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ISABEL PEREZ FARFANTE DE CANET
24 JUNE 1916-20 AUGUST 2009

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Fig. 1. Isabel (Isa) Pérez Farfante, National Museum Hall of Carcinologists (NMNH) portrait photograph.

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Isabel (Isa) Pérez Farfante had a long, interesting, and productive life, both professionally and personally, whose course was profoundly affected by historical events. Her parents emigrated from Spain to Cuba, where Isa was born. As a young teenager, Isa was sent by her parents to live with relatives in Asturias, Spain, to pursue her high school education. She later began studies at the Universidad Central de Madrid, but these were interrupted by the Spanish Civil War. Isa and her family supported the Republicans, who were defeated by the Franco regime. Isa was forced to leave Spain and continued her education in Cuba at La Universidad de Habana, receiving a Bachelor of Science in 1938. She took positions at El Instituto de la

Víbora in Havana and then as Assistant Professor of Biology at the Universidad de Habana. In 1941, she married Gerardo Canet Alvarez, himself a professional (geographer, economist) who enthusiastically supported the career of his beloved Isa. Soon after, Isa and Gerardo applied for Guggenheim Fellowships, which were awarded to Isa in 1942 (Organismic Biology and Ecology) and then to Gerardo in 1945 (Geography and Environmental Studies). The Guggenheim, as well as a fellowship with the Woods Hole Oceanographic Institution, and the Alexander Agassiz Fellowship in Oceanography and Zoology, enabled Isa to enter Radcliffe College of Harvard University, where she obtained a master's degree in biology

in 1944, followed by a doctorate in 1948. Isa was one of the first women to attend Harvard University, and was the first Cuban woman to earn a doctoral degree from an Ivy League Institution.

During the course of her doctoral studies, Isa was visiting the U.S. National Museum in Washington, D.C., when she had a chance encounter with Thomas Barbour, the noted herpetologist and naturalist from Harvard, who explored, did research, and vacationed extensively in Cuba. After hearing of some difficulties that Isa was having with facilities for her project, Barbour told her “that the place for you is Harvard; I will take you there with me” (Pérez Farfante, 1946). As a result, Isa was appointed an Associate Curator (1946-1948) of the Harvard Museum of Comparative Zoology (MCZ), an association that would serve her well some years later. Barbour was quite impressed with the scientific talents of Isa, and he mentioned her in quite favorable terms in this book “A Naturalist in Cuba” published in 1946. After receiving her doctorate, Isa returned to La Universidad de Habana as full Professor and continued there until 1960. From 1952-1955, she also held the post of Biologist (Researcher in Shrimp) and (1959-60) Director of El Centro de Investigaciones Pesqueras in Havana.

Like most Cubans, Isa and her husband were opposed to the dictatorship of Fulgencio Batista, and initially welcomed the change brought by the new government of Fidel Castro. Soon thereafter, however, the government appointed a co-director at the Centro de Investigaciones who, as Isa recounted, knew nothing about marine biology. His interference with the workings and policy of the Centro brought him into conflict with Isa, now an established and respected scientist. Also, Isa’s husband Gerardo was asked, as a noted Cuban geographer and economist, to accompany Ernesto “Che” Guevara, a major figure in the Castro revolution, who also served as Minister of Industries, on trips abroad to establish economic ties with other countries. Gerardo declined because he did not want to be away from his family, which now included two sons, Gerardo Jr. and Eduardo, for extended periods of time. As a result, Isa and Gerardo’s names appeared on a secret government blacklist (revealed to them by a friend in the government), which meant that their days in Cuba were numbered, at the very least, and quite possibly that their lives were in danger. They sent their two young sons to the United States on a pretext and then, a month later, went to the airport without reservations, bought a ticket, and flew to the U.S. They carried with them only a single suitcase, leaving home, possessions, and their careers in Cuba behind.

Isa’s scientific reputation and her ties with the Harvard MCZ gave her a scientific home in the United States and allowed her to continue her career. She was appointed Associate in Invertebrate Zoology at the MCZ from 1961-1969, during which time she headed a study on commercial shrimp in American waters for the U.S. Fish and Wildlife Service (1961-62), was Scholar of Independent Study at Radcliffe College (1962-64), and then received research funding from the National Science Foundation (1964-1966). In 1966, she joined the National Marine Fisheries Service (NMFS) as Systematic Zoologist at the NMFS



Fig. 2. Top: Isa, husband Gerardo Canet, and ship’s crew taking a coffee break before sorting a shrimp trawl (late 1950s); Bottom: Isa and Gerardo with Carlos de la Torre Huerta, Cuban malacologist (late 1940’s).

Systematic Laboratory in the National Museum of Natural History, Smithsonian Institution, in Washington, D.C. From 1986-1990, she was Carcinologist Emeritus with the NMFS, and from 1987, Research Associate in the NMNH Division of Crustacea. She remained in this position until 1997 and then entered retirement in Key Biscayne, Florida. For a few years thereafter, Isa worked on collections at the Rosenstiel School of Marine and Atmospheric Sciences on Key Biscayne, resulting in a manuscript, as yet unpublished, with Brian Kensley and Maria Bello on the penaeoid and sergestoid shrimps from the “Tongue of the Ocean,” the Bahamian deep oceanic trench. Isa passed away in her home, surrounded by her beloved Gerardo, her two sons, and the Canet’s faithful and longtime housekeeper, and then caretaker, “Tina” (Augustina Lugo), on August 20, 2009.

Isabel Pérez Farfante is best known for her work on penaeoid shrimp, but she began her career with other invertebrate groups. Her first two publications (1939) were on foraminiferans, followed in the 1940’s by a number of papers on molluscs. An important mentor in her molluscan research was Carlos de la Torre Huerta, a Cuban

malacologist noted for his studies on the color polymorphic tree snails (*Polymita*). Isa helped an aging “Don Carlos” to complete publication of his work (Fig. 2). While at the Harvard MCZ in the 1940’s, Isa worked with marine biologist and ichthyologist Henry Bryant Bigelow, the first director of the Woods Hole Oceanographic Institute, on lancelets (Cephalocordata), and co-authored this chapter in the “Fishes of the Western North Atlantic” in 1948 (with illustrations done by husband Gerardo).

Isa began publishing on crustaceans in 1950, soon focusing on the commercially important penaeoids (Decapoda: Dendrobranchiata). She was responsible for the discovery of large shrimp populations in the Golfo de Batabanó, situated between the southwestern end of Cuba and La Isla de Juventud, as well as for the development of the commercial shrimp fishery there. In the 1950’s, Isa worked on the textbook “Nueva Zoología” (1964) which was used for many years as a standard text in Cuba. For political reasons, she was not given credit as the author of the book by the Cuban authorities.

After her move to the United States in 1961, Isa concentrated on the systematics of penaeoid shrimp, with particular emphasis on their reproductive morphology (petasmata, thelyca, and spermatophores), important diagnostic features of the group. A seminal paper on the genus *Penaeus* was published in 1969, in which she proposed dividing *Penaeus* s.l. into 4 subgenera (*Penaeus* s.s., *Litopenaeus*, *Melicertus*, and *Fennneropenaeus*). She thought that the differences among these subgenera merited their full generic status, but she was discouraged from proposing this change at the time by colleagues, including Lipke B. Holthuis. They anticipated the objections that would arise, mainly based on the fallacious argument of the inconvenience of a name change in commercial species, principally from some in fisheries and aquaculture. She waited until the publication of Pérez Farfante and Kensley (1997) to raise these subgenera, along with two *Penaeus* subgenera proposed by others (*Farfantepenaeus*, *Marsuopenaeus*) to full generic rank. As predicted, this generated a controversy, unnecessary in my view (Bauer, 1998), that continues (Dall, 2007; Flegel, 2007; McLaughlin et al., 2008).

The period during the 1970’s and 1980’s was a time in which the Division of Crustacea was populated with a congenial group of carcinological greats such as Raymond Manning, Jerry Barnard, Thomas Bowman, Louis Kornicker, Austin Williams, Brian Kensley, Horton Hobbs, Jr., and Fenner A. Chace, Jr. These colleagues and friends provided Isa with an ideal professional and personal environment in which Isa produced the work for which she will be best remembered. During this time, Isa published a series of monographic papers on several penaeoid genera, most notably *Metapenaeopsis* (1971), *Trachypenaeus* (1971), *Hepomadus* (1973), *Solenocera* (1973, with H.R. Bullis), *Litopenaeus* (1975), solenocerids (1977), *Penaeopsis* (1980), *Sicyonia* (1985), and *Pseudaristeus* (1987), as well as a guide to the commercial shrimps of the Americas (1988). These publications involved careful scrutiny and description of the diabolically complex genitalia and spermatophores of penaeoid shrimp; Isa often

remarked to me that this detailed work had taken a toll on her health. Her research is basic not only to the systematics, but also to an understanding of the insemination mechanics of these shrimp. In the last ten years at the NMNH, Isa faithfully toiled on her masterpiece, the monographic “Penaeoid and Sergestoid Shrimps and Prawns of the World. Keys and Diagnoses for the Families and Genera” with coauthor Brian Kensley and illustrator Molly Kelly Bryan. This publication, with its attractive cover, professional illustrations, and superb scientific content, was indeed a carcinological masterpiece with which to end a long and illustrious scientific career. During her career, Isa identified penaeoid shrimp and organized collections in national museums, universities, and other institutions throughout Latin America and the world.

I was fortunate to meet Isa while a postdoctoral fellow at the NMNH, where Isa maintained her office down the hall from mine in the Division of Crustacea. She kindly tolerated my then basic Spanish and later encouraged me to accept my first tenure-track position at the University of Puerto Rico, Río Piedras, a decision that changed the course of my career. We later became correspondents and collaborators on the study of penaeoid shrimp reproduction and then good friends, who maintained contact during her retirement in Key Biscayne, with one last visit in June, 2009. Isa was a very charming and cultured lady who, together with her equally interesting and talented husband, loved to entertain her many colleagues and friends. The family home in Maryland and later in Key Biscayne was adorned with art objects and paintings obtained during her travels throughout the Caribbean and Latin America. During her last years in Key Biscayne, she enjoyed the company of family and friends in the Miami area, including fellow scientists and close friends Maria Bello and Maria Criales.

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REFERENCES

- Barbour, T. 1946. *A Naturalist in Cuba*. Little, Brown, and Company, Boston.
- Bauer, R. T. 1998. Book Reviews: penaeoid and sergestoid shrimps and prawns of the world. Keys and diagnoses for the families and genera by Isabel Pérez Farfante and Brian Kensley. 1997. *Mémoires du Muséum national d’Histoire naturelle*, Tome 175 Zoologie. 233 pp. *Bulletin of Marine Science* 62: 299-301.
- Dall, W. 2007. Recent molecular research on *Penaeus* sensu lato. *Journal of Crustacean Biology* 27: 380-382.
- Flegel, T. W. 2007. The right to refuse revision in the genus *Penaeus*. *Aquaculture* 264: 2-8.
- McLaughlin, P. A., R. Lemaitre, F. D. Ferrari, D. L. Felder, and R. T. Bauer. 2008. A reply to T.W. Flegel. *Aquaculture* 275: 370-373.

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APPENDIX 1: PUBLICATIONS OF ISABEL PÉREZ FARFANTE

- Pérez Farfante, I. 1939. Nuevos foraminíferos de Cuba. *Memorias Sociedad Cubana de Historia Natural "Felipe Poey"* 13: 317-320.
- . 1939. Foraminíferos del Golfo de Batabanó. *Revista Universitaria Habana*, Volume for 1939.
- . 1940. Adiciones a la lista de moluscos cubanos. *Memorias Sociedad Cubana de Historia Natural "Felipe Poey"* 14: 69-73.
- . 1942a. Nuevo hallazgo y posición sistemática de *Truncalina advena* d'Orbigny. *Memorias Sociedad Cubana de Historia Natural "Felipe Poey"* 24: 75-763.
- . 1942b. Moluscos de la región de Camoa y Somorrostro y sus condiciones de Vida. *Memorias Sociedad Cubana de Historia Natural "Felipe Poey"* 13: 45-56.
- . 1942c. Moluscos pleistocénicos de la Zona Franca de Matanzas. *Memorias Sociedad Cubana de Historia Natural "Felipe Poey"* 16: 37-44.
- . 1943a. The genera *Fissurella*, *Lucapina* and *Lucapinella* in the Western Atlantic. *Johnsonia* 1: 37-44.
- . 1943b. The Genus *Diodora* in the Western Atlantic. *Johnsonia* 1: 1-20.
- . 1945a. The Genera *Lucapina* and *Diodora* in the Western Atlantic. *Johnsonia* 1: 4-6.
- . 1945b. Growth of the operculum in *Murex*. *Johnsonia* 1: 57.
- Clench, W. J., and I. Pérez Farfante. 1945. The genus *Murex* in the western Atlantic. *Johnsonia*, 1: 1-57.
- Pérez Farfante, I. 1946a. Impresiones sobre el Doctor Thomas Barbour. *Revista Universitaria Habana* Año 11: 342-348.
- . 1946b. Adiciones al estudio de la familia Fissurellidae. *Revista Sociedad Malacológica Carlos de la Torre* 4: 23-24.
- . 1946c. Nueva especie de *Diodora*. *Revista Sociedad Malacológica Carlos de la Torre* 4: 54.
- . 1947. The genera *Zeidora*, *Nesta*, *Emarginula* and *Puncturella* in the Western Atlantic. *Johnsonia* 1: 93-148.
- . 1947. *Diodora fragilis* n.n. pro *Diodora delicada*. *Revista Sociedad Malacológica Carlos de la Torre* 5: 53.
- Aguayo, C. G., and I. Pérez Farfante. 1947. Una nueva especie antillana del género *Conus*. *Revista Sociedad Malacológica Carlos de la Torre* 5: 11-13.
- Bigelow, H. B., and I. Pérez Farfante. 1948. Fishes of the Western North Atlantic. *Lancelets. Memoirs Sears Foundation in Marine Research* 1: 1-28.
- Pérez Farfante, I. 1949a. Visita al Departamento de Moluscos del Museo Argentino de Ciencias Naturales. *Revista Sociedad Malacológica Carlos de la Torre* 6: 107-109.
- . 1949b. *Fissurella doellojuradoi* Pérez Farfante. *Revista Sociedad Malacológica Carlos de la Torre* 9: 31-32.
- . 1950a. Adaptaciones de los Crustáceos a la vida de agua dulce. *Boletín de Historia Natural* 1: 93-97.
- . 1950b. Don Carlos de la Torre y Huerta. Su aporte a las Ciencias Naturales Cubanas. *Agonía* 1: 93-97.
- . 1950c. Bibliografía general de Don Carlos de la Torre y Huerta. *Agonía* 1: 98-118.
- . 1951. El ostión: nuevos datos sobre su ciclo vital. *Boletín de Historia Natural* 2: 30-36.
- . 1953. Los camarones comerciales de Cuba. *Memorias Sociedad Cubana de Historia Natural "Felipe Poey"* 21: 229-243.
- . 1954a. The discovery of a new shrimp bank at Golfo de Batabanó, Cuba. *Proceedings of the Gulf and Caribbean Fisheries Institute*, 6th Annual Session: 97-98.
- . 1954b. El ostión comercial de Cuba. *Centro de Investigaciones Pesqueras La Habana Contribución No. 3*: 1-42.
- . 1954c. Los camarones comerciales de Cuba, Parte II. *Centro de Investigaciones Pesqueras, La Habana, Contribución No. 6*: 1-31.
- . 1955a. The first year of the shrimp industry in Cuban waters. *Proceedings of the Gulf and Caribbean Fisheries Institute*, 7th Annual Session: 180.
- . 1955b. Biología y tecnología en la industria del ostión. *Revista Universitaria Oriente*.
- , J. T. Acosta, and M. Alemany. 1960. Hallazgo de *Trachypenaeus constrictus* en el Golfo de Batabanó. *Notas sobre investigaciones. Centro de Investigaciones Pesqueras, La Habana* 1: 1-6.
- . 1961. Datos sobre la biología pesquera del camarón (*Penaeus duorarum* Burkenroad), Instituto Cubano de Investigaciones Tecnológicas No. 20: 176.
- . 1964. *Nueva Zoología*. Textbook: 1-435.
- . 1967. A new species and two new subspecies of shrimp of the genus *Penaeus* from the western Atlantic. *Proceedings of the Biological Society of Washington* 80: 83-100.
- . 1969. Western Atlantic shrimps of the genus *Penaeus*. *Fishery Bulletin, United States* 67: 461-591.
- . 1970a. Diagnostic characters of juveniles of the shrimps *Penaeus aztecus aztecus*, *P. duorarum duorarum*, and *P. brasiliensis* (Crustacea, Decapoda, Penaeidae). *United States Fish and Wildlife Service, Special Scientific Report, Fisheries* 559: 1-26.
- . 1970b. Claves ilustradas para la identificación de los camarones comerciales de la América Latina. *Instituto Nacional de Investigaciones Biológico-Pesqueras, México Serie Divulgación, Instructivo* 3: 1-48.
- . 1970c. Sinopsis de datos biológicos sobre el camarón blanco *Penaeus schmitti* Burkenroad, 1936. *Food and Agriculture Organization of the United Nations Fishery Report* 57: 1417-1438.
- . 1971a. Western Atlantic shrimps of the genus *Metapenaeopsis* (Crustacea, Decapoda, Penaeidae), with descriptions of three new species. *Smithsonian Contributions to Zoology* 79: 1-37.
- . 1971b. A key to the American Pacific shrimps of the genus *Trachypenaeus* (Decapoda, Penaeidae), with description a new species. *Fishery Bulletin, United States* 69: 635-646.
- . 1971c. Características diagnósticas de los juveniles de *Penaeus aztecus subtilis*, *P. duorarum notialis* y *P. brasiliensis* (Crustacea, Decapoda, Penaeidae). *Memoria Sociedad de Ciencias Naturales (La Salle) No. 87*: 159-182.
- . 1971d. Range extension of the shrimp *Penaeus (Melicertus) brasiliensis* Latreille, 1817 (Decapoda, Penaeidae). *Bulletin of Marine Science* 21: 745-747.
- . 1972a. *Tanypenaeus caribaeus*, a new genus and species of the shrimp family Penaeidae (Crustacea, Decapoda) from the Caribbean Sea. *Bulletin of Marine Science* 22: 185-195.
- . 1972b. Review: Tirmizi, Nasima M. and Badar-un-Nisa Khan. A handbook on a Pakistani marine prawn *Penaeus*. (Department of Publications, University of Karachi, Pakistan). *Crustaceana* 22: 208.
- . 1973. Morphological study of diagnostic characters in western Atlantic *Hepomadus* (Crustacea, Decapoda, Penaeidae). *Fishery Bulletin, United States* 71: 441-453.
- , and H. R. Bullis. 1973. Western Atlantic shrimps of the genus *Solenocera* with description of a new species (Crustacea: Decapoda: Penaeidae). *Smithsonian Contributions to Zoology* 153: 1-33.
- . 1974. Range extension of *Penaeus (Litopenaeus) occidentalis* Streets, 1871 (Decapoda, Penaeidae) into the Gulf of Tehuantepec. *Crustaceana* 27: 316-319.
- . 1975a. Spermatophores and thelyca of the American white shrimps, genus *Penaeus*, subgenus *Litopenaeus*. *Fishery Bulletin, United States* 73: 463-486.
- . 1975b. Camarones Marinos de América y su valor comercial. *Almanaque Mundial*: 36-42
- . 1975c. A redescription of *Penaeus (Melicertus) canaliculatus* (Olivier, 1811), a wide ranging Indo-West Pacific shrimp. (Crustacea, Decapoda, Penaeidae). *Zoologische Mededelingen. Rijksmuseum Natuurlijke. Historie Leiden* 50: 23-37.
- . 1977a. American solenocerid shrimps of the genera *Hymenopenaeus*, *Haliporoides*, *Pleoticus*, *Hadropenaeus* new genus., and *Mesopenaeus* new genus. *Fishery Bulletin, United States* 75: 261-346.
- . 1977b. *Penaeopsis eduardoi*, a new shrimp (Crustacea: Penaeidae) from the Indo-West Pacific. *Proceedings of the Biological Society of Washington* 90: 172-182.
- . 1977c. Range extensions of the shrimps *Solenocera necopina* Burkenroad and *Parapenaeus americanus* Rathbun (Crustacea, Decapoda, Penaeoidea). *Proceedings of the Biological Society of Washington* 90: 597-599.
- . 1978a. Families Hippolytidae, Palaemonidae (Caridea), and Penaeidae, Sicyoniidae and Solenoceridae (Penaeoidea), VI [unpaginated]. In: Fischer, W. (ed.), *Food and Agriculture Organization of the United Nations (FAO), Species Identification Sheets for Fishery Purposes, Western Central Atlantic (Fishing Area 31)*. FAO, Rome.
- . 1978b. Intersex anomalies in shrimp of the genus *Penaeopsis* (Crustacea: Penaeidae). *Fishery Bulletin, United States* 76: 687-691.

- . 1979a. *Penaeopsis jerryi*, new species from the Indian Ocean (Crustacea: Penaeoidea). Proceedings of the Biological Society of Washington 92: 208-215.
- . 1979b. Range extension of *Penaeopsis serrata* (Crustacea: Penaeoidea) from New Jersey to Rio Grande do Sul. Proceedings of the Biological Society of Washington 92: 204-207.
- , and B. G. Ivanov. 1979. Range extension of *Penaeopsis serrata* (Crustacea: Penaeoidea) from New Jersey to Rio Grande do Sul. Proceedings of the Biological Society of Washington 92: 204-207.
- . 1980a. Revision of the penaeid shrimp genus *Penaeopsis* (Crustacea: Decapoda). Fishery Bulletin, United States 77: 721-763.
- . 1980b. A new species of the genus *Sicyonia* (Penaeoidea) with a key to the western Atlantic species. Proceedings of the Biological Society of Washington 93: 771-780.
- , and D. L. Grey. 1980. A new species of *Solenocera* (Crustacea: Decapoda: Solenoceridae) from northern Australia. Proceedings of the Biological Society of Washington 93: 421-434.
- . 1981. *Solenocera alfonso*, a new species of shrimp (Penaeoidea: Solenoceridae) from the Philippines. Proceedings of the Biological Society of Washington 94: 631-639.
- , and B. B. Boothe. 1981. *Sicyonia martini*, a new rock shrimp (Decapoda: Penaeoidea) from the American Pacific. Journal of Crustacean Biology 1: 424-432.
- . 1982a. The geminate shrimp species *Parapenaeus longirostris* and *Parapenaeus politus* (Crustacea: Decapoda: Penaeoidea). Quaderni del Laboratorio di Tecnologia Della Pesca 3: 187-205.
- . 1982b. Camarones. In: N. Chirichigno, W. Fischer and C. E. Nauen (eds.) INFOPECA. Catálogo de especies marinas de interés económico actual o potencial para América Latina. Pt. 2. Pacífico centro y suoriental, pp. 363-381. Food and Agriculture Organization of the United Nations, PNUD/SIC 82, Rome.
- . 1982c. Review. Suarez Caabro, J. A. 1979. El Mar de Puerto Rico. Una introducción a las Pesquerías de la Isla, Editorial Universitaria, Universidad de Puerto Rico, 259 pp. Interamericana 22: 68.
- , and H. H. Hobbs, Jr. 1982. Obituary: Alejandro Villalobos Figueroa, 1918-1982. Journal of Crustacean Biology 3: 492-495.
- , and B. G. Ivanov. 1982. *Mesopenaeus mariae*, a new species of shrimp (Penaeoidea: Solenoceridae), the first record of the genus in the Indo-West Pacific. Journal of Crustacean Biology 2: 303-313.
- . 1985a. The rock shrimp genus *Sicyonia* (Crustacea: Decapoda: Penaeoidea) in the eastern Pacific. Fishery Bulletin, United States 83: 1-79.
- . 1985b. New locality records for *Cryptopenaeus catherinae* De Freitas and *Benthescymus bartletti* S. I. Smith (Decapoda: Penaeoidea). Crustaceana 48: 316-318.
- , and B. Kensley. 1985. *Cryptopenaeus crosnieri*, a new species of shrimp, and a new record of *C. sinensis* (Penaeoidea: Solenoceridae) from Australian waters. Proceedings of the Biological Society of Washington 98: 281-287.
- , and B. B. Boothe. 1986. Redescription and range extension of the shrimp *Parapenaeopsis balli* (Decapoda: Penaeoidea). Journal of Crustacean Biology 6: 401-407.
- . 1987. Revision of the gamba prawn genus *Pseudaristeus*, with description of two new species (Crustacea: Decapoda: Penaeoidea). Fishery Bulletin, United States 85: 311-338.
- . 1988. Illustrated key to penaeoid shrimps of commerce in the Americas. NOAA Technical Report, National Marine Fisheries Service 64: 1-32.
- , and Lori Robertson. 1992. Hermaphroditism in the penaeid shrimp *Penaeus vannamei* (Crustacea: Decapoda: Penaeidae). Aquaculture 103: 367-376.
- , and B. Kensley. 1997. Penaeoid and Sergestoid Shrimps and Prawns of the World. Keys and Diagnosis for the families and genera. Mémoires du Muséum national d' Histoire naturelle 5: 1-233.

APPENDIX 2:

PENAEOID TAXA AUTHORED BY ISABEL PÉREZ FARFANTE

- Austropenaeus* Pérez Farfante and Kensley, 1997
- Cryptopenaeus crosnieri* Pérez Farfante and Kensley, 1985
- Farfantepenaeus notialis* (Pérez Farfante, 1967)
- Farfantepenaeus paulensis* (Pérez Farfante, 1967)
- Farfantepenaeus subtilis* (Pérez Farfante, 1967)
- Fenneropenaeus* Pérez Farfante, 1969
- Hadropenaeus* Pérez Farfante, 1977a
- Litopenaeus* Pérez Farfante, 1969
- Megokris* Pérez Farfante and Kensley, 1997
- Mesopenaeus* Pérez Farfante, 1977a
- Mesopenaeus mariae* Pérez Farfante and Ivanov, 1982
- Metapenaeopsis gerardoi* Pérez Farfante, 1971a
- Metapenaeopsis hobbsi* Pérez Farfante, 1971a
- Metapenaeopsis martinella* Pérez Farfante, 1971a
- Pelagopenaeus* Pérez Farfante and Kensley, 1997, new designation
- Penaeopsis eduardoi* Pérez Farfante, 1977b
- Penaeopsis jerryi* Pérez Farfante, 1979a
- Pseudaristeus kathleenae* Pérez Farfante, 1987
- Pseudaristeus protensus* Pérez Farfante, 1987
- Rimapenaeus* Pérez Farfante and Kensley, 1997
- Rimapenaeus fuscina* (Pérez Farfante, 1971b)
- Sicyonia martini* Pérez Farfante and Boothe, 1981
- Sicyonia olgae* Pérez Farfante, 1980b
- Solenocera acuminata* Pérez Farfante and Bullis, 1973
- Solenocera alfonso* Pérez Farfante, 1981, forma *inermis* Crosnier, 1989
- Solenocera alfonso* Pérez Farfante, 1981, forma *typica* Crosnier, 1989
- Solenocera australiana* Pérez Farfante and Grey, 1980
- Tanypenaeus* Pérez Farfante, 1972a
- Tanypenaeus caribaeus* Pérez Farfante, 1972a