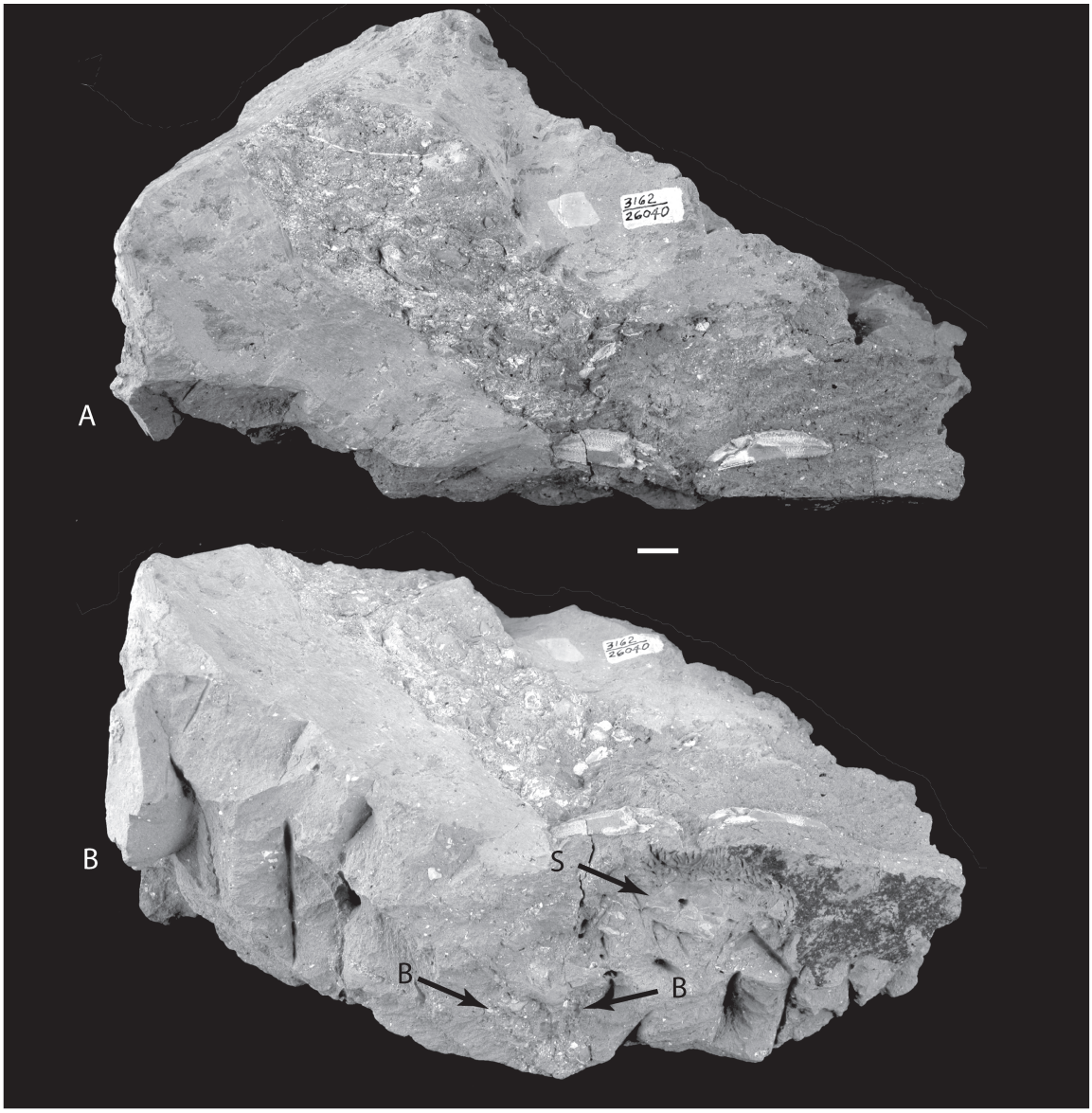

Fig. 4.—*Icriocarcinus xestos* Bishop, 1988. **A,** transverse and **B,** oblique views of paratype, SDSNH 26040, preserved within a complex, sand-filled burrow. The position of the specimen is shown by the claws and the sternum (S), seen in the oblique view (B). The lower continuation of the burrow (B) is also visible on the oblique view.

cle completely exfoliated, so that the dorsal carapace surface appears smooth and the grooves appear very deep. The other style is with preserved cuticle, which exhibits small granules that can become very closely spaced to appear like wrinkles or scabrous ridges. In this style of preservation, the grooves are still apparent but are not as deep as in specimens lacking cuticle.

As discussed above, *Icriocarcinus* is morphologically quite similar to *Ommatocarcinus*. It is also noteworthy that species of both genera are burrowers that produce complex burrow structures. Both fossil and extant members of *Ommatocarcinus* are known as burrowers (Jenkins 1975). Jenkins (1975) described exposed burrows, containing well-preserved remains of *Ommatocarcinus corioensis* (Cresswell, 1886) from the lower Miocene-Pliocene Port Campbell Limestone, southeastern Australia and Tasmania. The burrows are exposed on bedding planes, and single burrows may extend for a distance of over a meter. As described and illustrated (Jenkins 1975, pl. 8), the burrows are branching structures in which horizontal elements dominate over vertical ones. The exposed surfaces of the burrows seem to be either smooth or pelleted.

One paratype of *Icriocarcinus* recovered from the

Point Loma Formation was found preserved in a well-defined burrow structure (Fig. 4). That burrow, originally illustrated by Bishop (1988, fig. 3D), appears to be relatively short and contains a complete specimen of *Icriocarcinus xestos* within it. The burrow is constructed in a grey mudstone containing sand-sized particles of shell fragments and organic debris. The burrow is filled with fine sandy sediment with large fragments of mollusks. If the burrow is oriented with the preserved crab in a horizontal position, the uppermost part of the burrow descends into the sediment at a 60º angle to a depth of about 3.5 cm, at which point the burrow continues into the sediment at a 35º angle to a depth of about 8 cm. The structure is broader in the upper segment with a maximum measurable dimension of 4 cm, whereas the lower segment has a maximum measurable dimension of about 2.5 cm. These measurements provide relative sizes but the cross-section of the burrow and the maximum diameter cannot be determined because the structure is viewed along the broken section. The crab appears to be positioned within a chamber more than 10 cm wide and 4.5 cm high. The sediment filling the chamber is darker in color but otherwise similar to the mudstone in which the burrow is constructed.

Examination of the lower surface of the specimen, however, indicates that the structure is more complex. On this surface, the sternum of the animal is exposed along with a continuation of the sand-filled burrow structure (Fig. 4). The downward extension of the burrow structure is ovoid with a maximum diameter of 5 cm and a minimum diameter of 3.5 cm. Thus, as in the case of the burrows of *Ommatocarcinus*, the burrow of *Icriocarcinus xestos* is complex.

Ichnofossils in the Point Loma Formation have been studied previously (Kern and Warme 1974). Burrow structures were recognized not unlike the one described above in addition to two observations that are relevant to this study. Kern and Warme noted (1974, p. 896, fig. 6) that when the burrows passed from sandy sediment into muddy sediment, the burrow angle decreased from being vertically dominated to becoming horizontally dominated. Further, they noted that the burrows were pellet-lined in the sandy sediment, and would likely be referred to *Ophiomorpha*; whereas the same burrow in muddy sediment was smooth and unlined, so that it would be referred to the ichnogenus *Thalassinoides*. The burrow in which *Icriocarcinus xestos* was preserved is steep at the top, becoming more gently sloping downward and is sand-filled. Perhaps the structure originated in sandy sediment, ultimately penetrating muddy sediment.

The environment of deposition of the Point Loma Formation has been interpreted to be at bathyal depths at which mudstones were deposited by relatively slow processes of sedimentation whereas the sandstones were accumulated rapidly by grain-flow processes (Kern and Warme 1974). Interpretation of water depth as well as the downslope accumulation of sediments was based upon the mixing of sublittoral and bathyal foraminiferans (Sliter 1968 in Kern and Warme 1974). Thus, *Icriocarcinus* may have inhabited water deeper than, or as deep as, that in which *Ommatocarcinus* has been reported. Sakai (1976) recorded *O. macgillivrayi* White, 1851, from depths up to 100 m, and Jenkins (1975) reported the same species at depths of 274 m. Another species, *O. fibriophthalmus* Yokoya, 1933, was collected at a depth of 146 m (Sakai 1976).

ACKNOWLEDGMENTS

NSF Grant INT-0003058 to Feldmann and Schweitzer funded field work in Baja California Sur during 2003, when the specimen of *Longusorbis eutychius* was collected. NSF Grant EF-0531670 supported examination of preserved material at the Smithsonian Institution, United States National Museum, Washington, D.C., and the Bayerische Staatsammlung für Paläontologie und historische Geologie München (Munich), Germany. The University Research Council at Kent State University provided funding for travel to Spain. G. González-Barba and D. Waugh, KSU, assisted in the field. W. Blow, R. Lemaitre, K. Reed, and J. Thompson provided access to the collections at the Smithsonian Institution, United States National Museum of Natural History, Washington, D.C., and facilitated loans from that institution. J. Sprinkle and A. Molineux, University of Texas, Austin, facilitated loans of the paratypes and additional specimens of *Ophthalmoplax stephensoni*. The type series of *Icriocarcinus xestos* was loaned by T.A. Deméré and N.S. Rugh, San Diego Natural History Museum, California. T. Komai, Natural History Museum and Institute, Chiba, provided access to the zoological collections and *Ommatocarcinus macgillivrayi* at that institution. M. Nose, Bayerische Staatsammlung für Paläontologie und historische Geologie, München (Munich), Germany, provided access to those collections. P. Artal and S. Calzada provided access to the collections at the Museu Geològic del Seminari de Barcelona, Spain; Artal assisted with Spanish and Catalan literature. R.L.M. Ross, British Columbia, Canada, donated specimen KSU D746 of *Longusorbis cuniculosus* to the collections of Kent State University; our sincere thanks to him for his generosity. Constructive comments were provided by three anonymous reviewers. Our thanks to these individuals.

LITERATURE CITED

ALCOCK, A.W., AND A.R.S. ANDERSON. 1899. Natural history notes from H.M. Royal Marine survey ship "Investigator," commander T.H. Heming, R.N., commanding. Ser. III, No. 2. An account of the deep-sea Crustacea dredged during the surveying-season of 1897–1898. Annals and Magazine of Natural History (7)3:1–27, 278–292.

VAN BAKEL, B.W.M., J.W.M. JAGT, R.H.B. FRAAIJE, AND Y. COOLE. 2003. New data on the crab *Binkhorstia ubaghsii* (Late Maastrichtian; NE Belgium, SE Netherlands). Contributions to Zoology, 72:85–89.

BARNARD, K.H. 1950. Descriptive Catalogue of South African Decapod Crustacea (Crabs and Shrimps). Annals of the South African Museum, 38:1–837, figs. 1–154.

BATALLER, J.R. 1959. Primer suplemento a la "sinopsis de las especies nuevas del Cretáceo de España." Boletín del Instituto Geológico y Minero de España, 70:1–77.

BELL, T. 1858. A Monograph of the Fossil Malacostracous Crustacea of Great Britain, Pt. I, Crustacea of the London Clay. Monograph of the Palaeontographical Society, London, 10(1856), viii + 44 pp., 11 pls.

BEURLEN, K. 1930. Vergleichende Stammesgeschichte Grundlagen,

Methoden, Probleme unter besonderer Berücksichtigung der höheren Krebse. Fortschrift Geologie und Paläontologie, 8:317–586.

BINKHORST, J.T. VON. 1857. Neue Krebse aus der Maestrichter Tuffkreide. Verhandlungen des Naturhistorischen Vereins der Preussischen Rheinlande und Westfalens, 14:107–110, pl. 6, 7.

BISHOP, G.A. 1988. Two crabs, *Xandaros sternbergi* (Rathbun 1926) n. gen., and *Icriocarcinus xestos* n. gen., n. sp., from the Late Cretaceous of San Diego County, California, USA, and Baja California Norte, Mexico. Transactions of the San Diego Society of Natural History, 21:245–257.

COLLINS, J.S.H., R.H.B. FRAAYE, AND J.W.M. JAGT. 1995. Late Cretaceous anomurans and brachyurans from the Maastrichtian type area. Acta Palaeontologica Polonica, 40(2):165–210.

COLLINS, J.S.H., AND S.L. JAKOBSEN. 2003. New crabs (Crustacea, Decapoda) from the Eocene (Ypresian/Lutetian) Lillebælt Clay Formation of Jutland, Denmark. Bulletin of the Mizunami Fossil Museum, 30:63–96, 8 pls.

COLOSI, G. 1923. Une specie fossile de Gerionide (Decapodi brachiuri). Bolettino della Societá dei Naturalisti in Napoli, 35 (series 2, vol. 15), 37:248–255.

COSTA, O.G. 1853. Addizioni a' Decapodi Brachyuri. Pp. 14–15, *in* Fauna del Regno di Napoli. Stamperia di Antonio Cons, Napoli.

CRESSWELL, A.W. 1886. Notes on some fossil crabs from the Miocene rocks of Corio Bay. Victorian Naturalist, 3:86–91.

DANA, J.D. 1851. On the classification of the Cancroidea. American Journal of Science and Arts, (2)12(34):121–131.

———. 1852. Conspectus Crustaceorum, etc. Conspectus of the Crustacea of the Exploring Expedition under Capt. Wilkes, U.S.N., including the Crustacea Cancroidea Corystoidea. Proceedings of the Academy of Natural Sciences of Philadelphia, 6:73–86.

DAVIE, P.J.F. 2002. Crustacea: Malacostraca: Eucarida (Part 2): Decapoda—Anomura, Brachyura. *In* Zoological Catalogue of Australia, Vol. 19.3B (A. Wells and W.W.K. Houston, eds.). CSIRO Publishing, Melbourne, Australia, 641 pp.

EDMONDSON, C.H. 1930. New Hawaiian Crustacea. Occasional Papers of the Bernice P. Bishop Museum, 9(10):1–18, pl. 1.

FABRICIUS, J.C. 1793. Entomologia Systematica Emendata et Aucta Secundum Classes, Ordines, Genera, Species adjectis Synonymis, Locis, Observationibus, Descriptionibus. Hafniae, 2:1–519.

FELDMANN, R.M., S. CASADÍO, L. CHIRINO-GÁLVEZ, AND M. AGUIRRE-URRETA. 1995. Fossil decapod crustaceans from the Jagüel and Roca formations (Maastrichtian-Danian) of the Neuquén Basin. The Paleontological Society Memoir 43, ii + 22 pp.

FELDMANN, R.M., F.J. VEGA, AND T. VILLAMIL. 1998. Cretaceous extinction of the Tethyan crab family Carcineretidae: a victim of the impact? GSA Abstracts with Programs, 1998:A286.

FELDMANN, R.M., AND T. VILLAMIL. 2002. A new carcineretid crab (Upper Turonian, Cretaceous) of Colombia. Journal of Paleontology, 76:718–724.

FELDMANN, R.M., T. VILLAMIL, AND E.G. KAUFFMAN. 1999. Decapod and stomatopod crustaceans from mass mortality Lagerstatten: Turonian (Cretaceous) of Colombia. Journal of Paleontology, 73:91–101.

FORSKÅL, P. 1775. Descriptiones animalium avium, amphibiorum, piscium, insectorum, vermium; quae in itinere orientali observavit Petrus Forskål. Mölleri: Hafniae, 164 pp.

FRAAYE, R.H.B. 1996. Late Cretaceous swimming crabs: radiation, migration, competition, and extinction. Acta Geologica Polonica, 46:269–278.

GLAESSNER, M.F. 1969. Decapoda. Pp. R400–R533, R626–R628, *in* Treatise on Invertebrate Paleontology, Pt. R4(2) (R.C. Moore, ed.). Geological Society of America, Boulder, Colorado, and University of Kansas Press, Lawrence, Kansas.

———. 1980. New Cretaceous and Tertiary crabs (Crustacea: Brachyura) from Australia and New Zealand. Transactions of the Royal Society of South Australia, 104:171–192.

GUINOT, D. 1961. Caractères et affinités de *Macropipus australis* sp. nov., Crustacé Décapode Brachyoure de la côte sud-ouest Africaine. Bulletin de l'Institut royal des Sciences naturelles de Belgique, 37(26):1–13, pls. 1, 2.

———. 1977. Propositions pour une nouvelle classification des Crustacés Décapodes Brachyoures. Compte Rendu Académie des Sciences, Paris, Série D, 285:1049–1052.

———. 1979. Morphologie et phylogenèse des brachyoures. Mémoires du Muséum National d'Histoire Naturelle, nouvelle série, Série A, 112:1–354.

HERBST, J.F.W. 1782–1804. Versuch einer Naturgeschichte der Krabben und Krebse nebst einer systematischen Beschreibung ihrer verschiedenen Arten, volume 1 (1782–1790), pp. 1–274, pls. 1–21; volume 2 (1791–1796), pp. 1–225, pls. 22–46; volume 3 (1799–1804), pp. 1–66, pls. 47–50.

HOLTHUIS, L.B. 1987. *Necora*, new genus of European swimming crabs (Crustacea Decapoda Portunidae) and its type species *Cancer puber* Linnaeus, 1767. Zoologische Mededelingen (Leiden), 61:1–14.

JENKINS, R.J.F. 1975. The fossil crab *Ommatocarcinus corioensis* (Cresswell) and a review of related Australasian species. Memoirs of the National Museum of Victoria, 36:33–62.

KARASAWA, H. 1990. Decapod crustaceans from the Miocene Mizunami Group, Central Japan, Pt. 2, Oxyrhyncha, Cancridea, and Brachyrhyncha. Bulletin of the Mizunami Fossil Museum, 17:1–34, pls. 1–8.

KARASAWA, H., AND C.E. SCHWEITZER. 2006. A new classification of the Xanthoidea sensu lato (Crustacea: Decapoda: Brachyura) based on phylogenetic analysis and traditional systematics and evaluation of all fossil Xanthoidea sensu lato. Contributions to Zoology, 75(1/2):23–72.

KERN, J.P., AND J.E. WARME. 1974. Trace fossils and bathymetry of the Upper Cretaceous Point Loma Formation, San Diego, California. Geological Society of America Bulletin, 85:893–900.

LAMARCK, J.B.P.A. 1818. Histoire naturelle des animaux sans vertèbres, présentant les caractères généraux et particuliers de ces animaux, leur distribution, leurs classes, leurs familles, leurs genres, et la citation des principales espèces qui s'y rapportent; précédée d'une introduction offrant la détermination des caractères essentiels de l'animal, sa distinction du végétal et des autres corps naturels; enfin, l'exposition des principes fondamentaux de la zoologie. Tome 5. Déterville, Paris, 612 pp.

LATREILLE, P.A. 1802–1803. Histoire naturelle, générale et particulière, des crustacés et des insectes. Volume 3, Dufart, Paris, France, 467 pp.

———. 1825. Encyclopédie Méthodique. Histoire Naturelle. Entomologie, ou Histoire naturelle des Crustacés, des Arachnides et des Insectes, Vol 10, part 1. Paris, 344 pp.

LEACH, W.E. 1814. Crustaceology. *In* The Edinburgh Encyclopedia (D. Brewster, ed.), 7:383–437, pl. 221.

———. 1815-1875. Malacostraca Podophthalmata Britanniae. London: 1–124 + pl. 1–45.

LINNAEUS, C. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Edition 10, volume 1. Laurentii Salvii, Homiae (Stockholm), 824 pp.

———. 1767. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Edition 12, volume 1, part 2, p. 533–1327. Laurentii Salvii, Homiae (Stockholm).

MACLEAY, W.S. 1838. On the brachyurous Decapod Crustacea brought from the Cape by Dr. Smith. Pp. 53–71, 2 pls, *in* Illustrations of the Annulosa of South Africa; consisting chiefly of Figures and Descriptions of the Objects of Natural History Collected during an Expedition into the Interior of South Africa, in the Years 1834, 1835, and 1836; fitted out by "The Cape of Good Hope Association for Exploring Central Africa" (A. Smith, ed.). Smith, Elder, and Co., London.

MACPHERSON, E. 1984. Crustáceos decápodos del Banco Valdivia (Atlántico sudoriental). Resultados Expediciones Cientificas

(supplement to Investigación Pesquera, Barcelona), 12:39–105.
MANNING, R.B., AND L.B. HOLTHUIS. 1981. West African brachyuran crabs (Crustacea: Decapoda). Smithsonian Contributions to Zoology, 306:1–379.
MIERS, E.J. 1886. Report on the Brachyura collected by H. M. S. Challenger during the years 1873–1876. Pp. 1–362, *in* Report of the Scientific Results of the Voyage of H.M.S. Challenger during the years 1873–1876, Zoology (C.W. Thomson and J. Murray, eds.). Johnson Reprints, New York.
MILNE EDWARDS, A. 1867. Descriptions de quelques espéces nouvelles de Crustacés Brachyoures. Annales de la Societé Entomologique de France, 4:263–288.
———. 1869. Description de quelques Crustacés Nouveaux de la famille des Portuniens. Nouvelles Archives du Museum National d'Histoire Naturelle, Paris, 5:146–160, pls. 6–7.
———. 1870. Note sur le *Catoptrus*, nouveau genre appartenant a la division des Crustacés Brachyures catometopes. Annales de la Science Naturelle (Zoologie), (5)13:80–86.
———. 1879-1881. Études sur les Xiphosures et les Crustacés Podophthalmaires. Mission Scientifique au Mexique et dans l'Amérique Centrale, Recherches Zoologiques. cinquième partie. Imprimerie National, Paris, 368 pp., 60 pls.
———. 1882. Rapport sur les travaux de la Commission chargée par M. Le Ministre de L'Instruction Publique d'étudier la faune sous-marine dans les grandes profoundeurs de la Méditerranée et de l'Océan Atlantique. Archives des Missions Scientifiques et Litteraires, Paris (3)9:1–59.
MILNE EDWARDS, A., AND P. BROCCHI. 1879. Note sur quelques Crustacés fossiles apartenant au groupe des Macrophthalmiens. Bulletin de la Société Philomatique de Paris, 3:113–117.
MOOSA, K.M. 1996. Crustacea Decapoda: Deep-water swimming crabs from the South-West Pacific, particularly New Caledonia (Brachyura, Portunidae). Pp. 503–550, *in* Résultats des Campagnes MUSORSTOM, vol. 15 (A. Crosnier, ed.). Mémoires du Muséum national d'Histoire naturelle (A) 168.
NARDO, G.D. 1847. Sinonimia moderna delle specie registrate nell'-opera intitolata : Descrizone de Crostacei, de Testacei e de Pesci che abitano le lagune e golfo veneto rappresentati...dall'Abate Chiereghini: i-xi + 1–127.
NG, P.K.L. 2000. The deep-water swimming crabs of the genus *Benthochascon* (Decapoda: Brachyura: Portunidae), with description of a new genus for the American *B. schmitti*. Journal of Crustacean Biology, 20 (sp. no. 2):310–324.
NOETLING, F. 1881. Über einige Brachyuren aus dem Senon von Mastricht und dem Tertiär Norddeutschlands. Zeitschrift der deutschen Geologischen Gesellschaft (Berlin), 33:357–371.
D'ORBIGNY, A. 1842. Voyage dans l'Amérique méridional, 1826–1833 (III). Géologie et Paláontologie, Paris, France.
ORTMANN, A. 1893. Abtheilung: Brachyura (Brachyura genuina Boas), II. Unterabtheilung: Cancroidea, 2. Section: Cancrinea, 1. Gruppe: Cyclometopa. Die Decapoden Krebse des Strassburger Museums, mit besonderer Berücksichtigung der von Herrn Dr. Döderlein bei Japan und bei den Liu-Kiu-Inseln gesammelten und zur Zeit im Strassburger Museum aufbewahrten Formen, VII. Theil. Zoologische Jahrbücher, Abtheilung für Systematik, Geographie, und Biologie der Thiere, 7:411–495, pl. 17.
PAUL'SON, O.M. 1875 [reprint 1961]. Studies on Crustacea of the Red Sea with notes regarding other seas. Part I. Podophthalmata and Edriophthalmata (Cumacea). The Israel Program for Scientific Translations, Jerusalem, 164 pp., 21 pls.
PENNANT, T. 1777. British Zoology, Volume 4: Crustacea Mollusca Testacea. B. White, London.
PRESTANDREA, N. 1833. Su di alcuni nuovi crustacei dei mari di Messina. Effemeridi Scientifiche e Letterarie per La Sicilia, April 1833:3–14.
RAFINESQUE, C.S. 1815. Analyse de la Nature, ou Tableau de l'Univers et des corps organisée. L'Imprimerie de Jean Barravecchia, Palermo, Italy, 224 pp.
RATHBUN, M.J. 1898. The Brachyura collected by the U.S. Fish Commission steamer Albatross on the voyage from Norfolk, Virginia, to San Francisco, California, 1887–1888. Proceedings of the United States National Museum, 21:567–616, pls. 41–44.
———. 1906. The Brachyura and Macrura of the Hawaiian Islands. U.S. Fish Commission Bulletin for 1903, Part III:829–930, pls. III–XXIV.
———. 1930. The cancroid crabs of America of the families Euryalidae, Portunidae, Atelecyclidae, Cancridae and Xanthidae. United States National Museum Bulletin 152, 609 pp.
———. 1931. New crabs from the Gulf of Mexico. Journal of the Washington Academy of Science, 21:125–128.
———. 1935. Fossil Crustacea of the Atlantic and Gulf Coastal Plain. Geological Society of America, Special Paper 2, 160 pp.
RICHARDS, B.C. 1975. *Longusorbis cuniculosus*: a new genus and species of Upper Cretaceous crab; with comments on the Spray Formation at Shelter Point, Vancouver Island, British Columbia. Canadian Journal of Earth Sciences, 12:1850–1863.
RISSO, A. 1816. Histoire naturelle des Crustacés des environs de Nice. Paris: 1–175 + pl. 1–3.
RÜPPELL, E. 1830. Beschreibung und Abbildung von 24 Arten kurzschänzigen Krabben, also Beitrag zur Naturgeschichte des rothen Meeres. H. L. Brönner, Frankfurt am Main, 28 pp., pls. 1–6.
SAKAI, T. 1938. On three systematically interesting crabs from Japan, one of which is new to science. Annotated Zoology of Japan, 17(3–4):301–301, pl. 16.
———. 1969. Two new genera and twenty-two new species of crabs from Japan. Proceedings of the Biological Society of Washington, 82:243–280.
———. 1976. Crabs of Japan and the Adjacent Seas. Kodansha Ltd., Tokyo, 773 pp., 251 pls.
SCHUBART, C.D., AND S. REUSCHEL. 2005. Molecular phylogenetic relationships of cancroid and portunoid crabs (Decapoda: Brachyura) do not reflect current taxonomy. Book of Abstracts, Sixth International Crustacean Congress, Glasgow, Scotland, UK, 18–22 July, 2005:7.
SCHWEITZER, C.E., AND R.M. FELDMANN. 2000. New fossil portunids from Washington, USA, and Argentina, and a re-evaluation of generic and family relationships within the Portunoidea Rafinesque, 1815 (Decapoda: Brachyura). Journal of Paleontology, 74:636–653.
———. 2002. New Eocene decapods (Thalassinidea and Brachyura) from Southern California. Journal of Crustacean Biology, 22:938–967.
———. 2005. Decapod crustaceans, the K/P event, and Palaeocene recovery. Pp. 17–53, *in* Crustacea and Arthropod Relationships (S. Koenemann and R.A. Jenner, eds.). Taylor and Francis Group, New York.
SCHWEITZER, C.E., R.M. FELDMANN, J. FAM, W.A. HESSIN, S.W. HETRICK, T.G. NYBORG, AND R.L.M. ROSS. 2003. Cretaceous and Eocene Decapod Crustaceans from Southern Vancouver Island, British Columbia, Canada. NRC Research Press, Ottawa, Ontario, Canada, 66 pp.
SCHWEITZER, C.E., R.M. FELDMANN, G. GONZALEZ-BARBA, AND V. ĆOSOVIĆ. 2007. Decapod crustaceans (Brachyura) from the Eocene Tepetate Formation, Baja California Sur, Mexico. Annals of Carnegie Museum, 76:15–28.
SCHWEITZER, C.E., R.M. FELDMANN, G. GONZÁLES-BARBA, AND F.J. VEGA. 2002. New crabs from the Eocene and Oligocene of Baja California Sur, Mexico and an assessment of the evolutionary and paleobiogeographic implications of Mexican fossil decapods. The Paleontological Society Memoir, 59 (Supplement to Journal of Paleontology, 76), 43 pp.
SCHWEITZER, C.E., G. GONZÁLES-BARBA, R.M. FELDMANN, AND D.A. WAUGH. 2006 [imprint 2005]. Decapoda (Thalassinidea, Paguroidea) from the Eocene Bateque and Tepetate formations, Baja California Sur, México: Systematics, Cuticle Microstructure, and Paleoecology. Annals of Carnegie Museum, 74(4):275–293.
SMITH, S.I. 1879. The stalk-eyed crustaceans of the Atlantic coast of North America north of Cape Cod. Transactions of the

Connecticut Academy of Arts and Sciences, 5(1):27–136.
STENZEL, H.B. 1952. Decapod crustaceans from the Woodbine Formation of Texas. United States Geological Survey Professional Paper, 242:212–217.
STERNBERG, R. VON, AND N. CUMBERLIDGE. 2001. Notes on the position of the true freshwater crabs within the brachyrhynchan Eubrachyura (Crustacea: Decapoda: Brachyura). Hydrobiologia, 449:21–39.
STERNBERG, R. VON, N. CUMBERLIDGE, AND G. RODRIGUEZ. 1999. On the marine sister groups of the freshwater crabs (Crustacea: Decapoda: Brachyura). Journal of Systematic and Evolutionary Research, 37:19–38.
STIMPSON, W. 1862 [read 1860]. Notes on North American Crustacea, in the Museum of the Smithsonian Institution. No. II. Annals of the Lyceum of Natural History, 7:176–246, pl. II, V.
———. 1871. Preliminary report on the Crustacea dredged in the Gulf Stream in the Straits of Florida, by L.F. de Pourtalès, Assistant, United States Coast Survey. Bulletin of the Museum of Comparative Zoology, 2:109–160.
VAN STRAELEN, V. 1934. Contribution à l'étude des crustacés décapodes fossiles de la Catalogne. Géologique Pays Catalans, 3:1–6.
VEGA, F.J., AND R.M. FELDMANN. 1991. Fossil crabs (Crustacea, Decapoda) from the Maastrichtian Difunta Group, northeastern Mexico. Annals of Carnegie Museum, 60:163–177.
VEGA, F.J., R.M. FELDMANN, P. GARCÍA-BARRERA, H. FILKORN, F. PIMENTEL, AND J. AVENDAÑO. 2001. Maastrichtian Crustacea (Brachyura: Decapoda) from the Ocozocuautla Formation in Chiapas, southeast Mexico. Journal of Paleontology, 75:319–329.
VEGA, F.J., R.M. FELDMANN, A.C. OCAMPO, AND K.O. POPE. 1997. A new species of Late Cretaceous crab (Brachyura: Carcineretidae) from Albion Island, Belize. Journal of Paleontology, 71:615–620.
VEGA, F.J., R.M. FELDMANN, AND F. SOUR-TOVAR. 1995. Fossil crabs (Crustacea: Decapoda) from the Late Cretaceous Cárdenas Formation, east-central Mexico. Journal of Paleontology, 69:340–350.
WEBER, F. 1795. Nomenclator entomologicus secundum entomologian systematicum ill. Fabricii, adjectis speciebus recens detectis et varietatibus. C.E. Bohn, Chiloni et Hamburgi, 171 pp.
WHITE, A. 1851. Descriptions of some new species of Annulosa. Pp. 387–395, *in* Narrative of the Voyage of H.M.S. 'Rattlesnake' During the Years 1846–1850, Volume 2, Appendix 6 (J. Macgillivray, ed.). Boone, London.
WITHERS, T.H. 1922. On a new brachyurous crustacean from the Upper Cretaceous of Jamaica. Annals and Magazine of Natural History, 10:534–541.
WOODS, J.T. 1953. Brachyura from the Cretaceous of central Queensland. Memoirs of the Queensland Museum, 13(1):50–57.
WRIGHT, C.W., AND J.S.H. COLLINS. 1972. British Cretaceous Crabs. Palaeontographical Society Monograph, 114 pp., 22 pls.
YOKOYA, Y. 1933. On the distribution of the decapod crustaceans inhabiting the continental shelf around Japan, chiefly based upon the materials collected by S.S. Sôyô-Maru, during the years 1923–1930. Journal of the College of Agriculture of the Imperial University of Tokyo, 12:1–226.