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### Checklist of Penaeoid and Caridean Shrimps (Decapoda: Penaeoidea, Caridea) from the Eastern Tropical Pacific

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**ABSTRACT.**—A checklist of caridean and penaeoid shrimps known to date for the eastern tropical Pacific (ETP) is presented, and totals 227 species (39 penaeoids and 188 carideans). The list, based on the literature and the authors' unpublished data, includes northern and southern species that extend significantly into the ETP as well as species found only within the ETP. The range of each species within the ETP is provided, and its presence in other regions of the world is indicated.

Of the 227 species, 177 (about 80%) are endemic to the region. Among the non-endemics, 7 species occur worldwide; 19 species occur in the Indo-West Pacific, two of which occur also in the West Atlantic and one of which occurs also in the East Atlantic; eight species are found on both sides of the Atlantic; 16 species are found only in the western Atlantic; one species lives in the southern Atlantic; one species occurs in the Indian Ocean. The family Alpheidae is the most diverse, with 77 species, followed by the Palaemonidae, with 55 species.

**RESUMEN.**—Se presenta una lista de los camarones carideos y penaeoideos conocidos hasta la fecha para el Pacífico este tropical (PET), incluyendo 227 especies (30 Penaeoidea y 188 Caridea). Esta lista, basada en la literatura y en informaciones no publicadas por los autores, contiene las especies que se encuentran solamente en el PET así como las especies que se encuentran distribuidas al norte o al sur pero que extienden su distribución de manera significativa en el PET. Se proporcionan los límites de distribución de cada especie dentro del PET y se indica su eventual presencia en otras regiones del mundo.

Considerando las 227 especies conocidas para el PET, 177 (cerca del 80%) son endémicas de la región. Entre las especies no endémicas, 7 presentan una distribución mundial; 19 especies se encuentran en el Indo-Pacífico oeste, del los cuales dos se encuentran también en el Atlántico oeste y una en el Atlántico este; 8 especies se encuentran en ambos lados del Atlántico; 16 se encuentran solo en el Atlántico oeste; una especie vive en el Atlántico sur, y otra en el océano Índico. Con 77 especies, la familia Alpheidae es la más diversificada, seguida de la familia Palaemonidae con 55 especies.

#### INTRODUCTION

Caridean and/or penaeoid shrimps are present in virtually every habitat in marine or brackish waters. Carideans are most diverse in shallow tropical waters. Penaeoids are much less diverse and are usually associated with the continental shelf or slope.

Over the last 10 years, the caridean shrimp fauna of the eastern tropical Pacific (ETP) has been intensively studied. From 1970 to 1989, 52 new species were described from the ETP; of these, about 45 were added to the fauna of the region from 1980 to 1989. In contrast, the systematics of ETP penaeoids has been much more stable, with only two new species described from this region between 1970 and 1989. The shrimp fauna of waters deeper than 50 m is poorly known, with many species reported only from a few specimens or from collections made prior to 1900. See Wicksten (1989c) for an account of species deeper than 50 m.

The ETP encompasses diverse habitats: coral reefs, rocky cliffs,

tidepools, boulder zones, beds of algae and sea grasses, mangroves, mud flats, intertidal and shallow subtidal sandy areas, and volcanic seeps in deeper areas. These habitats support a high number of shrimp species.

At present, 29 species of penaeoid and 188 species of caridean shrimps are reported from the ETP. The eastern Pacific stenopodidean shrimps are discussed by Goy (this volume). Among the penaeoids the family Penaeidae is most diverse, while among the carideans the Alpheidae and Palaemonidae achieve the greatest diversity. These families also predominate in other tropical areas. Interestingly, roughly similar numbers of species of penaeoids and carideans have been reported from the West Indies and the Gulf of Mexico: 37 species of penaeoids (Chace 1972, Roberts and Pequegnat 1970), 200 species of carideans (Chace 1972, Pequegnat 1970). In contrast, in the tropical Indo-Pacific region these groups are vastly more diverse. Banner and Banner (1982), for example, reported 78 species of *Alpheus* from Australia alone, and Chace

(1985) cited 43 species of Pandalidae for the Philippines and central Indonesia.

We provide the following list in hopes that it will aid researchers trying to identify species and compare zoogeographic distributions.

### METHODS

The list presented herein includes records compiled from the literature and our own notes through 1990. Records of carideans from western Colombia are based on specimens sent by Gabriel Ramos, Universidad del Valle. Only benthic species or those that usually live on the bottom are included. A checklist of the pelagic shrimps of the entire east Pacific was prepared by Hendrickx and Estrada-Navarrete (1989). Our list includes species from all depths. Although we emphasized marine species, the river shrimps (*Macrobrachium* spp.) are included because it is difficult to separate those occurring in brackish water from those occurring exclusively in fresh water. Species of the family Atyidae are excluded, as they inhabit primarily fresh water. The area covered extends from the central west coast of Baja California, Mexico (about 25° N), to northern Peru (about 7° S) and includes the entire Gulf of California.

In the list, we follow the conservative familial classification presented by Bowman and Abele (1982) rather than recent revisions by Bruce (1986) and Christoffersen (1987, 1989a, b). Although these newer systems have merit, they have not yet received widespread acceptance.

Many of the records in the checklist were derived from the accounts of the collections of the steamer *Albatross* from Mexico to the Galapagos (Faxon 1893, 1895), the work by Méndez (1981) on the shrimp of Peru, the works on carideans of the Gulf of California, benthic offshore decapods of the eastern Pacific, and shrimps of the Galapagos Islands by Wicksten (1983, 1989c, in press); and the account of Kim and Abele (1989) on the decapods of Panama. The citations of species descriptions included in these works do not appear in our literature cited but can be found easily by reference to these regional accounts. We include citations for ranges included neither in these works nor in any other systematic accounts.

Synonyms, citations of original descriptions, and further discussion of the species of the Alpheidae, Hippolytidae, Palaemonidae, and Pandalidae can be found in the works of Kim and Abele (1988), Wicksten (1989b, 1990) Holthuis (1951, 1952), and Hendrickx and Wicksten (1989). Pérez Farfante (1985) published an extensive account of the species of *Sicyonia*. The nomenclature of the Alpheidae is likely to change because of recognition of synonyms, lack of consensus on the taxonomy, and non-verification of species identifications of earlier studies. Aspects of the systematics of the genus *Alpheus* and related shrimps are presented by Ríos and Knowlton and Mills in this volume.

Species are grouped by family, with families alphabetized within the Dendrobranchiata and Caridea. Within each family, genera and species are in alphabetic order. We have not included undescribed or provisionally identified species.

We could not check all of the records for misidentifications, newer synonyms, or other problems. We consider eastern Pacific-Caribbean geminate pairs to belong to separate species, that is, *Latreutes antiborealis* is considered the eastern Pacific relative of *L. parvulus* from the warm-temperate Atlantic and Caribbean, *Thor algicola* is considered separate from *T. manningi*, etc. We have listed every species of *Alpheus* reported from the eastern Pacific regardless of possible synonyms or taxonomic changes because no one has reexamined specimens that were identified prior to the publication of the work of Kim and Abele (1988). We list subspecies of *Synalpheus* separately.

If the range was given in the original species description and has

not been revised since, the source is the original citation. If the range has been mentioned by a later author, that author's citation is given at the end of the range. We attempted to be as precise as possible in describing ranges, but some authors gave locations such as "Gulf of California," in which case we list the range in quotation marks. Names of geographic features are given in English for consistency.

Many species in the checklist are known from isolated localities that may not appear on regional maps. We have attempted to describe the location as precisely as possible, but in some cases the names of the collection sites are known only to local people and cannot easily be traced. Maps of many collection sites appear in the accounts of the Allan Hancock Pacific Expeditions (Fraser 1943).

For species with ranges that extend beyond the eastern Pacific, we use the following abbreviations for general geographic distribution: W-ATL, West Atlantic; E-ATL, East Atlantic; ATL, East and West Atlantic; PAC, Pacific Ocean; I-PAC, Indo-Pacific; I, Indian Ocean; WW, world-wide (including circumtropical or cosmopolitan species).

### RESULTS

In the following list, species are grouped within their respective families and numbered 1 to 227. Numbers of species in each family are summarized in Table 1.

The ETP penaeoid and caridean shrimps demonstrate a very high degree of endemism. Indeed, as many as 177 species (about 80%) are found exclusively in this region. The remaining 50 species are distributed as follows: worldwide, seven species; Indo-West Pacific, 19 species, including two species (*Automate dolichognatha* and *Thor amboinensis*) also found in the western Atlantic and one (*Alpheus sulcatus*) recorded in the east Atlantic; western and eastern Atlantic, eight species; west Atlantic only, 16 species (representing 32% of the non-endemics); one species (*Pandalopsis ampla*) also occurs in the southwest Atlantic and one species (*Haliporus thetis*) is also found in the eastern Indian Ocean (see Table 2).

#### DENDROBRANCHIATA Bate, 1888

#### PENAEOIDEA Rafinesque, 1815

#### ARISTAEIDAE Wood-Mason, 1891

1. *Aristeus occidentalis* Faxon, 1893  
Off Marchena Island, Galapagos Islands.
2. *Benthescycymus altus* Bate, 1881  
San Nicolas Island, California, U.S.A., to Galapagos Islands; WW: off Maldiva and Comoro islands, Japan to Fiji, South Atlantic off Tristan da Cunha (Kikuchi and Nemoto 1991).
3. *Benthescycymus tanneri* Faxon, 1893  
San Diego, California, U.S.A., to Banco de Mancora, Peru (Méndez 1981).
4. *Hemipenaeus triton* Faxon, 1893  
Off Port Utria, Colombia to off Santa Elena Bay, Ecuador.

#### PENAEIDAE Rafinesque, 1815

5. *Metapenaeopsis beebei* (Burkenroad, 1938)  
San Marcial Point and Cape Tepoca, Gulf of California, to Gulf of Panama (Hendrickx, 1990c).
6. *Metapenaeopsis kishinouyei* (Rathbun, 1902)  
Off Baja California, Clarion Island, Clipperton Island, Galapagos Islands (Chace 1937, 1962).

TABLE 1. Number of species of benthic shrimp (Penaeoidea and Caridea) found in the eastern tropical Pacific, by family.

Family	Number of species
Penaeoidea	
Aristeidae	4
Penaeidae	16
Sicyonidae	12
Solenoceridae	7
Caridea	
Alpheidae	77
Bresiliidae	3
Crangonidae	7
Glyphocrangonidae	5
Hippolytidae	17
Nematocarcinidae	2
Ogyrididae	2
Palaemonidae	55
Pandalidae	9
Pasiphacidae	1
Processidae	6
Rhynchocinetidae	1

7. *Metapenaeopsis mineri* Burkenroad, 1934  
Magdalena Bay, Baja California, Mexico, and throughout Gulf of California (Hendrickx, 1990c).
8. *Parapenaeopsis balli* Burkenroad, 1934  
Banderas Bay, Jalisco, Mexico, to Acajutla, El Salvador (Pérez Farfante and Boothe 1986).
9. *Penaeus (Farfantepenaeus) brevivirostris* Kingsley, 1878  
Northern Sinaloa, Mexico, to Cape Blanco, Peru; Galapagos Islands (Hendrickx 1986).
10. *Penaeus (Farfantepenaeus) californiensis* Holmes, 1900  
San Francisco, California, U.S.A., and south, including Gulf of California, to Callao, Peru; Galapagos Islands (Hendrickx 1986).
11. *Penaeus (Litopenaeus) occidentalis* Streets, 1871  
Gulf of Tehuantepec, Mexico, to Lobos de Tierra Islands, Peru; Galapagos Islands (Méndez 1981, Pérez Farfante 1988).
12. *Penaeus (Litopenaeus) stylirostris* Stimpson, 1874  
Abreojos Point, Baja California, Mexico, and throughout Gulf of California to Paita, Peru (Méndez 1981, Pérez Farfante 1988).
13. *Penaeus (Litopenaeus) vannamei* Boone, 1931  
Extreme northern Gulf of California to Tumbes, Peru (Méndez 1981, Hendrickx 1986).
14. *Protrachypene precipua* Burkenroad, 1934  
"El Salvador" to Tumbes, Peru (Méndez 1981, Pérez Farfante 1988).
15. *Trachypenaeus brevisuturae* Burkenroad, 1934  
Arenas Point and Cape San Lucas, Baja California; Santa Maria Bay, Sinaloa, Mexico, to Tumbes, Peru (Méndez 1981, Hendrickx, 1990c).
16. *Trachypenaeus byrdi* Burkenroad, 1934  
"Mexico" to Paita, Peru (Méndez 1981, Pérez Farfante 1988).
17. *Trachypenaeus faoe* Obarrio, 1954  
Altamura Island, Sinaloa, Mexico, to Gulf of Guayaquil, Ecuador (Méndez 1981, Pérez Farfante 1988).
18. *Trachypenaeus fuscina* Pérez Farfante, 1971  
Gulf of Tehuantepec, Mexico, to Paita, Peru (Méndez 1981, Pérez Farfante 1988).
19. *Trachypenaeus pacificus* Burkenroad, 1934  
Cape San Quintin, Baja California, Mexico, and throughout Gulf of California to Huacho, Peru (Méndez 1981, Pérez Farfante 1988).

TABLE 2. Benthic shrimps (Penaeoidea and Caridea) occurring in the eastern tropical Pacific and also in one or more other regions of the world.

Worldwide
<i>Alpheus paracrinitus</i>
<i>Benthescymus altus</i>
<i>Brachycarpus biunguiculatus</i>
<i>Gnathophylloides mineri</i>
<i>Metapheus rostratipes</i>
<i>Nematocarcinus ensifer</i>
West Atlantic
<i>Alpheus armillatus</i>
<i>Alpheus heterochaelis</i>
<i>Alpheus normanni</i>
<i>Alpheus schmitti</i>
<i>Hippolyte zostericola</i>
<i>Leander paulensis</i>
<i>Leptochela serratorbita</i>
<i>Lysmata intermedia</i>
<i>Ogyrides alphaerostris</i>
<i>Pandalopsis ampla</i>
<i>Pontonia margarita</i>
<i>Salmonesus ortmanni</i>
<i>Sicyonia brevirostris</i>
<i>Sycionia laevigata</i>
<i>Synalpheus fritzmuelleri</i>
<i>Typton tortugae</i>
East and West Atlantic
<i>Alpheus bouvieri</i>
<i>Alpheus cristulifrons</i>
<i>Alpheus cylindricus</i>
<i>Alpheus floridanus</i>
<i>Alpheus malleator</i>
<i>Alpheus websteri</i>
<i>Trachycaris restrictus</i>
Indian Ocean
<i>Haliporus tethis</i>
West/Central Pacific
<i>Neoalpheopsis euryone</i>
<i>Processa hawaiiensis</i>
Indo-West Pacific
<i>Alloppontonia iaini</i>
<i>Alpheus leviusculus</i>
<i>Alpheus lottini</i>
<i>Alpheus pacificus</i>
<i>Alpheus splendidus</i>
<i>Fennera chacei</i>
<i>Harpiliopsis depressa</i>
<i>Hymenocera picta</i>
<i>Lysmata trisetacea</i>
<i>Periclimenes soror</i>
<i>Processa aequimana</i>
<i>Synalpheus biunguiculatus</i>
<i>Synalpheus charon</i>
<i>Synalpheus nobilii</i>
<i>Thor spinosus</i>
Indo-West Pacific and East Atlantic
<i>Alpheus sulcatus</i>
Indo-West Pacific and West Atlantic
<i>Automate dolichognatha</i>
<i>Thor amboinensis</i>

20. *Xiphopenaeus riveti* Bouvier, 1907  
Off Point Piaxtla, Sinaloa, Mexico to Paita, Peru (Méndez 1981, Hendrickx 1986 and unpublished records).

## SICYONIDAE Ortmann, 1898

21. *Sicyonia affinis* Faxon, 1893  
Southeastern Gulf of California to Paita, Peru; Cocos Island, Malpelo Island (Hendrickx 1984).
22. *Sicyonia aliaffinis* (Burkenroad, 1934)  
Santa Margarita Island, Baja California, Mexico, and Gulf of California, to Sechura Bay, Peru (Hendrickx 1984).
23. *Sicyonia brevirostris* Stimpson, 1874  
Off Colima and Chiapas, Mexico; W-ATL from Norfolk, Virginia, U.S.A., to Isla Contoy, Yucatan, Mexico (Pérez Farfante 1985, 1988).
24. *Sicyonia disdorsalis* (Burkenroad, 1934)  
Central coast of Sonora, Mexico, and Gulf of California to Pisco, Peru (Pérez Farfante 1985, 1988).
25. *Sicyonia disedwardsi* (Burkenroad, 1934)  
Santa Margarita Island, Baja California, Mexico, and Gulf of California to northwest of Point Caracoles, Darien, Panama (Pérez Farfante 1985).
26. *Sicyonia disparri* (Burkenroad, 1934)  
San Luis Gonzaga Bay, Baja California, to Santa Magdalena Island, Tres Marias Islands, Nayarit, Mexico (Pérez Farfante 1985).
27. *Sicyonia ingentis* (Burkenroad, 1938)  
Monterey Bay, California, U.S.A., to near Mazatlan, Sinaloa, and Maria Madre Island, Nayarit, Mexico (Hendrickx and van der Heiden 1983, Pérez Farfante 1988).
28. *Sicyonia laevigata* Stimpson, 1871  
Mazatlan, Sinaloa, Mexico, to Point Paitilla, Panama; W-ATL from Cape Hatteras, North Carolina, U.S.A., to Anse de Zimbros, Santa Catarina, Brazil, including the Antilles (Pérez Farfante 1985).
29. *Sicyonia martini* Pérez Farfante and Boothe, 1981  
Santa Margarita Island, Baja California, Mexico; Gulf of California south of Tiburon Island, Sonora, to southwest of Point Ana Maria, Panama (Pérez Farfante 1985).
30. *Sicyonia mixta* Burkenroad, 1946  
Almejas Bay, Baja California, Mexico, to off Puerto de Eten, Peru (Pérez Farfante 1985).
31. *Sicyonia penicillata* Lockington, 1879  
Southwest of Point Canoas, Baja California Norte, to San Lucas Bay, Baja California Sur, Mexico; northern end of Concepcion Bay and northern Sinaloa, Gulf of California; off Puntarenas, Costa Rica (Pérez Farfante 1985).
32. *Sicyonia picta* Faxon, 1893  
Magdalena Bay, Baja California, Mexico; throughout Gulf of California to Lobos de Afuera Islands, Peru (Pérez Farfante 1985).
38. *Solenocera florea* Burkenroad, 1938  
Todos Santos Bay, Baja California, Mexico; southern Gulf of California (Altamura Island and Gorda Bank) to southwest of Pimentel, Peru (Méndez 1981, Pérez Farfante 1988).
39. *Solenocera mutator* Burkenroad, 1983  
Off Santa Barbara Point, California, U.S.A., and throughout Gulf of California to Lobos de Tierra Islands, Peru (Hendrickx, 1990c, Wicksten 1988).

## PLEOCYEMATA Burkenroad, 1963

## CARIDEA Dana, 1852

40. *Alpheopsis cortesiana* Wicksten and Hendrickx, 1986  
Off Rio Fuerte and Mazatlan, Sinaloa, Mexico.
41. *Alpheus aequus* Kim and Abele, 1988  
Playa Blancas, Costa Rica; Santa Fe Island, Galapagos Islands.
42. *Alpheus antepaenultimus* Kim and Abele, 1988  
Golfito, Costa Rica, to Punta Paitilla, Panama.
43. *Alpheus armillatus* H. Milne Edwards, 1837  
Magdalena Bay, Baja California, Mexico, and Gulf of California to Acajutla, El Salvador (Wicksten 1983); W-ATL from North Carolina, U.S.A., to Cananea, Brazil (Chace 1972).
44. *Alpheus bellimanus* Lockington, 1877  
Monterey, California, U.S.A., to "Chile" (including Gulf of California), Socorro and Clarion islands, Mexico (Kim and Abele 1988).
45. *Alpheus bouvieri* A. Milne Edwards, 1878  
Salinas Bay, Costa Rica, to Cape San Francisco, Ecuador: ATL from Bermuda to north of Rio Grande do Sul, Brazil; Ascension Island; Cape Verde Islands to Congo (Kim and Abele 1988).
46. *Alpheus canalis* Kim and Abele, 1988  
Tiburón Island, Gulf of California, to Cabita Island, Colombia and Galapagos Islands (Villalobos Hiriart et al. 1989).
47. *Alpheus chilensis* Coutière, 1902  
Galapagos Islands, Zorritos, Peru, to Llanquihue, Chile (Méndez 1981).
48. *Alpheus colombiensis* Wicksten, 1988b  
Malaga Bay, western Colombia.
49. *Alpheus cristulifrons* Rathbun, 1900  
Puerto Escondido, Gulf of California, to Taboga, Panama (Wicksten 1983, Kim and Abele 1988); ATL from Dry Tortugas to Yucatan Peninsula including Gulf of Mexico; São Tomé and Príncipe (Wicksten 1983).
50. *Alpheus cylindricus* Kingsley, 1878  
San Gabriel Bay, Espiritu Santo Island, Gulf of California, to Gorgona Island, Colombia; Galapagos Islands; ATL from Bimini, Bahamas, to Bahia, Brazil; Príncipe, São Tomé, and Annobon islands (Kim and Abele 1988).
51. *Alpheus distinctus* Kim and Abele, 1988  
Point Paitilla and Panama City, Panama.
52. *Alpheus exilis* Kim and Abele, 1988  
Escondido Bay, Carmen Island, Gulf of California; Sullivan Bay, San Salvador Island, Galapagos.
53. *Alpheus fasciatus* Lockington, 1878  
Puerto Escondido, Gulf of California.
54. *Alpheus felgenhaueri* Kim and Abele, 1988  
Raza Island, Baja California, and north of Guaymas, Gulf of California; Isabel Island, Sinaloa, Mexico (Villalobos-Hiriart et al. 1989).
55. *Alpheus firmus* Kim and Abele, 1988  
Miraflores Locks and Point Paitilla, Panama.
56. *Alpheus floridanus* Kingsley, 1878  
Off Willard Point, Gonzaga Bay, Gulf of California, to Cape San Francisco, Ecuador (Wicksten 1983, Kim and Abele 1988);

## SOLENOCERIDAE Wood-Mason, 1891

33. *Haliporoides diomedae* (Faxon, 1893)  
Azuro Peninsula, Panama, to Talcahuano, Chile (Pérez Farfante 1977).
34. *Haliporus thetis* (Faxon, 1893)  
Acapulco, Mexico, to Galapagos Islands (Faxon 1893); I: northwest of Madagascar (Crosnier 1985).
35. *Hymenopenaeus doris* (Faxon, 1893)  
Point Chivato, Gulf of California, to off Guanape, Peru (Pérez Farfante 1977, Méndez 1981).
36. *Hymenopenaeus nereus* (Faxon, 1893)  
Off Costa Rica to north of Point Galera, Ecuador; Galapagos Islands (Méndez 1981).
37. *Solenocera agassizi* Faxon, 1893  
Off Cape Blanco, Costa Rica, to Lobos de Afuera Island, Peru (Pérez Farfante 1988).

- ATL from Gulf of Mexico to Bahia State, Brazil; Guinea to Congo (Wicksten 1983).
57. *Alpheus galapagensis* Sivertsen, 1933  
Post Office Bay, Floreana Island, Galapagos.
  58. *Alpheus grahami* Abele, 1975  
San Gabriel Bay, Espiritu Santo Island, Gulf of California, to Malpelo Island, Colombia (Wicksten 1983).
  59. *Alpheus hamus* Kim and Abele, 1988  
Golfito, Costa Rica; west side of Panama Canal (Kim and Abele 1988).
  60. *Alpheus hebes* Kim and Abele, 1988  
Ensenada de San Francisco, Sonora, Gulf of California, to Galapagos (Kim and Abele 1988).
  61. *Alpheus heterochaelis* Say, 1818  
Tres Marias Islands, Nayarit, Mexico, to Ecuador (Rathbun 1910, Hernández Aguilera et al. 1986); W-ATL from Chesapeake Bay, U.S.A., to São Paulo, Brazil (Williams 1984).
  62. *Alpheus hoonsooi* Kim and Abele, 1988  
Gorgona Island, Colombia; Galapagos Islands.
  63. *Alpheus hyeoungae* Kim and Abele, 1988  
Tiburón Island, Gulf of California, to Perlas Islands, Panama (Villalobos-Hiriart et al. 1989).
  64. *Alpheus inca* Wicksten and Méndez, 1981  
Gordon Rocks, Santa Cruz Island, Galapagos, to Valparaiso Province, Chile (Wicksten and Méndez 1981, Wicksten in press, Kim and Abele 1988).
  65. *Alpheus latus* Kim and Abele, 1988  
West side of Panama Canal, Panama.
  66. *Alpheus leviusculus* Dana, 1852  
Agua Verde Bay, Gulf of California, to Galapagos (Wicksten 1983); I-WP from Wake and Canton islands (Banner and Banner 1964).
  67. *Alpheus longiquus* Kim and Abele, 1988  
Agua Verde Bay, Gulf of California, to Galapagos Islands.
  68. *Alpheus lottini* Guérin-Méneville, 1829  
San Jose Island and Rincon de Guayabitos, Nayarit, Gulf of California, to Galapagos (Wicksten 1983, unpublished records, Kim and Abele 1988; Villalobos-Hiriart et al. 1989); I-WP from Red Sea to South Africa, across Indian Ocean and tropical Pacific to Hawaii (Wicksten 1983).
  69. *Alpheus malleator* Dana, 1852  
Pulmo Bay, Gulf of California, to Galapagos Islands (Steinbeck and Ricketts 1941, Wicksten 1983); ATL from Puerto Rico to state of São Paulo, Brazil; Senegal to Congo (Wicksten 1983).
  70. *Alpheus martini* Kim and Abele, 1988  
Whorehouse Reef to Punta Paitilla, Panama.
  71. *Alpheus mazatlanicus* Wicksten, 1983  
San Carlos Estero, Sonora, Mexico, to Malaga Bay, Colombia (Hendrickx and Wicksten 1987, Gabriel Ramos pers. comm.)
  72. *Alpheus normanni* Kingsley, 1878  
Cholla Bay, Sonora, Gulf of California, to Galapagos Islands; W-ATL from Virginia, U.S.A., and Bermuda to Yucatan Peninsula, Mexico (Wicksten 1983, Kim and Abele 1988).
  73. *Alpheus pacificus* Dana, 1852  
"Gulf of California" to Galapagos Islands (Hernández-Aguilera et al. 1986, Kim and Abele 1988); I-WP from Red Sea to Madagascar and Hawaii (Kim and Abele 1988).
  74. *Alpheus panamensis* Kingsley, 1878  
Playa del Coco, Guanacaste Province, Costa Rica, to "Peruvian Sea" (Kim and Abele 1988).
  75. *Alpheus paracrinitus* Miers, 1881  
Agua Verde Bay, Gulf of California, to Galapagos Islands; WW from West Africa, Bermuda to Tobago, Indian Ocean, tropical Indo-West Pacific to Hawaii (Wicksten 1983, Kim and Abele 1988).
  76. *Alpheus rectus* Kim and Abele, 1988  
South of Partida Island, Gulf of California; Honda Bay, Panama.
  77. *Alpheus rostratus* Kim and Abele, 1988  
San Gabriel Bay, Espiritu Santo Island, Gulf of California, to Galapagos Islands.
  78. *Alpheus saxidomus* Holthuis, 1980  
Tamarindo Beach, Nicoya Peninsula, Costa Rica (Holthuis 1980); Octavia Bay, Malaga Bay, Gorgona Island, Colombia (M. Wicksten unpublished records; Gabriel Ramos pers. comm.); Galapagos Islands (Wicksten in press).
  79. *Alpheus schmitti* Chace, 1972  
Point Chile to Point Tiburon, Sinaloa, Mexico; W-ATL from Florida Keys, U.S.A., to Tobago (Wicksten 1983).
  80. *Alpheus scopulus* Kim and Abele, 1988  
Casa de Puntas Reef to Paitilla Point, Panama; Galapagos Islands.
  81. *Alpheus spinicaudatus* Lockington, 1878  
Puerto Escondido, Mulege Bay, Gulf of California.
  82. *Alpheus splendidus* Coutière, 1897  
San Carlos, Sonora, Gulf of California; I-WP from Red Sea to Hong Kong (Wicksten and Hendrickx 1985).
  83. *Alpheus sulcatus* Kingsley, 1878  
Magdalena Bay, Baja California; San Esteban Island, Sonora, Gulf of California, to Lobos de Tierra Island, Peru; E-ATL and I-WP from São Tomé and Congo; East and South Africa, Red Sea to Society Islands (Wicksten 1983).
  84. *Alpheus tenuis* Kim and Abele, 1988  
Tiburón Island, Sonora, Gulf of California; Farfan Beach, Whorehouse Reef, and Venado Beach Spit, Panama (Villalobos-Hiriart et al. 1989).
  85. *Alpheus umbo* Kim and Abele, 1988  
Puerto Refugio, Angel de la Guardia Island, Gulf of California, to Port Utria, Colombia.
  86. *Alpheus utriensis* Ramos and Von Prael, 1989  
Utria Sound, Colombia.
  87. *Alpheus villus* Kim and Abele, 1988  
Angeles Bay and Tiburón Island, Gulf of California; Cocos Island; Secas Island, Panama (Kim and Abele 1988, Villalobos-Hiriart et al. 1989).
  88. *Alpheus websteri* Kingsley, 1880  
Morro Colorado, Sonora, Gulf of California, to Galapagos (Wicksten and Hendrickx 1985); ATL from São Tomé and Bahamas to Yucatan Peninsula (Wicksten 1983).
  89. *Alpheus wickstenae* Christoffersen and Ramos, 1987  
Malaga Bay, Colombia.
  90. *Automate dolichognatha* de Man, 1888  
Off Church Rock, Santa Catalina Island, California, U.S.A. (Wicksten 1984b), Percebu Lagoon, Baja California, and Espiritu Santo Island, Gulf of California, to Galapagos Islands and Peru (Ríos and Carvacho 1988, Villalobos-Hiriart et al. 1989); W-ATL and I-WP from North Carolina, U.S.A., to Yucatan Peninsula; Ascension Island; Red Sea to Samoa (Wicksten 1983, Manning and Chace 1990).
  91. *Automate rugosa* Coutière, 1900  
Cedros Island, Baja California, to Point Piaxtla, Sinaloa, Mexico; Panama (Wicksten 1983).
  92. *Betaeus longidactylus* Lockington, 1877  
Elkhorn Slough, Monterey County, California, U.S.A., to Tepoca Bay, Gulf of California (Hart 1964).
  93. *Leptalpheus mexicanus* Ríos and Carvacho, 1983  
Mulege River, Baja California Sur, Gulf of California, to Malaga Bay, western Colombia (Ríos and Carvacho 1983, Gabriel Ramos pers. comm.)
  94. *Metalpheus rostratipes* Pocock, 1890

- Clipperton Island; WW from Madagascar to Hawaii, Fernando de Noronha, Ascension Island, and Gulf of Guinea (Banner and Banner 1982, Manning and Chace 1990).
95. *Neotalpopsis euryone* (de Man, 1910)  
Concepcion Bay, Gulf of California, Galapagos; WW from Bonaire, Bermuda, Ascension, Indonesia, Philippines, Hawaii (Wicksten 1983, Manning and Chace 1990).
96. *Pomagnathus corallinus* Chace, 1937  
Cerralvo Island, Gulf of California; Clarion, Clipperton and Malpelo Islands; to Galapagos (Wicksten 1983).
97. *Salmoneus ortmanni* (Rankin, 1898)  
Tiburón Island and Concepcion Bay, Gulf of California, to Galapagos (Villalobos-Hiriart et al. 1989, Wicksten in press); W-ATL from Bermuda, Bahamas, and Yucatan Peninsula (Chace 1972).
98. *Salmoneus serratidigitus* (Coutière, 1896)  
Cape San Lucas, Gulf of California (Wicksten 1983).
99. *Synalpheus apioceros sanjosei* Coutière, 1909  
Guaymas, Sonora, Gulf of California, to Gulf of Nicoya, Costa Rica (Wicksten 1983).
100. *Synalpheus arostris* Wicksten, 1989d  
Malaga Bay, Colombia.
101. *Synalpheus bannerorum* Abele, 1975  
Malpelo Island, Colombia.
102. *Synalpheus biunguiculatus* (Stimpson, 1860)  
Guaymas, Sonora, Gulf of California, to Colombia; Clarion, Clipperton, and Malpelo Islands; I-WP: Hawaii (Abele 1975, Wicksten 1983).
103. *Synalpheus charon* Heller, 1861  
Cerralvo Island, Gulf of California, to Malpelo Island, Colombia; Clarion and Clipperton Islands; I-WP from Red Sea to Hawaii (Abele 1975, Wicksten 1983, Villalobos-Hiriart et al. 1989).
104. *Synalpheus digueti* Coutière, 1909  
Tiburón Island, Gulf of California, to Galapagos Islands (Wicksten 1983, Villalobos-Hiriart et al. 1989).
105. *Synalpheus fritzmulleri* Coutière, 1909  
Tres Marias Islands, Nayarit, Mexico (Hernández-Aguilera et al. 1986); W-ATL from North Carolina, U.S.A., to state of Santa Catarina, Brazil; Ascension, St. Paul's Rocks, and St. Helena Island (Williams 1984, Manning and Chace 1990).
106. *Synalpheus goodei occidentalis* Coutière, 1909  
Concepcion Bay, Agua Verde Bay, Gulf of San Jose, and Angel de la Guardia Island, Gulf of California (Wicksten 1983).
107. *Synalpheus lockingtoni* Coutière, 1909  
Santa Cruz, Santa Cruz County, California, U.S.A., to Zihuatanejo, Guerrero, Mexico (Wicksten 1983, 1984b).
108. *Synalpheus nobilii* Coutière, 1909  
Alijos Rocks, Baja California Sur, Mexico, and Catalina Bay, Sonora, Gulf of California, to Galapagos Islands; Clarion, Clipperton, and Malpelo Islands (Wicksten 1983, unpublished records); I-WP from Indonesia (Banner and Banner 1985).
109. *Synalpheus paulsonoides* Coutière, 1909  
San Francisco Island, San Ignacio Island, San Jose Island, and Puerto Escondido, Gulf of California (Wicksten 1983).
110. *Synalpheus recessus* Abele and Kim, 1989  
Miraflores Locks, Panama.
111. *Synalpheus sanlucasi* Coutière, 1909  
Cape San Lucas and Arena Banks, Baja California Sur, and Tenacatita Bay, Colima, Mexico; Pearl Islands, Panama (Abele and Patton 1976, Wicksten 1983).
112. *Synalpheus spinifrons* (H. Milne-Edwards, 1837)  
Lobos de Tierra Islands, Peru, to Iquique, Chile (Méndez 1981).
113. *Synalpheus superus* Abele and Kim 1989  
Miraflores Locks, Panama.
114. *Synalpheus townsendi mexicanus* Coutière, 1909  
Alijos Rocks, Baja California, Mexico; Angel de la Guardia Island and southward in Gulf of California (Wicksten 1983, unpublished records, Villalobos-Hiriart et al. 1989).
115. *Synalpheus townsendi peruvianus* Rathbun, 1910  
Matapalo, Peru (Méndez 1981).
116. *Synalpheus* aff. *S. herricki* Coutière, 1909  
Arena Bank, Gulf of California (Chace 1937, Dardeau 1984).

## BRESILIIDAE Calman, 1896

117. *Alvinocaris lusca* Williams and Chace, 1982  
Galapagos Rift Zone.
118. *Discias serrifer* Rathbun, 1902  
Galapagos Islands, Juan Fernandez Islands (Kensley 1983).
119. *Encantada spinocolata* Wicksten, 1989a  
Beagle Island, Galapagos Islands.

## CRANGONIDAE Haworth, 1825

120. *Mesocrangon munitella* (Walker, 1898)  
Queen Charlotte Sound, British Columbia, Canada, to Thurloe Head and Guadalupe Island, Baja California Norte, Mexico; San Francisco Bay, Carmen Island, and Tiburón Island, Gulf of California (Wicksten 1980, 1983, M.E. Hendrickx, unpublished records).
121. *Metacrangon procax* (Faxon, 1893)  
"Gulf of California" to off Atico, Peru (Méndez 1981).
122. *Neocrangon zaca* (Chace, 1937)  
Monterey Bay, California, U.S.A., to Cedros Island, Baja California Norte, Mexico; off Gonzaga Bay, Gulf of California, Mexico; Clarion Island; north of Gorgona Island, Colombia (Wicksten 1980, Scripps Institution of Oceanography unpublished records).
123. *Paracrangon areolata* Faxon, 1893  
Off Tres Marias Islands, Nayarit, Mexico, to Mancora Bank, Peru (Méndez 1981).
124. *Philocheras lapillus* Wicksten, 1989d  
Galapagos Islands.
125. *Pontophilus gracilis occidentalis* Faxon, 1893  
Off San Clemente Island, California, U.S.A., to northern Chile (Wicksten 1977, Méndez 1981, Chace 1984).
126. *Sclerocrangon atrox* Faxon, 1893  
Near Tres Marias Islands, Nayarit, Mexico, to off Mollendo, Peru (Méndez 1981).

## GLYPHOCRANGONIDAE Smith, 1884

127. *Glyphocrangon alata* Faxon, 1893  
Off Acapulco, Guerrero, Mexico, to off Valparaiso, Chile (Méndez 1981).
128. *Glyphocrangon loricata* Faxon, 1895  
Off Galapagos Islands to off Tumbes, Peru (Méndez 1981).
129. *Glyphocrangon sicaria* Faxon, 1893  
South of Punta Guiones, Costa Rica, to Gulf of Panama (Wicksten 1979).
130. *Glyphocrangon spinulosa* Faxon, 1893  
Cortez Basin, southern California, U.S.A., to off Mariato Point, Panama (Wicksten 1979).
131. *Glyphocrangon vicaria* Faxon, 1893  
San Clemente Basin, southern California, U.S.A., to Galapagos Islands (Wicksten 1979).

## GNATHOPHYLLIDAE Dana, 1852

132. *Gnathophylloides mineri* Schmitt, 1933  
Malpelo Island; WW from southeastern Florida, Caribbean Sea and Yucatan; Zanzibar, Seychelles Islands; Hawaii (Abele 1975, Wicksten 1989b).
133. *Gnathophyllum panamense* Faxon, 1893  
Cabeza Ballena, Baja California Sur, Mexico, and Gulf of California to Galapagos Islands (Wicksten 1983).
134. *Hymenocera picta* Dana, 1852  
Taboga Island, Panama (Mortensen 1918); Gorgona Island, Colombia (Gabriel Ramos, pers. comm.); I-WP from Red Sea to Hawaii (Tinker 1965).

## HIPPOLYTIDAE Dana, 1852

135. *Eualus lineatus* Wicksten and Butler, 1983  
Sitka, Alaska, U.S.A., to Todos Santos Bay, Baja California Norte, Mexico; Espiritu Santo Island, Gulf of California, Mexico (Wicksten 1983, 1988a).
136. *Heptacarpus palpator* (Owen, 1839)  
Monterey, Monterey County, California, U.S.A., to Magdalena Bay, Baja California Sur, Mexico; Espiritu Santo Island, Gulf of California, Mexico (Wicksten 1986).
137. *Heptacarpus yaldwyni* Wicksten, 1984a  
Off Salina Cruz, Oaxaca, Mexico.
138. *Hippolyte californiensis* Holmes, 1895  
Sitka, Alaska, to San Diego, California, U.S.A.; San Carlos Bay, Sonora; Angeles Bay, Gulf of California, Mexico. (Wicksten, 1983)
139. *Hippolyte williamsi* Schmitt, 1924  
Puerto Peñasco, Sonora, Gulf of California, Mexico, to Mejillones Bay, Chile; Galapagos Islands (Wicksten 1983).
140. *Hippolyte zostericola* (Smith, 1873)  
San Antonio, Municipio de Robles, Tumaco, western Colombia; W-ATL from Massachusetts, U.S.A., to Ceara, Brazil (Wicksten 1989e).
141. *Latreutes antiborealis* Holthuis, 1952  
Santa Maria Bay, Baja California Sur; Puerto Peñasco, Sonora, Gulf of California, to San Antonio Channel, Chile (Wicksten 1983).
142. *Lebbeus vicinus montereyensis* Wicksten and Méndez, 1982  
Monterey Submarine Canyon, Monterey Bay, California, U.S.A. to "Gulf of California."
143. *Lebbeus washingtonianus* (Rathbun, 1902)  
Queen Charlotte Islands, British Columbia, Canada, to Jasper Seamount, off Baja California Norte, Mexico; Guaymas Basin, Gulf of California (Wicksten and Méndez 1982, Scripps Institution of Oceanography unpublished records).
144. *Lysmata californica* (Stimpson, 1866)  
Tomales Bay, California, U.S.A., to Galapagos Islands (including Gulf of California) (Wicksten 1983, in press).
145. *Lysmata galapagensis* Schmitt, 1924  
Magdalena Bay, Baja California Sur, Mexico; Guaymas, Sonora, Gulf of California, to Galapagos Islands (Wicksten 1983).
146. *Lysmata intermedia* Kingsley, 1878  
Magdalena Bay, Baja California Sur, Mexico; Guaymas, Sonora, Gulf of California, to Puerto Pizarro, Tumbes, Peru; ATL from Azores and Bermuda to Rio Grande do Norte, Brazil; Ascension (Wicksten 1983, Wicksten and Méndez 1983, Manning and Chace 1990).
147. *Lysmata trisetacea* (Heller, 1861)  
South of Point Arena, Espiritu Santo Island, Gulf of California; Clarion, Socorro, Clipperton, and Malpelo islands; I-WP

from Red Sea to Hawaiian Islands (Wicksten 1983).

148. *Thor algicola* Wicksten, 1987  
Puerto Peñasco, Sonora, Gulf of California, to Piñas Bay, Panama.
149. *Thor amboinensis* (de Man, 1888)  
Pearl Islands, Panama (Abele and Patton 1976); Cocos Island (Wicksten 1990); I-WP from Bay of Bengal, Indonesia, and Caroline Islands; W-ATL from Florida Keys to Yucatan (Chace 1972).
150. *Thor spinosus* Boone, 1935  
San Lorenzo Channel, Gulf of California; I-WP from Kenya to Japan and Hawaii (Wicksten 1983).
151. *Trachycaris restrictus* (A. Milne-Edwards, 1878)  
San Ignacio Farallon, Tortuga Island, Gulf of California, to off Medidor Island, Honda Bay, Panama; Gardner Bay, Galapagos Islands; ATL from Bermudas to state of Pará, Brazil; Canary Islands to St. Helena Island (Wicksten 1983, in press, unpublished record).

## NEMATOCARCINIDAE Smith, 1884

152. *Nematocarcinus agassizii* Faxon, 1893  
Off Acapulco, Guerrero, Mexico, to Mancora Bank, Peru; Cocos and Malpelo islands, Galapagos Islands (Méndez 1981).
153. *Nematocarcinus ensifer* (Smith, 1882)  
Off Acapulco, Guerrero, Mexico, to Galapagos Islands; WW from south of Iceland to Gulf of Mexico, off Ireland to Cape Verde Islands, Mediterranean Sea, Arabian Sea, Bay of Bengal, off Japan, and New Guinea (Wenner 1979).

## OGYRIDIDAE Hay and Shore, 1918

154. *Ogyrides alphaerostris* (Kingsley, 1880)  
Off Huntington Beach, California, U.S.A.; off Mazatlan, Sinaloa (Wicksten and Méndez 1988), Cape Corrientes and Tenacatita Bay, Colima; Chacahua Bay, Oaxaca, Mexico (USNM unpublished records); W-ATL from eastern shore of Accomack County and lower James River, Virginia, U.S.A., to Rio Grande do Sul, Brazil (Williams 1984).
155. *Ogyrides tarazonai* Wicksten and Méndez, 1988  
San Juan del Sur, Pacific coast of Nicaragua; Cabita Bay, western Colombia, La Libertad, Ecuador; Ventanilla, Peru (USNM unpublished records, Wicksten and Méndez 1988).

## PALAEMONIDAE Rafinesque, 1815

156. *Allopontonia iaini* Bruce, 1972  
El Bajo Seamount, off La Paz, Gulf of California; I-WP from Zanzibar and Kenya to Australia (Bruce 1987).
157. *Brachycarpus biunguiculatus* (Lucas, 1849)  
Cerralvo Island, Gulf of California, to Galapagos Islands; WW from Bermuda to Caribbean Sea, Ascension, Mediterranean Sea, Red Sea to Hawaii (Wicksten 1983, Manning and Chace 1990).
158. *Chacella kerstitchi* (Wicksten, 1983)  
San Carlos and San Pedro Nolasco islands, Sonora, Gulf of California (Wicksten 1983, 1989a).
159. *Chacella tricornuta* Hendrickx, 1990b  
Tres Marias Islands, Nayarit, Mexico.
160. *Cryphiops caementarius* (Molina, 1782)  
Taymi-Mochumi River, Peru, to Valparaiso, Chile (Holthuis 1952, Méndez 1981).
161. *Fennera chacei* Holthuis, 1951

- Isabel Island, Sinaloa, Mexico, to Colombia; Galapagos Islands (Holthuis 1951, Wicksten 1989b); I-WP from western Indian Ocean to Australia and Hawaii (Titgen 1987).
162. *Harpiliopsis depressa* (Stimpson, 1860)  
Espiritu Santo Island, Gulf of California, to Gorgona Island, Colombia; Galapagos Islands, I-WP from Red Sea to Polynesia (Wicksten 1983).
163. *Leander paulensis* Ortmann, 1897  
Gatun and Miraflores locks, Panama Canal (Abele and Kim 1989); W-ATL from Florida, Puerto Rico, and Curaçao to São Paulo, Brazil (Chace 1972).
164. *Macrobrachium acanthochirus* (Villalobos, 1966)  
Baluarte River, Sinaloa, to Tecoman, Colima, Mexico (Hendrickx and Wicksten 1987).
165. *Macrobrachium americanus* Bate, 1868  
Guaymas, Sonora; La Paz and Cape San Lucas, Baja California Sur, Mexico, to Chira River, Peru; Cocos Island, Galapagos Islands (Méndez 1981, Wicksten 1983).
166. *Macrobrachium cocoense* Abele and Kim, 1984  
Cocos Island.
167. *Macrobrachium crebrum* Abele and Kim, 1989  
Miraflores Locks, Panama Canal, Panama.
168. *Macrobrachium digitus* Abele and Kim, 1989  
Miraflores Locks, Panama Canal, Panama.
169. *Macrobrachium diguetii* (Bouvier, 1895)  
Mulege River, Baja California Sur, and Caimanero Lagoon, Sinaloa, Mexico, to Moche River, Peru (Méndez 1981, Wicksten 1983).
170. *Macrobrachium gallus* Holthuis, 1952  
Vinces and Peripa River, Ecuador.
171. *Macrobrachium hancocki* Holthuis, 1952  
Golfo Dulce, Costa Rica, to Pinas Bay, Panama; Cocos Island, Galapagos Islands; Old Providence Island, Colombia.
172. *Macrobrachium inca* Holthuis, 1952  
Cape San Francisco, Ecuador, to Huauru River, Peru (Holthuis 1952, Méndez 1981).
173. *Macrobrachium occidentale* Holthuis, 1952  
Baluarte River, Sinaloa, Mexico, to Boca de Pavarando, South Darien, Panama (Holthuis 1952, Wicksten 1983).
174. *Macrobrachium panamense* Rathbun, 1912  
Pedregal River, Honduras, to Daule River, Ecuador (Holthuis 1952).
175. *Macrobrachium rathbunae* Holthuis, 1952  
Chorrera, Panama, to San Francisco Bay, Ecuador.
176. *Macrobrachium tenellum* (Smith, 1871)  
Mulege and La Paz, Baja California Sur; Caimanero Lagoon, Sinaloa, Mexico, to Chira River, Peru (Méndez 1981, Wicksten 1983).
177. *Macrobrachium transandicum* Holthuis, 1952  
Buenaventura, Colombia, to Tumbes River, Peru (Holthuis 1952, Méndez 1981).
178. *Neopontonides dentiger* Holthuis, 1951  
Kino Bay, Sonora, Gulf of California, to Cape San Francisco, Ecuador (Holthuis 1951, Ríos 1986).
179. *Palaemon gladiator* Holthuis, 1952  
Clipperton Island; Galapagos Islands.
180. *Palaemon gracilis* (Smith, 1871)  
Caimanero Lagoon, Sinaloa, Mexico, to Lara River, Panama (Holthuis 1952, Wicksten 1983).
181. *Palaemon hancocki* Holthuis, 1952  
Miraflores Locks, Panama, to Chira River, Peru (Méndez 1981, Abele and Kim 1989).
182. *Palaemon peruanus* Holthuis, 1952  
Tumbes, Peru (Méndez 1981).
183. *Palaemon ritleri* Holmes, 1895  
San Diego, California, U.S.A.; head of Gulf of California to Paita, Peru; Cocos Island; Galapagos Islands (Méndez 1981, Wicksten 1983).
184. *Palaemonella holmesi* (Nobili, 1907)  
Santa Catalina Island and San Pedro Harbor, California, U.S.A.; Magdalena Bay, Baja California Sur, Mexico; El Desemboque, Sonora, Gulf of California, to La Plata Island, Ecuador; Galapagos Islands (Holthuis 1952, Wicksten 1983).
185. *Palaemonella assymetrica* Holthuis, 1951  
Galapagos Islands.
186. *Palaemonetes hiltoni* Schmitt, 1921  
San Pedro, California, U.S.A.; Guaymas, Sonora, and Caimanero Lagoon, Sinaloa, Mexico (Holthuis 1951, Wicksten 1983).
187. *Palaemonetes schmitti* Holthuis, 1951  
Venado Beach and Miraflores Locks to Panama City, Panama.
188. *Periclimenaeus hancocki* Holthuis, 1951  
Concepcion Bay, Gulf of California, to Pinas Bay, Panama; Malpelo Island, Colombia (Ríos 1986).
189. *Periclimenaeus pacificus* Holthuis, 1951  
Honda Bay, Panama; Gorgona Island, Colombia; Galapagos Islands.
190. *Periclimenaeus spinosus* Holthuis, 1951  
Concepcion Bay, Gulf of California, to South Viradores Islands, Costa Rica (Ríos 1986).
191. *Periclimenes infraspinis* (Rathbun, 1902)  
San Diego, California, U.S.A.; Scammon's Lagoon, Baja California Sur, Mexico; Marcial Rock, northern Gulf of California, to Port Parker, Costa Rica; Galapagos Islands (Holthuis 1951, Wicksten 1983).
192. *Periclimenes lucasi* Chace, 1937  
San Juanico Bay, Gulf of California, to Piñas Bay, Panama (Holthuis 1951, Wicksten 1983).
193. *Periclimenes soror* Nobili, 1904  
San Carlos, Sonora, Gulf of California, to Taboga Island, Panama; I-WP from Red Sea to Zanzibar; Indonesia to Australia; Marshall Islands to Hawaii (Bruce 1976, Wicksten 1989b).
194. *Periclimenes veleronis* Holthuis, 1951  
La Libertad, Ecuador.
195. *Pontonia chimaera* Holthuis, 1951  
Venetia Bay, Sonora, Gulf of California; Pedro Gonzales Island, Perlas Islands, Panama (Wicksten 1983).
196. *Pontonia longispina* Holthuis, 1951  
Off Guaymas, Sonora; Angel de la Guardia Island, Gulf of California, Mexico (Wicksten 1983).
197. *Pontonia margarita* Smith, 1869  
Agua Verde Bay, Gulf of California, to Gorgona Island, Colombia; Galapagos Islands; W-ATL from east and west coasts of Florida (Holthuis 1951, Wicksten 1983).
198. *Pontonia pinnae* Lockington, 1878  
Cholla Bay, Sonora, Gulf of California, to Pearl Islands, Panama (Holthuis 1951, Wicksten 1983).
199. *Pontonia pusilla* Holthuis, 1951  
Secas Islands, Panama, to Salango Island, Ecuador.
200. *Pontonia simplex* Holthuis, 1951  
Puerto Escondido, Gulf of California; Tenacatita Bay, Colima, Mexico (Wicksten 1983).
201. *Pontonia spighti* Fujino, 1972  
Playas del Coco, western Costa Rica.
202. *Pontonides sympathes* de Ridder and Holthuis, 1979  
San Cristobal, Daphne Major, and Champion islands, Galapagos Islands.
203. *Pseudocoutiërea elegans* Holthuis, 1951  
Santa Catalina Island, California, U.S.A.; off San Ildefonso



Island, Gulf of California; White Friars Rocks, Guerrero, Mexico; Malpelo Island, Colombia; Galapagos Islands (Wicksten 1983).

204. *Typton crosslandi* Bruce, 1978  
Off Onslow Island, Galapagos Islands.
205. *Typton hephaestus* Holthuis, 1951  
Scammon's Lagoon, Baja California Sur; near La Paz, Gulf of California; Tres Marias Islands, Nayarit, Mexico (Wicksten 1983, M. E. Hendrickx, unpublished records).
206. *Typton serratus* Holthuis, 1951  
Angel de la Guardia Island, Gulf of California; Acapulco, Guerrero, Mexico; Galapagos Islands (Wicksten 1983).
207. *Typton tortugae* McClendon, 1911  
Off La Paz, Gulf of California; W-ATL from Bermuda and Florida (Wicksten 1983).
208. *Veleronia laevifrons* Holthuis, 1951  
San Carlos Bay and Guaymas, Sonora, Gulf of California; off Cape San Francisco, Ecuador, Galapagos Islands (Wicksten and Hendrickx 1985).
209. *Veleronia serratifrons* Holthuis, 1951  
Off La Libertad, Ecuador; Galapagos Islands.
210. *Waldola schmitti* Holthuis, 1951  
Off Isabel Island, Nayarit, Mexico, to off Gorgona Island, Colombia.

#### PANDALIDAE Haworth, 1825

211. *Heterocarpus affinis* Faxon, 1893  
Off Tres Marias Islands, Nayarit, Mexico, to off Mancora, Peru (Méndez 1981).
212. *Heterocarpus hostilis* Faxon, 1893  
Gulf of Panama and Cocos Island to off Supe, Peru (Méndez 1981).
213. *Heterocarpus vicarius* Faxon, 1893  
Off Guaymas, Sonora, Gulf of California, to off Mollendo, Peru (Hendrickx and Wicksten 1989).
214. *Pandalopsis ampla* (Bate, 1886)  
Sea Lion Rock, Washington, U.S.A., to Acapulco, Guerrero, Mexico (including Gulf of California); ATL from off Montivedeo, Uruguay, to Argentina (Hendrickx and Wicksten 1989).
215. *Pantomus affinis* Chace, 1937  
Santa Inez Bay, Gulf of California, and Santa Maria Bay, Sinaloa, Mexico, to Lobos de Tierra Islands, Peru (Hendrickx and Wicksten 1989).
216. *Plesionika beebei* Chace, 1937  
Off Point Tosca, Baja California Sur, and off Guaymas, Sonora, Gulf of California, to Mancora Bank, Peru (Hendrickx and Wicksten 1989).
217. *Plesionika carinirostris* Hendrickx, 1990a  
Off San Lorenzo Island, Gulf of California.
218. *Plesionika mexicana* Chace, 1937  
Redondo Beach, California, U.S.A., to Mancora Bank, Peru (including Gulf of California); Galapagos Islands (Hendrickx and Wicksten 1989, Wicksten in press).
219. *Plesionika trispinus* Squires and Barragan, 1976  
Santa Maria Bay, Sinaloa, Mexico, to off Salaverry, Peru (Hendrickx and Wicksten 1989).

#### PASIPHAEIDAE Dana, 1852

220. *Leptochela serratorbita* Bate, 1888  
Angel de la Guardia Island, Gulf of California, to Port Parker, Costa Rica; W-ATL from North Carolina to Bay of Campeche and Antigua Island (Wicksten 1983).

#### PROCESSIDAE Ortmann, 1896

221. *Ambidexter panamensis* Abele, 1972  
San Diego, California, U.S.A.; south of San Felipe, Sonora, Gulf of California; Naos Island, Panama; Galapagos Islands (Wicksten 1983).
222. *Ambidexter swifti* Abele, 1972  
San Benito Islands, Baja California Norte; south of San Felipe and Puerto Peñasco, Sonora, Gulf of California; Point Paitilla, Panama; Galapagos Islands (Wicksten 1983, in press).
223. *Ambidexter symmetricus* Manning and Chace, 1971  
Puertecitos and Percebu Lagoon, Gulf of California (Ríos and Carvacho 1982).
224. *Processa aequimana* (Paulson, 1875)  
Carmen Island, Gulf of California, to Santa Maria Bay, Sinaloa, Mexico; I-WP from Red Sea, Mozambique, South Vietnam to Japan (Wicksten 1983, Hendrickx, 1990c).
225. *Processa hawaiiensis* Dana, 1852  
Clipperton Island; I-WP from Hawaiian Islands (Chace 1962).
226. *Processa peruviana* Wicksten, 1983  
San Benito Islands, Baja California Norte, Mexico; throughout Gulf of California to north of Mancora, Peru; Galapagos Islands (Wicksten 1983, in press; Hendrickx 1990c).

#### RHYNCHOCINETIDAE Ortmann, 1890

227. *Rhynchocinetes typus* H. Milne-Edwards, 1837  
Galapagos Islands to San Vicente Bay, Chile (Méndez 1981, Wicksten in press).

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