codex alimentarius commission

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

WORLD HEALTH ORGANIZATION

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Agenda Item 3 **CX/FFP 00/3**

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

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INCLUSION OF ADDITIONAL SPECIES IN THE STANDARDS FOR FISH AND FISHERY PRODUCTS CHILEAN LANGOSTINO

The 22nd Session of the Committee on Fish and Fishery Products considered the proposal from Chile for the inclusion of the species *Cervimunida johni* and *Pleuroncodes monodon* in the Standards for Quick Frozen Shrimps and Prawns and for Canned Shrimps and Prawns were also considered. The Committee discussed whether the proposed species should be compared to shrimps and prawns or to lobsters and could not reach a conclusion. The Delegation of Chile stated that it would present the results of studies carried out in Chile on the classification of these species for consideration by the next session. It was pointed out that as the family *Galatheidae* was not included in the current standards for lobsters or for shrimps and prawns, an amendment of the Product Definition would be required if this family was added to the standards (ALINORM 97/18, paras. 26-27).

The 23rd Session of the Committee considered CRD 1, a partial translation of the information provided by Chile on the taxonomy and trade importance of the species *Pleuroncodes monodon* and *Cervimundia johni*. The Delegation of Chile pointed out that these species had been exported for a long time, and that the Codex standard did not presently cover Galatheidae; it would therefore be necessary to develop a standard for such products. Some delegations felt that the trade in these products was not important enough to justify the development of a separate standard. It was also proposed to consider the opportunity of including both species in the Standard for Quick-Frozen Lobsters with specific labelling requirements. The Committee however could not come to a conclusion on how to address the proposal from Chile on the species of "squat lobster" at this stage and agreed that the information provided by Chile would be circulated and translated in order to allow more time for comments and due consideration of this question at the next session (ALINORM 99/18, para. 102).

Governments are invited to consider the document prepared by Chile on the taxonomy and commercial importance of the species *Pleuroncodes monodon* and *Cervimunida johni* and the following options:

- elaboration of a specific standard for *Galatheidae*
- incorporation of these species into the standard for lobsters, with specific labelling requirements

CHILEAN LANGOSTINO: ITS INCORPORATION IN CODEX ALIMENTARIUS

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SUMMARY

Existing background information supports the inclusion in Codex Alimentarius of the two major species of Galatheidae which are caught regularly and abundantly, essentially in the waters of Chile, and marketed by the Chilean industry, under the name of Chilean langostino (squat lobster).

Taxonomically, both langostinos are Crustacean Decapods, Suborder Pleocytema, Infraorder Anomura, Family Galatheidae, this is why in English they are known as squat lobsters. This species cannot and should be described as true lobsters or Norwegian Lobsters, neither as shrimps and prawns or lobsters.

The main reasons to refer to both species as Chilean Langostinos are as follows: a) morphological and taxonomic; b) anteriority in fishing and marketing by national industry which introduced these products (canned or frozen) in the international market c) these species are especially distributed near the coast of that country and d) the adequate use of language, English as well as in Spanish.

INTRODUCTION

The largest existing crustaceans include lobsters, crabs, swim crabs, rock crabs, king crabs, hermit-crabs, water fleas and minor species all of which belong to the Order of Decapods. The great majority of these species are marine, but some of them can also be found in brackish water and freshwater . Almost all of them are economically important. Decapods are crustaceans whose most salient characteristic is the presence of five pairs of legs. In langostinos the first pair corresponds to the chelipods; the others have no claws.

The crustaceans of Chile which are best known scientifically are undoubtedly the decapods. The decapod order however represents only one out of a total of 42 orders, which are much less represented. There are about 650 species of crustaceans in the waters of Chile, out of which about 250 correspond to decapods (Báez 1995). Langostinos represent only a small fraction of that number.

The Invertebrates known in Chile as “langostinos” are crustacean decapods of the Galatheidae family. In general terms these belong to crustacean fishing of the highest rentability. They represent an important fishing resource, especially since a large part of the national production is intended for external trade, representing a important source of foreign currency for the country. Adult langostinos are demersal while the larvae are planktonic. They live in shallow waters as well as in abyssal regions, generally associated with oxygen deficient sea-beds of biogenic origin. Commercial fishing in Chile is currently based on *Cervimundia johni* and *Pleuroncodes monodon.*

The general objective of the present document is to establish the basis for the incorporation of Chilean langostinos under this name in Codex Alimentarius.

METHODOLOGY

In the present bibliographical research the taxonomical order of Bowman and Abele (1982) was followed. The most common vernacular names from Chile were used, while referring in some cases to the names from other countries. In some cases the specimens from the collections of the National Museum of Natural History were reviewed. For the langostino species present in the waters of Chile the size range given is that mentioned by Retamal (1994). The characteristics of both species of commercial importance in Chile are presented in Annex 1.

RESULTS

Chilean Langostino: its morphology and important taxonomical aspects

Langostinos share a series of morphological characteristics with other members of the Crustacean Subphylum (Brusca and Brusca 1990). In general terms, it is necessary to know those characteristics to determine in which aspects Galatheidae are similar between themselves and what differentiates them from other groups in the Order of Decapods. These characteristics are as follows:

Segmented body, made of 19 segments, according to some authors who do not consider the first and last part as segments because no appendices originate from those parts in present representatives of the species (Schmitt 1971). Other authors think that there are 20 segments in total (Retamal 1994), and the majority of authors that there are 21 segments. The front part include the cephalic area, with five segments receiving their name from the type of paired appendices which originate from them: antennula, antenna, mandible, maxilular, maxillary, and an anterior segment, called acron. This area is extended backwards into a large post-cephalic trunk. It is divided into thorax or pereion and abdomen or pleon. The thorax includes 8 segments and the abdomen seven. The shells covering the cephalic region and the thorax join at the level of the cephalothorax.

The appendices of the thorax and abdomen are even in numbers and articulated, with two sections in the larvae and one section in the adult. The five pairs of appendices in the cephalic region are the following: composite eyes and antennulae, antennae, mandibles, maxilulae and maxillaries. Out of the seven pairs of appendices in the thorax, the three first pairs are called maxilipedes and are specialized as appendices for nutrition purposes. The five other pairs are pereiopods and are specialized as ambulatory appendices. Out of these, the first pair is transformed into claws. Out of the six pairs of appendices of the abdomen the first five in the belly region are pleiopods; they are specialized for reproduction and are used in the female to carry the eggs during their embryonic development. In the male they are smaller and are transformed into copulation organs. The last pair of appendices of the abdomen is in a lateral position and they are called uropods. The body ends in a single segment in the shape of a plate in which the anus opens under the belly.

There is a separation between the sexes. The male can be recognized mainly by the copulation organs and the gonopores the opening of which may be observed in the belly region, at the base of the fifth pair of legs. In the female they are located at the basis of the third pair of legs, and the pleiopods are more developed. After mating the female transports the eggs adhering to the pleiopods during the development of the embryo. When the eggs hatch, the larvae are not longer than one millimeter. These larvae grow by shedding their external shell, and the sheddings proceed for a few weeks, according to the species, until reaching the stage where they take the shape of a small adult decapod. This young langostino although similar to the adult cannot yet reproduce. For some time, the young are incorporated into the adult population where the major part of the species is concentrated. This stage is defined as the recruitment. At the end of a relatively long period of time, these young reach the size corresponding to their first sexual maturity and from then on they are able to reproduce.

Situation of langostinos (squat lobsters) in the Order of Decapods

The exceptional variety of the forms taken by crustaceans decapods has inevitably led to numerous problems in their classification.

In general terms the Order of Decapods is divided into 8 infraorders (Bowman & Abele, 1982) in which it is possible to distinguish the groups for which vernacular names vary locally, according to the uses and

customs in different regions, countries or continents, as well as to the language of each region.

Table 1: Crustaceans of the Decapod Order: hierarchy and most common names of the group included therein

Suborder	Infraorder	Main groups: common names in Spanish	Common names in English
Dendrobranchiata		Camarones peneidos	
Pleocyemata			
	Stenopodidea		
	Caridea	Camarones	
	Astacidea	Camarones	Shrimps and prawns
	Thalassinidea	Langostas con pinzas, Bogavantes	True lobsters
	Palinura	Langostas espinosas, enanas y corales (sin pinzas)	Spiny lobsters, slipper lobsters, coral lobsters
	Anomura	Cangrejos ermitaños o paguros, centollas, **langostinos**	Pagurids, stone crabs, king crabs, **squat lobsters**
	Brachyura	Jaibas, cangrejos	Crabs

The main feature in decapod crustaceans is the presence of a shell which extends over the segmentation of the body, whether it is a shrimp, lobster, langostino or crab. This external skeleton is calcified and harder for some decapods. However, apart from that shell, each segment of the body is covered by an articulated structure corresponding to the external semi-rigid skeleton of a chitin like nature. This structure covers each segment of the body like a ring in the same way as the pieces of an armour. Although articulated, the rings are actually continuous all over the body, including the appendices.

The shape and orientation of the shell pieces as well as the segments which constitute the body are fundamental elements to understand to which group the langostinos belong, within the taxonomical hierarchy of crustacean decapods. Among these elements it is necessary to recognize that basically there are furrows, areas and lines in the shell which allow to determine their evolution and modification throughout time, in many cases with a reduction in size, or changes in the shape. Such changes together with the progressive reduction in the size of the abdomen and the modifications and transformations which appear among existing decapods allow to establish the relationship between all species belonging to the order of Decapods, and to infer which forms remain closer to older species and which ones correspond to the more developed forms. According to most recent studies there is a tendency to consider the groups closer to older or primitive forms within the group corresponding to shrimps and prawns, relatively close to those similar to present lobsters, with or without claws. The forms which can be individualized as king crabs, pagurids or crabs in general should be placed in a closer phylogenic group.

Fisher (1978) considered that a series of seven families of crustacean decapods may be classified as "lobsters". All of these belong to the suborder Pleocyemata Burkenroad, 1963, and according to the classification of Bowman & Abele (1982) they correspond to three different infraorders of crustacean decapods (Table 2). In the species called "true lobsters" the first pair of legs have claws (Superfamily Nephropoidea and Thaumastochelidea). Together with the other two superfamilies similar to lobsters, Astacidea Latreille 1803 (Families : Astacidae and Cambarinae) and ParAstacidea Huxley, 1979 Family Parastacidae), the three superfamilies constitute the infraorder of Decapods Astacidea Latreille, 1803. In the species of the other three families, Synaxidae (coral lobster), Palinuridae (rock lobsters or spiny lobsters) and Scyllaridae (Spanish lobsters) the first pair of legs is not transformed into claws. Palinuridae are called spiny lobsters due to their many spines on the shell and on the last segment of the second antenna. The three last families mentioned, together with a fossil family (Cancrinidae Beurlen, 1930) compose the superfamily Palinuroidea. This superfamily and two other superfamilies which include samples similar to lobsters, Glyphoidea Zittel, 1885 (Glypheidae family) and Eryonidea De Haan, 1841 (Polychelidae family) compose the infraorder Palinura, Latreille 1803 (Glaessner, 1969, R:463). A last superfamily Galatheoidea (Galatheidae family), squat lobsters or langostinos (Williams, 1986), belongs to the infraorder Anomura H.

Milne Edwards, 1832 (Anexo 2).

In some of the current species of decapods there are some specimens where the body is generally much larger. The body is relatively cylindrical and the adults reach a maximum size which can be described as small to medium. They have a widened shell and enlarged abdomen in which all segments can be recognized. As regards the orientation of the body in these type of organisms it may be observed that its structure is compressed laterally. In this second category are included all the species which are commonly identified as the different types of shrimps (all the species of the Suborder Dendrobranchiata and the infraorders Stenopodidea and Caridea: Table 2).

Table 2

Families of lobsters and decapods similar to lobsters: taxonomical relationship*

Suborder	Infraorder	Superfamil	Family	Common name
Dendrobranchiata				Shrimps and deep sea shrimps
Pleocandemata	Stenopodidea			
	Caridea			Shrimps
	Astacidea	Nephropidea	Nephropidae	Lobsters
			Thaumastochelidae	**
		Astacidea	Astacidae	**
			Cambaridae	**
		ParAstacidea	Parastacidae	**
	Thalassinidea			
	Palinura	Glandpheoidea	Glandpheidae	**
		Erandonidea	Polandchelidae	**
		Palinuroidea	Palinuridae	Spinand lobsters
			Scandllaridae	Slipper Lobsters
			Sandnaxidae	Coral lobsters
	Anomura	Galatheoidea	Galatheidae	Langostinos
	Brachandura			Rock crabs or Crabs

*Taken and modified from Phillips, Cobb and George (1980), and Bowman & Abele (1982).
** Crustaceans with the aspect of lobsters or similar to lobsters

In a second group the shell as well as most segments of the body are more extended. The body structure is more cylindrical and it clearly appears at the level of the abdomen that the body tends to flatten dorso-ventrally, and becomes more depressed at the end of the abdomen. The general aspect of the body is more robust and this corresponds to the different types of decapods commonly known as lobsters (Infraorder Astacidea, Thalassinidea and Palinura; Table 2).

A third large group within the decapods is constituted by all the species in which the shell has a globulous shape and in which it is more difficult to observe at first sight the presence of the abdomen. This is generally folded beneath the shell, and it is relatively thinned, modified and atrophied. At first sight it seems that these organisms consist only of the shell out of which the legs emerge laterally. This group includes all types of rock crabs and crabs (infraorder Brachyura, Table 2).

Notwithstanding the clear distinction between the three types of morphology that decapods can present, there is a wide diversity of intermediate shapes between these basic types. The denomination of these types differs according to the locality where they are fished and utilized and the languages used there. This transition category includes especially the infraorder Anomura, in which it is possible to identify types which correspond to a certain extent to the third type described, with a globulous shell. This is the particular case of rock crabs. There are other types in the group such as sea flea, hermit crabs or pagurids and finally,

freshwater crabs which are called piñachas in Chile. Our langostinos belong to this last category, since due to their origin they clearly show a similarity with king crabs. However, their shape and general aspect reflect to a certain extent their relationship with marine lobsters of different current types, consequently the common English name is squat lobster, which would correspond literally in Spanish to ‘”langostas anchas/aplanadas”. The common name of langostino reflects the same tendency in Spanish, especially in the name used in Chile.

Species included in the Galatheidae Family in Chile

Munidospsis rostrata (A. Milne Edwards, 1880)
References: Henderson (1888); Retamal (1981: fig. 94, page. 64)
Common name: langostino
Size: L.C.+ rostrum: 35 mm.
Geographical and bathymetric distribution : In front of Isla de Mas Afuera, Archipiélago de Juan Fernández, Chile. Also West Atlantic; East Atlantic; South Africa, Mar de Arabia and Bay of Bengal; in front of la Isla Banda, Moluxas and in front of the Galápagos, Ecuador. Bathymetric range is 1.700 and 3.000 m.
Bio-ecological observations: this is an abyssal species; it was collected by the “Challenger” expedition in the sea-bed made of the foraminifera ***Globigerina***. The female lays eggs of 2,8 mm in diameter.

Munidopsis antoni (A. Milne Edwards, 1844)
Ref.: Henderson (1888); Retamal (1981: fig. 95, pág. 65)
Common name: langostino
Size: L.C.+rostrum: 50,0 mm
Geographical and bathymetric distribution: In front of Archipelago de Juan Fernández, Chile. Also Acores; S. W. Australia. Its known bathymetric range varies between 2.500 and 4.000 m.
Bio-ecological observations; it was collected in biogenic sea-bed made of the foraminifera ***Globigerina.***

Munidopsis trifida Henderson, 1888
Ref.: Henderson (1888); Retamal (1981: fig. 96, pág. 65)
Common name: langostino
Size: L.C., including the rostrum: 23,0 - 28,0 mm.
Geographical and bathymetric distribution : From Iquique to the Collingwood Straits. Magallanes Territory, Chile. Its known bathymetric range varies between 50 and 900 m.

Munidopsis aspera (Henderson, 1888)
Ref.: Henderson, 1888; Retamal (1981: fig. 97, pág. 65)
Common name: langostino, en Chile; Munida, en el Perú
Size: L. C.+ rostrum: 13,0 mm
Geographical and bathymetric distribution : Arica to Puerto Churruca, Estrecho de Magallanes, Chile. Also from South California to Peru. Its known bathymetric range varies between 100 and 2.800 m.

Munidopsis aculeata Henderson, 1888
Ref.: Henderson, 1888; Retamal (1981: fig. 98, pág. 66)
Common name: langostino
Size: L. T.: 89,0 mm
Geographical and bathymetric distribution : West of la Isla de Chiloé, Chile. Also off the Pacific Coast of America, Golfo de Panamá and South Africa. Its known bathymetric range varies between 2.500 -3.200 m.

Munidopsis villosa chilensis Bahamonde, 1964
Ref.: Bahamonde (1964); Retamal (1981: fig. 101, pág. 67)
Common name: langostino
Size: L. C.: 75,0 - 84,0 mm
Geographical and bathymetric distribution: In front of Algarrobo, Chile. Its known bathymetric range varies between 300 and 800 m.

Munidopsis hamata Faxon, 1895
Bahamonde (1973); Retamal (1981)
Common name: langostino
Size: L. C.: 12,5 - 14,0 mm
Geographical and bathymetric distribution : From Rada de Chigualoco (31º44'S; 71º41'8"W) to Papudo (32º31'S), Chile. Also in Peru. Its known bathymetric range varies between 300 and 840 m.
Bio-ecological observations: This species presents a clear equatorial submersion; it lives in mud. It was registered with ***Heterocarpus reedi*** and ***Haliporoides diomedeae.***

Munidopsis opalescens Benedict, 1902
Ref.: Retamal (1981: fig. 99, pág. 66)
Common name: langostino
Geographical and bathymetric distribution : In front of Patagonia, Chile. Its known bathymetric range varies between 700 m and 1.000 m.

Munidopsis barrerai Bahamonde, 1964
Ref.: Bahamonde (1964); Retamal (1981: fig. 100, pág. 67)
Common name; langostino
Size: L. T.: 51,5 - 52,5 mm
Geographical and bathymetric distribution : from Coquimbo to Ritoque, Chile. Its known bathymetric range varies between 300 and 450 m.

Pleuroncodes monodon (H. Milne Edwards, 1837)
Ref.: Rathbun (1910); Retamal (1981: fig. 90, pág. 63)
Common name: Langostino colorado, langostino zanahoria (Chile); Munida o camaroncito rojo (Peru)
Size: 14,0 - 49,0 mm
Geographical and bathymetric distribution: From Arica to Ancud, Chiloé, Chile. Also in Isla Lobos de Afuera, Peru. Its known bathymetric range varies between 29 m (Haig, 1955) and 150 to 400 m (Bustos and Retamal, 1985).
Bio-ecological observations: Many studies have been carried out on this species in view of its great importance for industrial fishing, especially due to its value on the international market. Fishing has decreased significantly in its traditional fishing areas; this implies a series of measures to protect this resource, which started with a three years prohibition, following which licensed fishing quotas were established. Fagetti and Campodonico (1971) studied its larvae development, comparing it with this of ***P. planipes*** carried out by Boandd & Johnson (1963). The distribution of its larvae was also studied (Palma 1994), and the effects of predation were analized by Henríquez and Bahamonde (1964). There is also a biological analysis realized by Bustos and Retamal (1985), among other authors. The presence of ***Pleuroncodes monodon*** is very specific in oxygen deficient sea-beds since
Bacteria of the genus ***Thioploca*** develop there and represent an important part of its diet.

Cervimunida johni Porter, 1903
Ref.: Retamal (1981: fig. 91, pág. 63)
Common name: langostino amarillo
Size: L. C.: 17,0 - 48,7 mm
Geographical and bathymetric distribution : From the Third Region to Punta Carranza, Prov. of Talca, Chile. Its bathymetric range varies between 110 and 450 m.
Bio-ecological observations: Together with ***Pleuroncodes monodon*** and ***Heterocarpus reedi*** they have represented, historically, the most important species in industrial fishing of crustaceans. In the last seven years there have been practically no landings in the Bío Bío region, however it is still important in the Northern zone. Studies on this species have been realized by De Buen (1957), Arana and Pizarro (1970); Alegría, Avilés and Bahamonde (1967), among others.

Galathea lenzi Rathbun, 1907
Ref.: Rathbun (1907); Retamal (1981)
Common name: langostino de Juan Fernández; langostino
Geographical and bathymetric distribution : From Bahía de Concepción to Corral, province of Valdivia and Archipiélago de Juan Fernández, Chile.

Munida curvipes Benedict, 1902
Ref.: Benedict (1903); Retamal (1981)
Common name: langostino
Size:. T. without the rostrum: 30,0 mm
Geographical and bathymetric distribution : Archipelago de Los Chonos up to Puerto Otwaand, Patagonia chilena, Chile. Known bathymetric data: 2.000 m

Munida subrugosa (White, 1847)
Ref.: Retamal (1973 and 1981: fig. 93, p. 64)
Common name: langostino de los canales
Size: L. C. 16,8 - 26,0 mm
Geographical and bathymetric distribution : From the Canal de Chacao, province of Chiloé to the extreme South of South America, Chile. Also in the Atlantic up to Montevideo, Uruguay; in the Falklands Islands; New Zealand and its sub-Antarctic islands and South Australia. From the seashore to 1.095 m.
Bio-ecological observations: As well as ***M. gregaria*** there are high densities in the area of the canals, used as food by several marine species. Rodríguez and Bahamonde (1986) indicate that these especies, ***M. gregaria*** and ***M. subrugosa*** would be one and the same species and there would only be some morphological differences, in addition each one of them would correspond to a phase in their life development, one pelagic and the other demersal.

Munida gregaria (Fabricius, 1793)
Ref.: Retamal (1973 and 1981: fig. 92, pág. 64)
Common name: langostino de los canales
Size: L. C.: 27,0 - 38,0 mm
Geographical and bathymetric distribution : From Calbuco, Prov. de Llanquihue to the extreme South of South America, Chile. Around South America, in the Atlantic, Falklands Islands and New Zealand. Vertical distribution between 0 and 60 m.
Bio-ecological observations: As indicated for ***M. subrugosa*** there is a biological study of these *Munida* from the South of Chile (Rodríguez & Bahamonde 1986) in which bibliographical references are put forward on the status of both species.

Munida montemaris Bahamonde and López, 1962
Ref.: Bahamonde & López (1962)
Common name: langostino
Size: A. C.: 16 mm.
Geographical and bathymetric distribution: From Papudo to Punta Angeles, Valparaíso, Chile. Bathymetric distribution between 280 and 400 m.

Munida propinqua Faxon, 1893
Ref.: Retamal (1994)
Common name: langostino
Size: L. T.: 23,6 - 44,6 mm
Geographical and bathymetric distribution : From Iquique to Quintero, Chile. Also in the Panama Gulf and Galápagos (Ecuador). Its known bathymetric range varies between 700 and 1.000 m.

Common Nomenclature at the international level

In the international nomenclature the English terms " shrimp" and " prawns" correspond to the common names of the Natantia (Mendez 1981). All species which can be grouped under the name of "real shrimps" belong to the old classification of Natantia, that is to say the superorder of Dendrobranchiata, especially the Penaeides and Stenopodoidea and Caridea (Annex 3). There is no internationally recognized relationship between the English terms and the taxonomic links of the species under consideration and their use differs from country to country.

In accordance with the above, it is not surprising that the term " shrimp" should be applied in Peru to species which in that country are locally known as " langostinos". With reference to the Natantia of Peruvian waters, Mendez could establish the following (1981):

" The crustaceans known as langostinos, shrimps and gambas belong to the Natantia Decapods. In our coast (Peru), langostinos and shrimps represent the crustacean decapods of major economic significance. These species represent 24% of all decapods registered for the seashore and rivers of coastal Peru" . Then he adds: " In Peru the name " langostino" is generally used for most penaeides, the term " shrimp" is used for Caridea of marine and freshwater"

Velez et al. (1992), Flores et al (1995) and Elliot and Paredes (1997) have provided the major references to *Haliporoides diomedae* and *Nematocarcinus agassizi*, which are called " red langostino" by Peruvians, but which correspond to peneids (shrimps), which they themselves include in the English nomenclature as shrimps.

In Argentina the term " langostino" is used (Boschi 1997) to designate mainly *Pleoticus muelleri*, earlier known as *Hymenopenaeus muelleri*, together with other peneids species (Angelescu & Boschi 1959) , that is to say with species which correspond to shrimps of the old taxonomic group of the Natantia.

In Ecuador and in some countries of the Northern Hemisphere, for example Mexico, the name "shrimps" corresponds to those which in Peru are known as "langostinos", this is to say the Natantia, and that in Chile we describe correctly as shrimps. In Colombia and Venezuela Natantia crustaceans are referred to as " river shrimps" and "sea shrimp".

In Chile Peneid shrimps are called "gambas" (Gen. Haliporoides), Palinuridae and Scyllaridae are called "shrimps" and "spiny lobsters", and Galatheidae are called "langostinos". As it is possible to observe Galatheidae are closer in their forms to lobsters (hence the English name Squat Lobster) than to shrimps and prawns, which are erroneously called "langostinos" in Peru and Argentina.

Commercial Importance of Langostinos in Chile

In Chile there are two commercial langostino species to date. These are the red langostino, *Pleuroncodes monodon* (H. Milne Edward, 1837) and the yellow langostino *Cervimundia johni* (Porter, 1903). These langostinos can be distinguished through taxonomic characteristics described by Ojeda (1982) and Retamal (1994) which appear in their respective descriptions (Annex 1). These species are known by the internationally used name of squat lobster, which is given to Galatheidae (Palma & Arana 1997). Both species are recognized under the common name of langostino in the Seafood List (Anonymous, 1993), the FDA guide to commercial names of seafood products in different countries. There is also earlier evidence that these species have been known as langostinos for more than 60 years. In this respect the following was established by the North American researcher Waldo L. Schmitt (1971), curator and associated researcher of the Division of Invertebrates in the US National Museum, with reference to the Chilean langostino:

"Chile is also the home of another unique seafood product, a deep water Galatheidae which is significantly larger than the "krill langostino" on which whales feed in the East Pacific and the seas of the Southern Hemisphere. *Cervimundia johni* can be caught until such a depth as 200 fathoms. It can grow up to a width of 4 inches. Until 1934 it was considered as a very rare species; however after some time it begun to appear more frequently as a seafood novelty (or delicacy) in Chilean restaurants. The growth of this fishery resource in recent year has been phenomenal. We have found deep frozen tails of this noteworthy galatheidae sold under the Spanish name of "langostino" (small lobster), in supermarket chains shops. Out of the total Chilean production of 17 million pounds, the United States import more than 800,000 pounds in the frozen state and a quarter of a million pounds packaged in cans.

The intensive exploitation of these species begun in the 1950s, with some ups an downs in the production until the middle of the 1970s upwards. It is mentioned since the beginning of the 1980s (Supreme Decree No. 233, published in the Official Journal of 31 August 1982; SUBPESCA 1982).

The major background study on the fishing of *Pleuroncodes monodon* and *Cervimundia johni* was conducted by Henriquez (1979); with reference to this resource, he provides the essential background information on its identity, distribution of the species, biological aspects, population structure, ecology, exploitation, fisheries legislation, and current bibliography to date. In both articles of the same publication he mentions that the species similar to *Pleuroncodes monodon* and *Cervimundia johni* are the following, respectively (Tables 3 and 4).

Table 3

***Pleuroncodes monodon*: international economic importance - comparison**

Common name	Scientific name	Country
Baband rock lobster	***Cervimunida johni***	USA
Red crab	***Pleuroncodes planipes***	USA
Langostilla	***Pleuroncodes planipes***	México
Langostino chileno	***Pleuroncodes planipes***	El Salvador

Table 4

***Cervimunida johni*: international economic importance - comparison**

Common name	Scientific name	Country
Baband rock lobster	***Pleuroncodes monodon***	USA
Langostino chileno	***Pleuroncodes planipes***	El Salvador
Langostilla	***Pleuroncodes planipes***	México

All this background information concerning both species as a fishing resource were confirmed by Bore and Martinez (1981) as well as the statistics concerning the landings of both species between the years 1970 and 1979 (Annex 4:a). More detailed background information is provided every year in the Fisheries Statistical Journal published by SERNAPESCA (Annex 4.b). At the national level fishery industries have been developing advertisement material which was distributed in the United States between 1970 and 1980, especially in New York. This publicity always referred to the Chilean langostino, as this name was used on the cans labelling.

DISCUSSION

The detailed review of existing background information to date, whether it refers to morphology or to basic or evolution taxonomical aspects, supports the inclusion of *Pleuroncodes monodon* (H. Mine Edwards, 1837) and *Cervimundia johni* (Porter, 1903) species under the name of Chilean langostino in a specific Codex Alimentarius standard. The major reasons can be classified as follows: morphological and taxonomical, commercial and relating to the distribution of the species, as well to a correct use of terminology.

From the taxonomic point of view, the species mentioned are crustacean decapods which belong to the Suborder Pleocyemata, Infraorder Anomura, Family Galatheidae. The majority of the Anomura decapods have a globulous shell and an atrophied abdomen, folded below the cephalothorax which is covered by the shell. This is the situation of king crabs and stone crabs, in the species of the family Aeglidae, or freshwater crabs as well as hermit crabs. However, the general shape of the body of the Galatheidae family species is more cylindrical and shows a depression. Due to the general aspect and shape they have been described as squat lobster in the English nomenclature and the most appropriate translation into Spanish corresponds to “langostas anchas o aplanadas” (wide or flattened lobsters), summarized as “langostino”. Due to their phylogenic origin and their ecological living conditions, the shape of Galatheidae langostinos is closer to the lobsters of the infraorder Astacidea (true lobsters), which have claws. Their largest representatives are found in the Northern Hemisphere and correspond to the species of the Homarus genus (*H. americanus, H. vulgaris*). To a lesser extent their shape is similar also to the lobsters of the infraorder of Palinura. The following families belong to that infraorder: 1) Palinuridae (spiny lobsters with large feelers), the major representatives of which are the Juan Fernandez and Isla de Pascua lobsters (*Jasus frontalis*) in Chile, as well as a species of potential economic importance commonly called Valparaiso lobster (*Projasus bahamondei*) (Weiborn et al., 1992); 2) Scyllaridae (short feelers lobsters, slipper lobsters or shovel-nose lobsters), also with representatives in the Islas Juan Fernandez and Isla de Pascua, and Synaxidae (coral lobsters) with tropical species.

The external morphology of these lobsters, on which the taxonomical hierarchy is based, does not correspond to shrimps or prawns in the English nomenclature, the translation of which into Spanish is "camarones". The English name actually corresponds to all the species which included marine and fresh-water shrimps of the Natantia group in the old taxonomy (currently classified as Suborder Dendrobranchiata, which includes mainly peneids shrimps) together with those of the present Stenopodidea and Caridea infraorders (Annex 2). There is good reason to consider them very distant from the infraorder Brachyura, which includes crabs.

Background information which refer to the history of these species in international markets show that *Pleuroncodes monodon* as well as *Cervimundia johni* have been exported for more than 50 years mainly to the United States under the commercial name Chilean langostino. Television programmes were included in the promotion programmes in North America in the 1970s, especially in NewYork and frozen and canned products of both species were marketed under the name Chilean langostino. There are also labels with this name which were used on the cans exported at the time.

From the commercial point of view, both species are more abundant in the waters under Chilean jurisdiction, especially in the Exclusive Economic Zone of Chile, which has allowed Chilean businesses to maintain an active trade on this basis, which has not been possible in neighbouring countries like Peru, where ***Pleuroncodes monodon*** can also be found but in much smaller quantities. These characteristics of langostino species from Chile allowed the Chilean industries responsible for their trade to introduce them and support their presence on the international market. It has often been mistaken for ***Pleuroncodes planipes***, a similar species which can be found in the Northern Pacific Ocean, in view of their close relationship. In fact, catches of ***Pleuroncodes planipes*** have been erroneously reported in El Salvador as Chilean langostinos, which demonstrates that the international relevance of ***Pleuroncodes monodon*** is widely acknowledged.

Finally in view of the background and arguments presented, the correct use of language in Spanish as well as in English allows to assert that the term "shrimp" cannot be applied to the langostinos from Chile, and neither can the term "lobster (langosta)". Since the application of the "true lobster" term cannot be applied (as it does not correspond to the Homarus genus), or "slipper lobster" or "spiny lobster" as it does not correspond to the species of the Palinuridae and Scyllaridae families, neither to the Norwegian lobster as it is not ***Nephrops norvegicus*** (Codex Standard for Quick Frozen Lobsters 95-1981), as already stressed, the most appropriate recommendation is to propose the incorporation of both species in a specific standard with the name of Chilean Langostino.

CONCLUSION

1. There is no Codex Alimentarius standard to date which includes the langostinos of commercial importance originating from Chile: ***Pleuroncodes monodon*** and ***Cervimunida johni***.

2. The above-mentioned species should be included in Codex Alimentarius in a specific standard under the name of Chilean Langostinos.

3. ***Pleuroncodes monodon*** and ***Cervimunida johni*** are crustacean decapods which belong to the Suborder Pleocyemata, Infraorder Anomura and Galatheidae family. As such the name in English is Squat Lobster, the literal translation of which into Spanish corresponds to wide or flattened lobsters, term which is better expressed as "langostino".

4. ***Pleuroncodes monodon*** appears in scientific literature since 1934 under the name "langostino", with a mention that this species comes from the waters of Chile.

5. ***Pleuroncodes monodon*** and ***Cervimunida johni*** cannot and should not be referred to as lobsters, "slipper lobster", "spiny lobster" or Norwegian lobsters. It is not possible either to call them crabs, king crabs or any other common name other than Chilean Langostino. Similarly the name of shrimps or prawns or lobsters is not adequate. Such general terms could be used only in English, such as Squat Chilean Lobster, when applicable, only to avoid duplications or clarify the taxonomical situation of both species.

6. Both species have been caught in considerable quantities, only in Chile, as shown by national and international statistics, and traded and exported by Chilean industries, as appears in the labels used and the advertisements. This supports the necessity of their incorporation in a specific Codex Alimentarius standard according to the conditions specified above.

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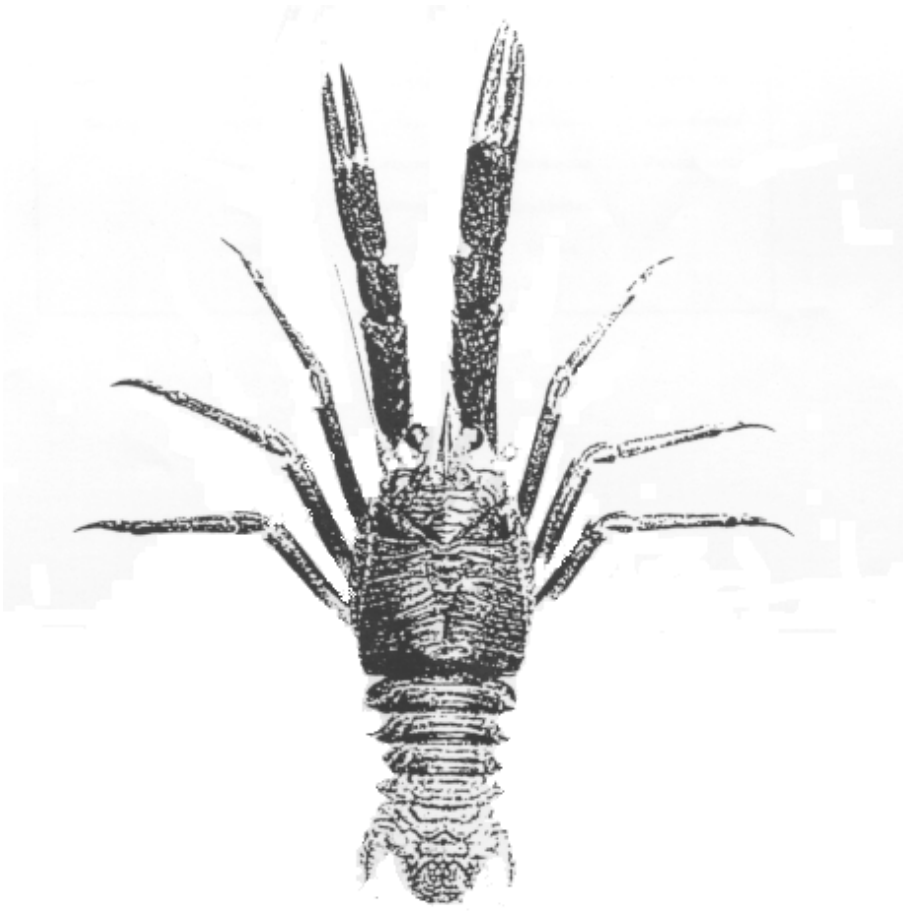
ANNEXES

1. a) Description of *Pleuroncodes monodon* (from Retamal 1994)

Diagnosis: oblong shell, deep cervical suture, numerous transversal stripes flanked by bristles cross the cephalothorax; rostrum in the shape of a large thorn finely curved backwards, extended beyond the eyes; a short thorn on each side of the rostrum and in the front lateral angles. Eyes with large cornea, kidney shaped. Widened rough chelipods, covered with thorns; with thorns in the angles across the palm and carpopod, non prehensile fingers. The first three pairs of pereiopods are rough, the margins hairy. Abdomen transversally striped and fringed, without spines. Wide fan-shaped caudal appendix.

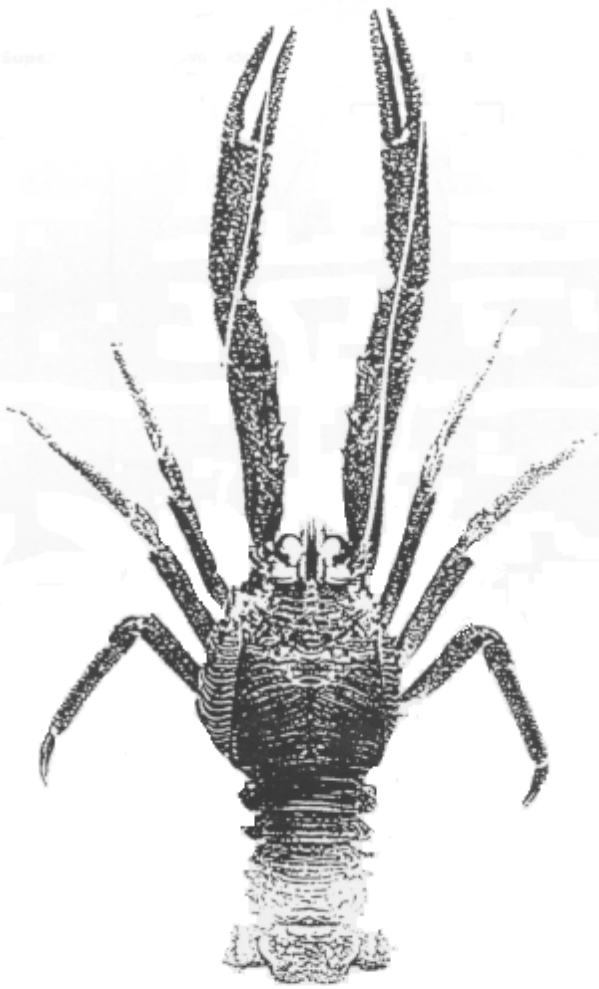
b) View of a specimen from the back



2. a) Description of *Cervimunida johni* (from Retamal 1994)

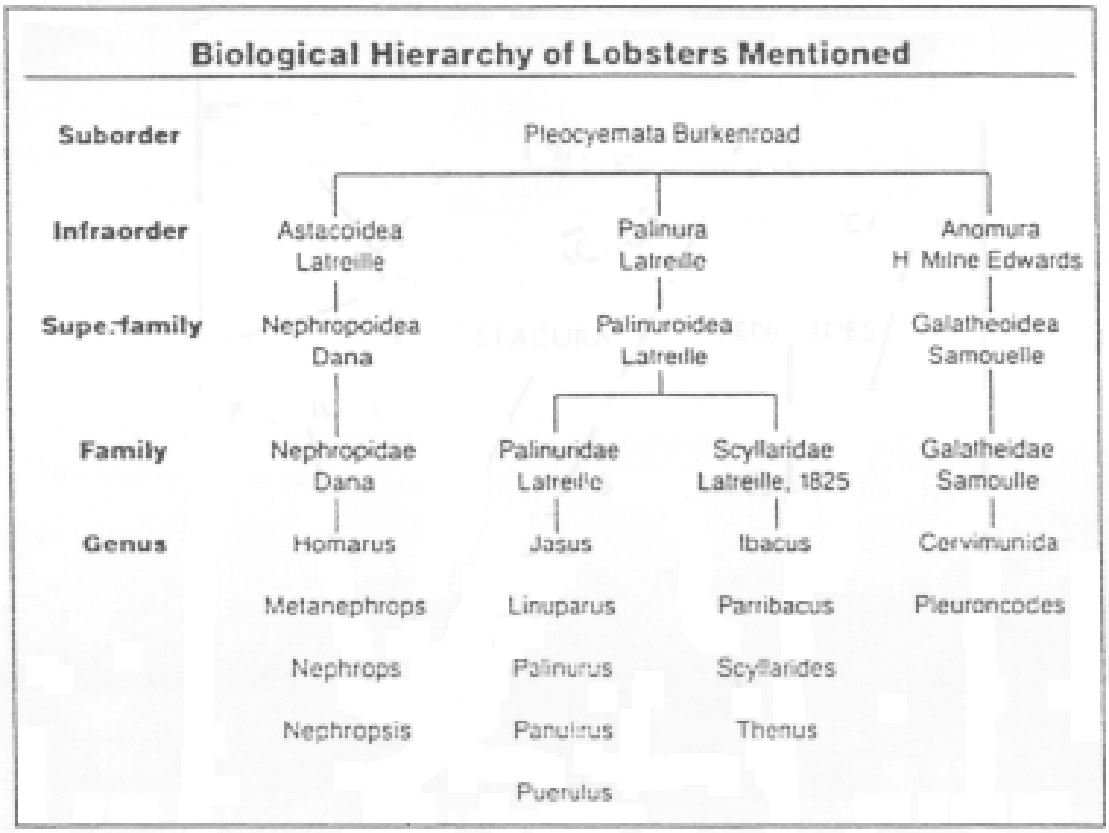
Diagnosis : wide cephalothorax oval with a deep U-shaped cervical furrow and another transversal one which divides the head and thorax regions; branchiostegites in the pleural region visible from the back, articulated with the shell. Curved downwards rostrum, with a jagged upper edge. Eyes with a kidney shaped cornea. Antennae larger than the body. Pereiopods in the shape of chelipods, the dactylopod bears a thorn at the top, which joins the protopod and the inner edge is jagged. Thin pereiopods, approximately half the chelipods in length. Pleon with transversal ridges and lateral lobes. Well developed fan-shaped caudal appendix.

b)<u>View of a specimen from the back</u>



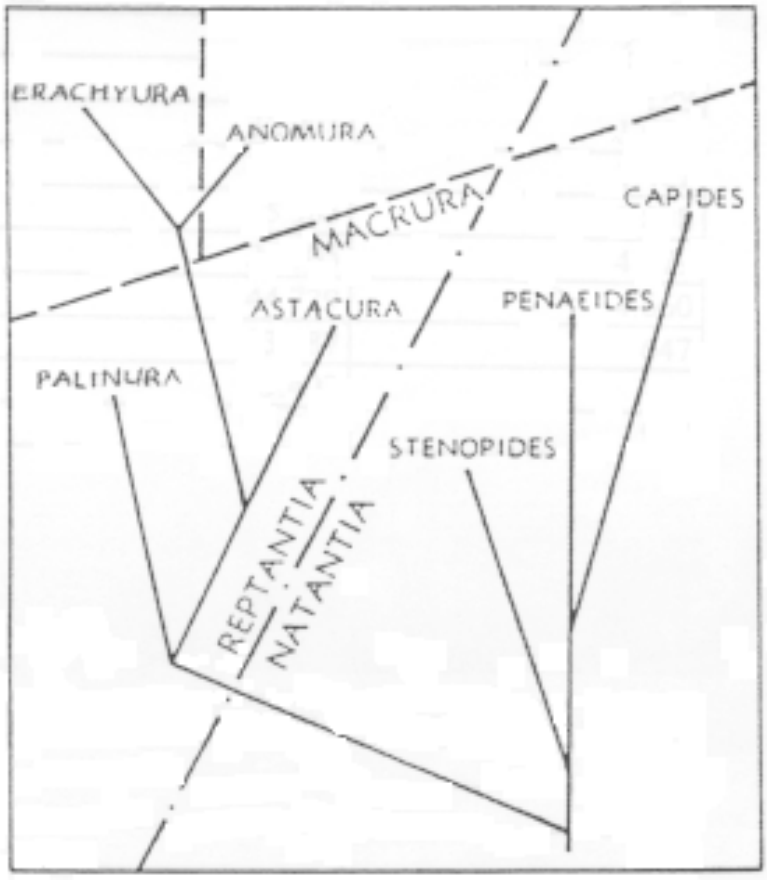
ANNEX 2.

Position of the Galatheidae family in the taxonomical hierarchy of the crustacean decapods (from Phillips, Cobb & George (1980)



ANNEX 3.

Phylogenic and systematic position of Natantia Crustaceans Decapods in the old classification mentioned by Bouvier in 1917.



ANNEX 4.

a) Landing of both species in tons.

Year	***Pleuroncodes monodon***	***Cervimunida johni***
1970	29.152	2.149
1971	36.804	990
1972	32.971	1.608
1973	23.444	1.462
1974	25.305	1.838
1975	26.805	4.079
1976	44.729	4.660
1977	33.087	647
1978	29.403	236
1979	28.708	535

b) Landing of both species in tons between 1980 and 1996.

Year	***Pleuroncodes monodon***	***Cervimunida johni***
1980	1.514	1.903
1981	---	9.066
1982	38	650
1983	8.689	6.119
1984	12.092	2.687
1985	4.383	4.160
1986	6.031	5.411
1987	5.060	6.115
1988	5.187	7.177
1989	573	3.942
1990	---	5.796
1991	346	6.934
1992	4.002	3.736
1993	3.334	2.224
1994	2.422	4.842
1995	4.938	5.743
1996	7.726	6.402