New distribution ranges and records of caridean shrimps (Crustacea: Decapoda: Caridea) from the west coast of Mexico

Nuevos intervalos de distribución y registros de camarones carideos (Crustacea: Decapoda: Caridea) de la costa oeste de México

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ABSTRACT

Geographic records are presented for 24 species of Caridea (Crustacea: Decapoda) along Pacific coast of Mexico, in the East Pacific. New records are presented for *Psathyrocaris fragilis* Wood-Mason, 1893 (from Peru to Mexico), *Periclimenes infraspinis* (Rathbun, 1902), *Pontonia margarita* Smith, 1869, *Alpheus cristulifrons* Rathbun, 1900, *Alpheus umbo* Kim & Abele, 1988, *Automate rugosa* Coutière, 1900, and *Lysmata californica* (Stimpson, 1866) (within the Gulf of California), and *Typton hephaestus* Holthuis, 1951 (from the Gulf of California to the Gulf of Tehuantepec, Mexico). Additional records are given that establish the presence of species at intermediate localities within the Gulf of California and along the southwestern coast of Mexico.

Key words: Caridea, new records, Pacific Mexico

RESUMEN

Se recolectaron especímenes de 24 especies de Caridea (Crustacea: Decapoda) en la costa del Pacífico de México, en el Pacífico Este. Nuevos registros geográficos son señalados para *Psathyrocaris fragilis* Wood-Mason, 1893 (desde Perú hasta México), *Periclimenes infraspinis* (Rathbun, 1902), *Pontonia margarita* Smith, 1869, *Alpheus cristulifrons* Rathbun, 1900, *Alpheus umbo* Kim & Abele, 1988, *Automate rugosa* Coutière, 1900 y *Lysmata californica* (Stimpson, 1866) (en el Golfo de California) y para *Typton hephaestus* Holthuis, 1951 (del Golfo de California hasta el Golfo de Tehuantepec, México). Se proporciona información adicional acerca de la presencia de algunas especies en localidades intermedias en el Golfo de California y a lo largo de la costa suroeste de México.

Palabras clave: Caridea, nuevos registros, Pacífico mexicano

INTRODUCTION

Marine biodiversity and biogeography studies are based on floristic and faunistic records available for distinct regions of the world. National or regional collections of species are of paramount importance in this respect. Any attempt to increase or complete their holdings indirectly favour a better understanding of species distribution and richness in natural environments. The safest and most adequate way are direct observations, when

possible (i.e., in the intertidal, in shallow water, or with robotic devices in deep water), which contribute to our knowledge on abundance, behaviour and composition of the flora and fauna. However, collection of specimens in the field still represents the safest and more adequate way to study the richness of the sea.

The west coast of Mexico is particularly interesting due to the confluence of several geographic provinces, including the warm temperate California Province (under the influence of the California Current), the Cortés Province (covering the Gulf of California and the SW tip of the Baja California Peninsula), with a high degree of endemism, and the tropical waters of the Mexican Province (south of the Gulf of California to *ca*. 16°N). To the south it continues to the northern end of the Panamic Province (south of 16°N to the Guatemala border) (Brusca & Wallerstein, 1979; Brusca, 1980; Hendrickx, 1992; Hendrickx et al., 2005; Espinosa-Pérez & Hendrickx, 2006). This mixture of fauna makes the west coast of Mexico particularly attractive for distributional studies.

Decapod crustaceans are undoubtedly one of the best known groups of marine invertebrates in the eastern tropical Pacific. Among these, the Caridea has received much attention. We have considerable knowledge of species composition of this group in distinct habitats in the area and of their large-scale geographic distribution (see Wicksten & Hendrickx, 2003). In many cases, however, we still lack useful information on local geographic or bathymetric distributions and on the relative importance of species in their habitat in terms of abundance and trophic relationships. Also, due to strong pressure on some marine coastal habitats, it is important to gather records on the presence of the species for long periods of time. This obviously includes the use of field samples obtained in the past that have not yet been studied.

Much information on ranges of decapod crustacean species in the eastern tropical region is based on the Allan Hancock Pacific Expeditions (1936-1955). More recently, however, collections made by Mexican institutions have considerably increased, allowing for many new records and new species descriptions (see Brusca, 1980; Wicksten, 1983; Hendrickx, 1993; Hendrickx et al. 2005).

This note reports on a series of 24 species of Caridea that were collected between 1979 and 2004 in natural ecosystems along the west coast of Mexico.

MATERIAL AND METHODS

Samples were either collected by hand or with small devices (e.g., shovel, hand nets) in coastal environments, or aboard the R/V "El Puma" of the Universidad Nacional Autónoma de México (UNAM) during cruises organized by the Laboratorio de Invertebrados Bentónicos, ICML, Mazatlán (SIPCO, CORTES, TALUD cruises) or by other laboratories or institutions (CEEMEX, BIOCAPESS and AA8110 cruises). Unless indicated, material was collected by staff of the Laboratorio de Invertebrados Bentónicos. All the specimens reported herein have been deposited in the Regional Collection of Marine Invertebrates (EMU), ICML, UNAM, in Mazatlán, Mexico. Abbreviations are: St., sampling station; CL, carapace length (from orbit to posterior margin of carapace); ovig., ovigerous; coll. collector. Unless it is indicated, specimens were not sexed and not measured. To avoid confusion in translating geographic localities where material was collected or previously reported, all names were used in their Spanish spelling.

RESULTS

Systematic section

Superfamilia Pasiphaeoidea Dana 1852

Familia Pasiphaeidae Dana 1852

Leptochela serratorbita Bate, 1888

Material examined.- Bahía de Mazatlán, C10 B/E FC1, St. 3 (23°12'13"N, 106°27'21"W), 1 specimen, 11/Apr/1980, Van Veen grab, 13 m (EMU-8840-C). Bahía de Mazatlán, C11 B/E FC1, St. 4 (23°13'23"N, 106°27'20"W), 1 specimen, 30/Abr/1980 (EMU-8840-A). South of Isla Carmen, CORTES 1, St. 10 (25°58'0"N, 111°7'0"W), 4/May/1982, 2 specimens, 30 m (EMU-8844-A). Off Cabo San Miguel, CORTES 2, St. 21 (28°8'18"N, 112°41'36"W), 1 specimen, 13/Mar/1985, 108 m, otter trawl (EMU-8848). Off Banco Gorda, CORTES 2, St. 57 (23°8'12"N, 109°26'42"W), 4 specimens, 21/Mar/1985, 56 m (EMU-8844-B). Bahía de Mazatlán (23°13'N, 106°27"W), date unknown, 1 specimen, depth unknown (EMU-8840-B).

Previous geographic records.- Eastern Pacific from Gulf of California, Mexico, to Costa Rica; also in West Atlantic (Wicksten & Hendrickx, 2003).

Remarks.-The present records confirm the presence of this species throughout the Gulf of California.

Psathyrocaris fragilis Wood-Mason, 1893

Material examined.- TALUD XII cruise, St. 29 (19°19'37"N, 105°26'20"W), 1 specimen, 2/Apr/2008, 1180-1299 m depth, benthic sledge (EMU-8864).

Previous geographic records.- Off Peru, between *ca*. 8°43'S and 6°13'S (Mendez, 1981). Also known from the Indo-Pacific and the East Atlantic (Hendrickx & Estrada-Navarrete, 1989).

Remarks.- The present record increases the known distribution range to the north by 25 degrees of latitude.

Superfamilia Palemonoidea Rafinesque, 1815

Familia Gnathophyllidae Dana, 1852

***Gnathophyllum panamense* Faxon, 1893**

Material examined.- Guaymas (27°56'N, 111°5'W), 1 specimen, 8/Feb/1986, rocky intertidal, open pool (EMU-8856-A).

Previous geographic records.- Southern Baja California and Sonora, Mexico, to Colombia; Islas Galápagos (Wicksten & Hendrickx, 2003).

Remarks.-The present record confirms the presence of this species in the east-central Gulf of California.

Familia Palaemonidae

***Macrobrachium digueti* (Bouvier, 1895)**

Material examined.- Río Baluarte, Rosario, Sinaloa (unknown locality), 1 ovig. female and 4 specimens, 25/Oct/1980, shallow water, hand net (coll. García Higuera) (EMU-8819).

Previous geographic records.- Mulegé, Southern Baja California and Sinaloa, Gulf of California, to Peru (Wicksten & Hendrickx, 2003).

Remarks.- Species of *Macrobrachium*, which inhabit rivers and estuaries, are becoming endangered due to habitat destruction. The present record provides additional information on the distribution of this species.

***Macrobrachium tenellum* (Smith, 1871)**

Material examined.- Estero El Verde (23°25'30"N, 106°33'0"W), 2 specimens, 11/Jul/1979, shallow water, hand net (EMU-8847).

Previous geographic records.-Sonora, Río Mulegé, Southern Baja California and Sinaloa, to Guerrero, Mexico; south to Peru (Wicksten & Hendrickx, 2003; Román, 2004).

Remarks.-The present record confirms the unusual habitat (estuarine) for this threatened species. Most *Macrobrachium* species are restricted to freshwater but *M. tenellum* has been found in water with salinity up to 22$^{o}/_{oo}$. Of all species of *Macrobrachium* occurring in rivers drainage and coastal lagoons along the west coast of Mexico, *M. tenellum* is the most frequently reported (see Hendrickx, 1984; Román, 2004; Hernández et al., 2007).

***Palaemon ritteri* Holmes, 1895**

Material examined.- Ensenada de Bacochibampo (27°54'42"N, 110°56'58"W), 2 females, 6/Mar/1992, 1-2 m (EMU-8813).

Previous geographic records.- Southern California, USA, and Gulf of California from San Felipe to La Paz, Baja California, and from Puerto Peñasco to Guaymas, Sonora (Wicksten 1983); southwards to Peru; Tres Marías, Cocos and Galapagos islands (Wicksten & Hendrickx, 2003).

Remarks.-The present record confirms the presence of this species in the southeastern Gulf of California.

***Palaemonella holmesi* (Nobili, 1907)**

Material examined.- Bahía de Mazatlán (23°13'0"N, 106°27'0"W), 1 specimen, 7/Jul/1979 (coll. Marco Leopoldo Orozco Romo) (EMU-8820). Off Cabo San Miguel, CORTES 1 cruise, St. 19 (28°8'42"N, 112°48'12"W), 1 ovig. female, 6/May/1982, 30 m (EMU-8837). Off Cabo San Miguel, CORTES 3 cruise, St. 19, (28°8'24"N, 112°47'12"W), 1 specimen, 1/Aug/1985, 23 m (EMU-8811). Beach at Piedras Pintas, Guaymas (27°56'5"N, 111°5'5"W), 3 specimens, 24/Mar/1997, 3 m, scuba diving, among algae and rocks (EMU-8816-A). Bahía Sendero Viejo, Guaymas (27°52'0"N, 110°52'26"W), one specimen, 27/Mar/1997, 2 m, scuba diving, among algae and rocks (EMU-8816-B).

Previous geographic records.- Southern California, USA, and Central Gulf of California, from Cabo San Miguel, Baja California, and El Desemboque, Sonora, to Ecuador; Tres Marías, Revillagigedo and Galapagos islands (Wicksten, 1983; Wicksten & Hendrickx, 2003).

Remarks.-The present records confirm the presence of this species in the southeastern Gulf of California and provide new records within the recorded range.

***Periclimenes infraspinis* (Rathbun, 1902)**

Material examined.- Off Punta San Marcial, CORTES 2 cruise, St. 8 (25°34'12"N, 110°59'12"W), 1 specimen, 11/Mar/1985, 52 m (EMU-8822). Off Punta San Marcial, CORTES 3 cruise, St. 8 (25°33'24"N, 110°59'48"W), 3 ovig. females, 30/Jul/1985, 52 m (EMU-8854). Off Punta San Marcial, CORTES 3 cruise, St. 10 (25°58'18"N, 111°7'12"W), 1 ovig. female and 1 specimen, 30/jul/1985, 30 m (EMU-8827). Off Punta Tepoca, CORTES 3 cruise, St. 42 (30°12'30"N, 112°50'0"W), 5 specimens, 5/Aug/1985, 23 m (EMU-8838).

Previous geographic records.- Southern California, USA, and Scammon's Lagoon, Baja California; from "Marcial Rock" (Punta Marcial), and Estero El Soldado, Sonora, in the northern Gulf of California, Mexico, to Costa Rica; Islas Galápagos (Wicksten & Hendrickx, 2003).

Remarks.- The Tepoca material is about 4°40' degrees of latitude north of the previous northernmost record (i.e., Punta San

Marcial). The additional records confirm the continued presence of this species within its recorded range.

***Pontonia margarita* Smith, 1869**

Material examined.- Guaymas (*ca*. 27°56'N, 111°5'W), 4 specimens, date unknown, intertidal (coll. L.T. Findley) (EMU-8830). Mazatlan harbour (23°10'41"N, 106°25'29"W), 2 specimens, 23/Mar/1983, 7 m (coll. Gustavo Klein Barreda) (EMU-8855). Isla Chivos, Mazatlán (23°10'42"N, 106°24'43"W), 3 males and 3 females, 3/Dec/1987, scuba diving, "madre perla" (EMU-8865).

Previous geographic records.- Southern Gulf of California to Colombia; Tres Marías and Galapagos islands (Wicksten & Hendrickx, 2003).

Remarks.- The Guaymas material represents a northern range extension of this species (by *ca*. two degrees of latitude), previously know up to Bahía Agua Verde (25°31"N, 111°0"W), east coast of Southern Baja California. There are three previous records of this species in the Southern Gulf of California: two in Bahía Mazatlán (EMU-876; EMU-1097) and one in La Paz (EMU-875) (Hendrickx, 1994).

***Pontonia simplex* Holthuis, 1951**

Material examined.- Isla Puercos, Barra de Navidad (19°11'20"N, 104°40'34"W), 1 specimen, 8/Sep/1983, intertidal (coll. Carlos Escobar Nataren) (EMU-8821).

Previous geographic records.- Only known from Puerto Escondido, Baja California, in the Southern Gulf of California, and Bahía Tenacatita, Colima, Mexico; also recorded in Panama (Wicksten & Hendrickx, 2003).

Remarks.- The specimen from Barra de Navidad is the third record for Mexico.

***Typton hephaestus* Holthuis, 1951**

Material examined.- Off Río Suchiate, Gulf of Tehuantepec, CEEMEX P7 cruise, St. 39 (14°21'48"N, 92°34'24"W), 2 specimens, 13/May/1992, 64 m (EMU-8842). Barra de Navidad (19°11'24"N, 104°41'38"W), 1 specimen of probably that species, 11/Sep/1982, intertidal (EMU-8828).

Previous geographic records.- "Scammon's Lagoon" (Laguna Ojo de Liebre) and La Paz, Baja California; Islas Tres Marías (Wicksten & Hendrickx, 2003).

Remarks.- The material examined herein represents two southern extensions of the distribution range of this species, from Tres Marías (ca 21°36'N, 106°24'W) all the way to the Gulf of Tehuantepec (*ca*. 7°15' degrees of latitude to the south).

Superfamilia Alpheoidea Rafinesque, 1815

Familia Alpheidae Rafinesque, 1815

***Alpheus bellimanus* Lockington, 1877**

Material examined.- Off Cabo San Miguel, CORTES 3, St. 19 (28°8'24"N, 112°47'12"W), 5 specimens, 1/Aug/1985, 23 m (EMU-8812). Off Río Copalita, CEEMEX P7, St. 3 (15°46'6"N, 96°1'30"W), 1 specimen, 14/May/1992, 48 m (EMU-8841).

Previous geographic records.- California, USA, and throughout the Gulf of California, Mexico (Hendrickx & Hermoso-Salazar, 2005), to Chile; Revillagigedo and Galapagos islands (Wicksten & Hendrickx, 2003).

Remarks.- The only previous record of this species in the Gulf of Tehuantepec is east of Salina Cruz and off Tonala (Hendrickx & Vazquez-Cureño, 1998; Hendrickx & Hermoso-Salazar, 2005). There are few records of this species in the central Gulf of California, where the specimen from off Cabo San Miguel was taken.

***Alpheus utriensis* Ramos & Von Prahl, 1989**

Material examined.- Off Cabo San Miguel, CORTES 3, St. 19 (28°08'24"N, 112°47'12"W), 2 specimens, 1/Aug/1985, 27 m (EMU-8810).

Previous geographic records.- Puerto Escondido, Southern Gulf of California, Mexico, to Colombia (also in the Atlantic) (Wicksten & Hendrickx, 2003; Anker *et al*., 2008).

Remarks.- The present record represents a northern range extension of this species in the Gulf of California. The material from Cabo San Miguel was collected simultaneously with the specimens reported by Hendrickx & Hermoso-Salazar (2005). In western Mexico, *A. utriensis* also is known only from Isla Isabel (Kim & Abele, 1988), Puerto Escondido (Wicksten, 1983), and the Islas Tres Marías (Hendrickx & Hermoso-Salazar, 2005, previous records in Mexico as A. cristulipes).

***Alpheus umbo* Kim & Abele, 1988**

Material examined.- Guaymas (27°56'N, 111°5'W), 1 specimen, 3/Feb/1986, intertidal (EMU-8858). Punta Mita, near village (20°47'20"N, 105°31'5"W), 2 specimens of probably that species, 12/Nov/2004, intertidal (EMU-8833).

Previous geographic records.- Angel de la Guarda, San Francisco, Espíritu Santo, Tres Marías islands, and La Paz, east coast of Baja California; south to Colombia (Kim & Abele, 1988; Wicksten & Hendrickx, 2003).

Remarks.- The Guaymas material represents the first record along the east coast of the Gulf of California. The specimens from

Punta Mita constitute the first record of this species from the southwestern coast of Mexico.

***Automate* cf. *dolichognatha* de Man, 1888**

Material examined.- Off Río Fuerte, CORTES 1, St. 51, (25°39'36"N, 109°30'36"W), 1 specimen, 12/May/1982, 56 m (EMU-8849).

Previous geographic records.- *Automate dolichognatha* is known from Southern California, USA, to Peru, including two records (Laguna Percebu and Isla Espíritu Santo) along the west coast of the Gulf of California; Tres Marías, Revillagigedo, Cocos and Galapagos islands (Wicksten & Hendrickx, 2003).

Remarks.- The Río Fuerte material represents the first strictly continental record of this species along the east coast of the Gulf of California. Because the specimen was not in a very good state of conservation and due to unresolved taxonomic difficulties, the identification of this material is tentative.

***Automate rugosa* Coutière, 1900**

Material examined.- Off Teacapan, SIPCO III, St. A1 (22°24'12"N, 105°54'24"W), 2 specimens, 15/Jan/1982, 40 m (EMU-8845). Off Punta Tepoca, CORTES 2, St. 42 (30°12'6"N, 112°47'0"W), 1 specimen, 17/Mar/1985, 30 m (EMU-8843). Off Punta Arboleda, CORTES 3, St. 15 (26°52'48"N, 110°5'54"W), 2 specimens, 31/Jul/1985, 46 m (EMU-8835).

Previous geographic records.- Isla Cedros, Baja California, and Gulf of California northwards to Estero Tastiota, Sonora, Mexico; south to Panama (Wicksten & Hendrickx, 2003).

Remarks.- The Punta Tepoca record is slightly north (about one degree of latitude) than previous northernmost record at Estero Tastiota.

Hippolytidae Bate, 1888

***Hippolyte williamsi* Schmitt, 1924**

Material examined.- Punta Mita, near village (20°47'20"N, 105°31'5"W), 10 specimens, 12/Nov/2004, intertidal, rocky shore (EMU-8832).

Previous geographic records.- Sonora, Mexico, to Chile, including Zihuatanejo, Guerrero (Wicksten, 1983); Islas Galápagos (Wicksten & Hendrickx, 2003).

Remarks.- The material from Punta Mita confirms the occurrence of this species between the Gulf of California and Zihuatanejo.

***Lysmata californica* (Stimpson, 1866)**

Material examined.- Off Río Baluarte, BIOCAPESS III, St. 13, (22°47'48"N, 106°54'42"W), 1 ovig. female, 19/Oct/1990, 25 m (EMU-8825).

Previous geographic records.- Tomales Bay, California, to Bahía Magdalena, northern Gulf of California, and to Guaymas (Wicksten, 2000; Wicksten & Hendrickx, 2003).

Remarks.- The Río Baluarte material is a southern extension of the species distribution range by about 5 degrees of latitude along the east coast of the Gulf of California. An intertidal species in southern California, *L. californica* appears as a strictly subtidal species in the more southern part of its range.

***Lysmata galapagensis* Schmitt, 1924**

Material examined.- Barra de Navidad (19°11'24"N, 104°41'38"W), 2 specimens, 21/Sep/1983, intertidal (coll. Carlos Escobar Nataren) (EMU-8836).

Previous geographic records.- Bahía Magdalena, Southern Baja California, and east coast of the Gulf of California to Costa Rica and Panama; Tres Marías, Malpelo and Galapagos islands (Wicksten, 2000; Wicksten & Hendrickx, 2003).

Remarks.-The present material confirms the presence of this species on the southwestern coast of Mexico.

***Thor algicola* Wicksten, 1987**

Material examined.- Guaymas (*ca.* 27°56'N, 111°5'W), 9 specimens, 3/Feb/1986, intertidal (EMU-8857). Ensenada of Bacochibampo (27°54'42"N, 110°56'58"W), 2 specimens, 26/Mar/1992, depth unknown (EMU-8814). Beach at Piedras Pintas, Guaymas (27°56'5"N, 111°5'5"W), 7 specimens, 24/Mar/1997, 3 m, scuba diving, among algae and rocks (EMU-8809). Bahía Sendero Viejo, Guaymas (27°52'0"N, 110°52'26"W), 5 specimens, 27/Mar/1997, 2 m, scuba diving (EMU-8815). Punta Mita, near village (20°47'20"N, 105°31'5"W), 2 specimens, 12/Nov/2004, intertidal (EMU-8831).

Previous geographic records.- Throughout the Gulf of California, except in Sinaloa-Nayarit; in Zihuatanejo and Acapulco, Mexico, to Panama; Islas Tres Marías (Wicksten, 1987; Wicksten & Hendrickx, 2003)

Remarks.-The present records from Punta Mita confirm the presence of this species in the state of Nayarit and provide new records from areas within its recorded range.

Superfamilia Processoidea Ortmann, 1896

Familia Processidae Ortmann, 1896

***Processa* cf. *aequimana* (Paulsson, 1875)**

Material examined.- Bahía Algodones, San Carlos (27°57'0"N, 111°5'42"W), 1 specimen, 25/Mar/1997, 3 m, scuba diving (EMU-8818). Beach at Punta Mita, near village (20°47'20"N, 105°31'5"W), 3 specimens, 12/Nov/2004, rocky intertidal (EMU-8834).

Previous geographic records.- Upper Gulf of California, Mexico, to Mazatlán. Also in the Indo-West Pacific (Wicksten & Hendrickx, 2003).

Remarks.-The record from Punta Mita extends the range of this species in the eastern Pacific south by about three degrees of latitude. The record from Bahía Algodones confirms the continued presence of the species within its known range. Identification of this material is tentative due to unresolved taxonomic difficulties.

***Processa peruviana* Wicksten, 1983**

Material examined.- Off Punta Piaxtla, SIPCO III, St. C1 (23°37'12"N, 106°55'54"W), 1 specimen, 16/Jan/1982, 45 m (EMU-8846). Off Banco Gordo, CORTES 1 cruise, St. 56 (23°7'0"N, 109°25'0"W), 1 specimen, 13/May/1982, 82 m (EMU-8808-B). Off Punta San Marcial, CORTES 2, St. 9 (25°47'48"N, 111°4'24"W), 1 specimen, 11/Mar/1985, 78 m (EMU-8826-A). Off Punta Willard, CORTES 2, St. 34 (30°11'24"N, 114°3'540"W), 1 specimen, 15/Mar/1985, 26 m (EMU-8808-A). Off Estero Tastiota CORTES 2, St. 48 (28°16'12"N, 111°36'48"W), 1 specimen, 18/Mar/1985, 62 m (EMU-8826-B). Off Punta San Marcial, CORTES 3, St. 8 (25°33'24"N, 110°59'48"W), 2 ovig. females, 30/Jul/1985, 52 m (EMU-8839). Off Bahía Tepoca, CORTES 3, St. 42 (30°12'30"N, 112°50'0"W), 4 juveniles of probably that species, 5/Aug/1985, 23 m (EMU-8823).

Previous geographic records.- Southern California, USA, to southern Baja California, throughout the Gulf of California, Mexico, and to Peru; Islas Galápagos (Wicksten & Hendrickx, 2003).

Remarks.- The frequent apparition of this species in samples taken on the inner and mid sections of the continental platform indicates that it is a major component of the benthos community in this habitat within the Gulf of California.

Superfamilia Pandaloidea Haworth, 1825

Familia Pandalidae Haworth, 1825

***Plesionika beebei* Chace, 1937**

Material examined.- South of Isla San Pedro Nolasco, AA8110, St. 59-45 (27°51'0"N, 111°18'0"W), 34 specimens, 20/Oct/1981, between 0-300 m, plankton haul (EMU-8807). Off Río Fuerte, CORTES 3, St. 50 (25°49'54"N, 109°36'12"W), 1 specimen, 8/Aug/1985, 93 m (EMU-8824).

Previous geographic records.- Southern California, USA, to Southern Baja California; central and southern Gulf of California to Peru (Wicksten & Hendrickx, 2003).

Remarks.- There are only six records for this species in the Gulf of California (Hendrickx & Wicksten, 1989; Hendrickx & Estrada-Navarrete, 1996), some from plankton nets, others from bottom trawls, but *P. beebei* certainly is a pelagic species incidentally collected in bottom trawls rising to the surface (Hendrickx & Estrada-Navarrete, 1996).

***Plesionika trispinus* Squires & Barragán, 1976**

Material examined.- Off Isla Altamura, TALUD II, St. 41, (24°53'30"N, 108°40'12"W), 1 specimen, 29/Mar/1990, 211 m (EMU-8850).

Previous geographic records.- Southern California, USA; SE Gulf of California, Mexico, to Peru (Wicksten & Hendrickx, 2003).

Remarks.- The record from Altamura slightly extends the northern range limit of this species by about half a degree of latitude. There are only three previous records for this species within the Gulf of California and one off the west coast of the Baja California Peninsula. There is, however, not a single record of it between the SE Gulf of California and the area corresponding to Colombia-northern Peru (Hendrickx & Estrada-Navarrete, 1996).

DISCUSION

Considering the fact that the Pacific coast of Mexico extends from the USA border to the border of Guatemala and covers part of the Californian zoogeographic province, the Cortés province, the Mexican province, and the northern end of the Panamic province (Espinosa-Pérez & Hendrickx, 2006), any new data related to species distribution is of interest as it can bring new light on the general zoogeographic patterns in the eastern Pacific. The first record for Pacific Mexico of *Psathyrocaris fragilis* is particularly interesting as pelagic decapods have been poorly studied in the area, mostly due to the cost of sampling in open sea and the fact that large, pelagic gears (e.g., Isaac-Kidds midwater trawl) have seldom been used (Hendrickx & Estrada-Navarrete, 1996). When records of caridean shrimp are reviewed, it becomes clear that there is a strong bias in favour of the most common, accessible, large or colourful species (e.g., genera *Alpheus*, *Macrobrachium*). On the other hand, there is a significant lack of data on the distribution of small species of Hippolytidae and Palaemonidae, although these might represent an important trophic link in shallow, coastal ecosystems. Species associated with other invertebrates like sponges, corals or other coral-associated species, are also poorly known and these peculiar habitats need to be investigat-

ed properly. In the last decade, two new species of *Synalpheus* were found associated with sponges along the coast of Mexico (Hermoso-Salazar & Hendrickx, 2006) and four species of the rare genus *Sandyella* (including three new species) were collected in reefs around Clipperton Island (Li & Poupin, 2009; Marin, 2010). Only through the thorough revision of unidentified material that has been held for many years in collections and museum within Mexico and in other countries (mostly in the USA), and by organizing more intensive, modern exploratory expeditions aimed at collecting rare or cryptic species, will we be able to understand how species communities have reacted to the ongoing climatic changes and the destruction of vital ecosystems.

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