and fifth segments coalescent.

Chelipeds massive, merus dentate on the inner margin; pereopods 2–4 smooth on the underside, posterior edge of merus with a line of fine equally spaced pores; pereopod 5 with flattened propodus and dactylus (both 10 mm at greatest width) for swimming.

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