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CUBA'S SPINY LOESTER INDUSTRY

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Cuba's lobster industry has expanded sharply in recent years. The 1945 catch is estimated at 6.7 million lobsters, of which 80 to 85 percent were exported mostly as canned lobster meat. Exports in 1945 amounted to about one million pounds valued at \$585,811.

Although the lobster catch could be materially increased, fishermen are charging higher and higher prices which will tend to restrict future export expansion.

DESCRIPTION: The Cuban "spiny" lobsters are not true lobsters, but rather giant, clawless crawfish closely related to the family Homarus Americanus, and the term "lobster" as used in this report should therefore be

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construed to mean "spiny lobster" ^{1/}. The most common species is *Panilurus argus* (Latreille), but *Panilurus arcuatus* and *Panilurus longimanus* are also included in the term. They have five pairs of long, delicate legs without claws, a pair of feelers and a pair of thick, long antennae covered with small, sharp spines. Above the eyes there are two large, curved spines with sharp points and on the back and side numerous short spines. The predominant color is grey-green speckled with blue, yellow and brown, and on the sides there are yellow spots like eyes. The wide terminal sections of the tail fins are profusely mottled with black, blue, yellow and brown stripes (Figure 1).

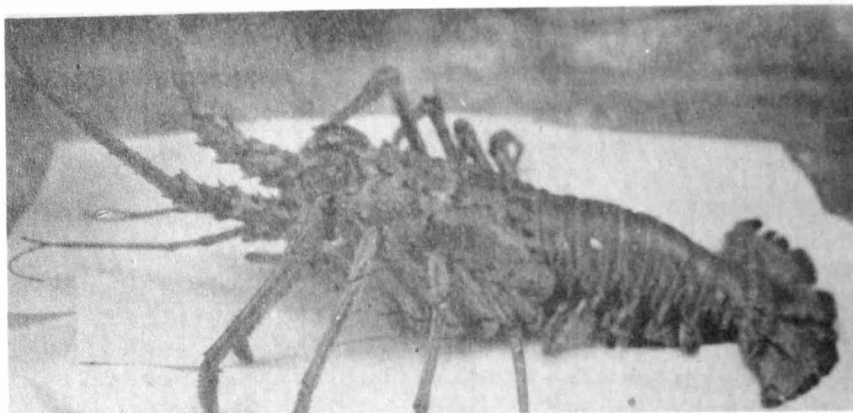


Figure 1. Cuban "spiny" lobster

The migratory habits of these lobsters are not fully known. During the main run, myriad lobsters swim from the Gulf stream to Cuba's natural breeding ground off the North ^{2/} and South ^{3/} coasts.

The mating season occurs in February and March. Females eject in each spawning between 500,000 and 700,000 eggs that adhere to the terminal portion of the body.

The incubating season in Cuban waters extends from the latter part of February until the end of June or July, but slight variations occur from year to year. The eggs develop in five or six months into nauplius larvee (the first larval form) which swim on or near the surface of the water. Like all crustaceans, larval-stage lobsters have various different forms from adult

^{1/} Much of the data in this section have been condensed from "Mariscos de Cuba," and from "Contribucion al Estudio de la Langosta."

^{2/} Matanzas Province: Cardenas, Cayo Romero, Los Playazos; Las Villas Province: Bajo de Gaditana, opposite Cayo Frances, Cienfuegos and Caibarien; Camaguey Province: Corona de Maternilla and Nuevitas.

^{3/} Ensenada de la Broa in Habana Province, Santa Cruz del Sur and all the keys within twelve leagues in Camaguey Province; and Casilda, Tunas del Zaza and keys offshore in Las Villas Province.

lobsters. They change their shells regularly and in so doing grow in size. The proportion of growth with each change reportedly is about four percent.

The smallest adult lobsters, about one year old, are about one and one-half inches long, exclusive of antennae. The average age at which lobsters commence to be of commercial value is about 2 or 3 years, when they are between ten and fourteen inches long. Adults of more than 3 years grow to be two feet long. The smallest female ever found spawning was about 2 years old and measured 8 inches.

Lobsters in the larval stage stay among rocks, sponges and deep marine vegetation, but adults live under ledges or in holes and crevices of rocks in shallow water. They are carnivorous and feed on small crustacea, worms and all kinds of marine animal waste. When their food is scarce, they resort to cannibalism.

PRODUCTION: The main run extends from October to December each year, during the first cool weather. Only a small portion of this run is caught, however, because the industry is not adequately equipped to take full advantage of the quantities available. A secondary run occurs during the mating season in February through April, known in Cuba as the "male run"^{1/}, but this run is only a small fraction of the main one. Except for the closed season, lobsters are caught in small quantities all year round.

The closed season on lobster fishing is usually from March to June, but varies slightly from year to year; for example, in 1934, it was from March 16 to June 15, and in 1946 from March 3 to May 26. At no time may spawning females be caught. A permanent prohibition also exists against catching lobsters in certain breeding grounds specified from time to time by the Bureau of Fisheries ^{2/}. The prohibition against catching is observed only partly. Ensenada (inlet) de la Broa on the south coast of Habana, which was once officially designated ^{3/} as a breeding ground, has become depleted because fishermen have not observed Government regulations.

Methods - Only Cuban citizens may catch lobsters in Cuban waters ^{2/}. Many kinds of traps are used: some are similar to the European traps which are long and have an opening at one end (See Figure 2), others use bag nets and screen nets. The most popular trap is a small circular net tied to a metal hoop at the end of a long pole. (Figure 3). In shallow water near reefs the lobsters are caught by hand. When the water is turbid, wooden buckets with glass bottoms enable the fishermen to see them. (Figure 4).

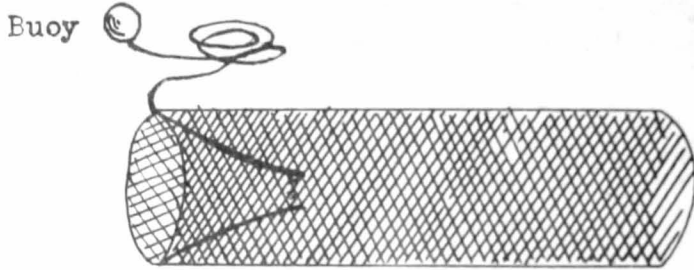
During the main run, huge schools of lobsters swim along the coast and are caught in large quantities from boats and deposited in tanks on board.

Fishing boats as a rule belong to private outfitters, but the larger lobster packers also have their own craft. The usual arrangement is for the fishermen to lease the boats from the outfitter or packer. The boat owner usually receives 21 to 25 percent of the catch. Although fishermen work for their own account, the outfitter contributes from his share 5 percent of the

^{1/} "Corrida del macho."

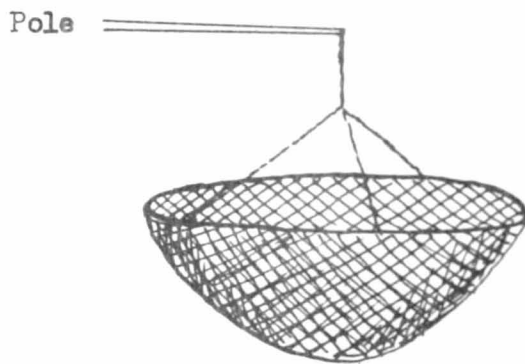
^{2/} Decree No. 704 of March 28, 1936.

^{3/} Decree No. 2244 of October 18, 1933



"NASA"

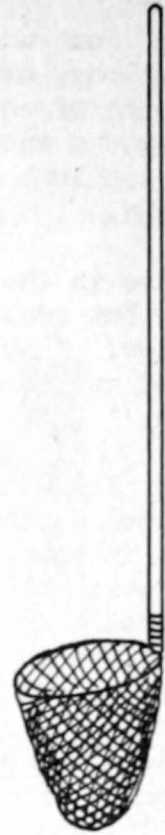
(Usually 6 to 12 feet wide,
2 to 4 feet in diameter)



"CHAPINGORRO"
(3 x 6 feet diameter)



Hook



Hoop one foot
in diameter;
net 2 feet long

Figure 2. Cuban spiny lobster fishing traps.



Figure 3. Lobster fishing

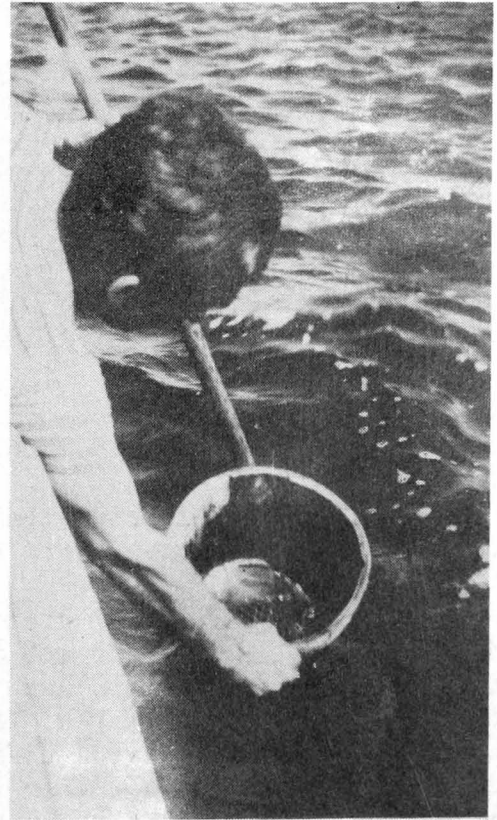


Figure 4. Glass-bottom bucket

fishermen's declared yearly income to a fishermen's retirement fund. Fishermen also contribute a like amount to this fund.

Each boat is usually manned by 4 or 5 men, but the larger craft carry 7 men. The daily catch of each boat averages about 2,400 pounds of live lobsters, although the larger boats catch as much as 4,000 pounds. The boats moor alongside the packer's dock (see Figure 5). The net income from the fishermen's share of the catch is divided among the crew.



Figure 5. Cuban lobster fishing schooners

The smallest lobster that legally may be caught must measure 15 centimeters (about 6 inches) from eye to end of the tailfins 1/.

Quantity: Official statistics covering the Cuban lobster catch are incomplete. The data do not include the entire Cuban production, because no reports are submitted on landings in certain districts and fishermen do not report their total catches. For given years only, statistics show consumption for Habana City, but even these are not accurate because about 30 percent of the arrivals is not actually consumed but is exported raw or boiled. Cuban authorities state that about 75 percent, or less, of the actual catch is reported. Official statistics on production (See Appendix I) are not sufficiently accurate to warrant an analysis but they do indicate that production dropped sharply in

1/ Decree no. 973, May 8, 1939, containing regulations for fisheries.

1928 and rose again to unprecedented levels in 1945. They also reveal that prices in Habana have been from one to three times higher than the prices prevailing at lobster-catching centers.

About two-thirds of the total catch is taken on the south coast of Pinar del Rio Province, and about one-fifth near the Isle of Pines (Appendix I). At present most of the catch is sold at La Coloma in Pinar del Rio Province, where the largest canneries are located. Canneries also are located at Batabano in south Habana Province, but their importance lately has declined. Another important canning center is Nueva Gerona on the Isle of Pines. Caibarien in Las Villas Province formerly was also important.

An estimate of production from 1935 to 1945, inclusive, based on approximate consumption, accurate export statistics, and information from canneries and packers is shown in Table 1.

CONSUMPTION: Roughly 16 percent of Cuba's total catch, or about 50,000 dozen lobsters per year, is consumed fresh locally. About 22 percent, or 70,000 dozen, is exported as fresh lobster tails, packed in ice. A small portion was exported in 1944 and 1945 as cooked lobster, also packed in ice. A new development in recent years has been the drying and packing in salt of a very small quantity of cooked tails and meat.

The most important single item of the packing industry, however, is canned tails, which accounts for about 195,000 dozen, or 62 percent of the total.

Freshly caught live lobsters are sold at the local markets of Habana and other large towns where customers choose from a basket the individual specimens they want. The method used in cooking is to boil them in salt water for 15 minutes or half an hour, after which the meat from the tails is either broiled or served cold or used in making various other dishes.

PROCESSING INDUSTRY: In 1927 the Cuban tariff on canned goods was increased. This not only discouraged imports but also paved the way for Cuban canneries. The first factory for canning lobsters in Cuba was established in 1933.

Since practically all of Cuba's production of canned lobster is exported, total output can be gauged by exports. In 1945, exports were roughly four times as much as in 1935.

There are nine lobster canneries in Cuba. The three most important ones are on the waterfront at La Coloma in Pinar del Rio Province. They are located in wooden buildings about 30 x 20 meters each in size. (See Figure 6.) The canneries operate sporadically because the lobster runs and the daily catches are unpredictable. Laborers are called in to work when cargoes of lobsters arrive.

Canneries bring from distant places the fresh water used in processing. One brings it in a cask-truck from the Flamenco Spring 3 kilometers away. Another hauls it from the Coloma River in a tank on board a lighter.

Table 1. Cuban Spiny Lobster Estimated Disappearance, 1935-1945, Inclusive.
In thousand dozens

| Year | PRODUCTION 1/ | DISAPPEARANCE | | |
|------|---------------|-------------------------------|------------|---------------------|
| | | Local consumption Fresh 2/ | For export | |
| | | | Canned 3/ | Raw refrigerated 4/ |
| 1935 | 175 | 38 | 109 | 28 |
| 1936 | 192 | 39 | 96 | 57 |
| 1937 | 248 | 56 | 126 | 66 |
| 1938 | 227 | 50 | 134 | 43 |
| 1939 | 340 | 70 | 223 | 47 |
| 1940 | 298 | 48 | 182 | 68 |
| 1941 | 386 | 60 | 85 | 241 |
| 1942 | 329 | 53 | 213 | 63 |
| 1943 | 493 | 61 | 341 | 91 |
| 1944 | 538 | 59 | 340 | 39 5/ |
| 1945 | 559 | 60 | 411 | 88 5/ |

Source: Calculated from official and trade estimates.

- 1/ Estimated on the basis of disappearance.
- 2/ Figured by deducting 30 percent processed for export from official statistics on consumption in Habana City; and adding from 7,000 to 22,000 dozen consumed in the rest of Cuba.
- 3/ Calculated on the basis of exports on the premise that, as indicated by the canneries, about 132 live lobsters are needed to produce a case of canned lobsters weighing 264 ounces net. A dozen lobsters presumably produce 24 ounces, or .680 kilos of meat. This ratio of yield per dozen lobsters seems small, but canneries insist that it is correct. Lobsters lose weight after boiling; much weight is lost on removing the head and shell; and still more is lost in dressing the tails from which the hard meat is removed.
- 4/ Calculated on the basis of exports. Reportedly 30 percent of raw refrigerated meat is obtained from live lobsters which on the average weigh 1 pound, 2 ounces. One dozen presumably produce 4 pounds or 1.80 kilos.
- 5/ Includes boiled lobster.

The processing and canning equipment consists of auto-claves, steam boilers, cooling tanks, a can conveyor and steam-propelling unit, a vacuum chamber, and a sealing machine (Figures 7 and 8). The original investment of the largest producer reportedly was \$75,000.

The process of canning, from live lobster to sealed can, usually takes 2 hours. About 150 pounds of live lobsters reportedly are needed to produce one carton containing 16 pounds, 5 ounces net of meat (See note 3 under Table 1). The tins weigh 5 or 5.5 ounces and are packed 48 to a carton. There follows a description of the canning process, as observed on a recent visit to the largest plant at La Coloma.

On arrival at the plant, live lobsters are weighed in wooden boxes each holding 60 pounds net (Figure 9). They are then transferred to metal cages which

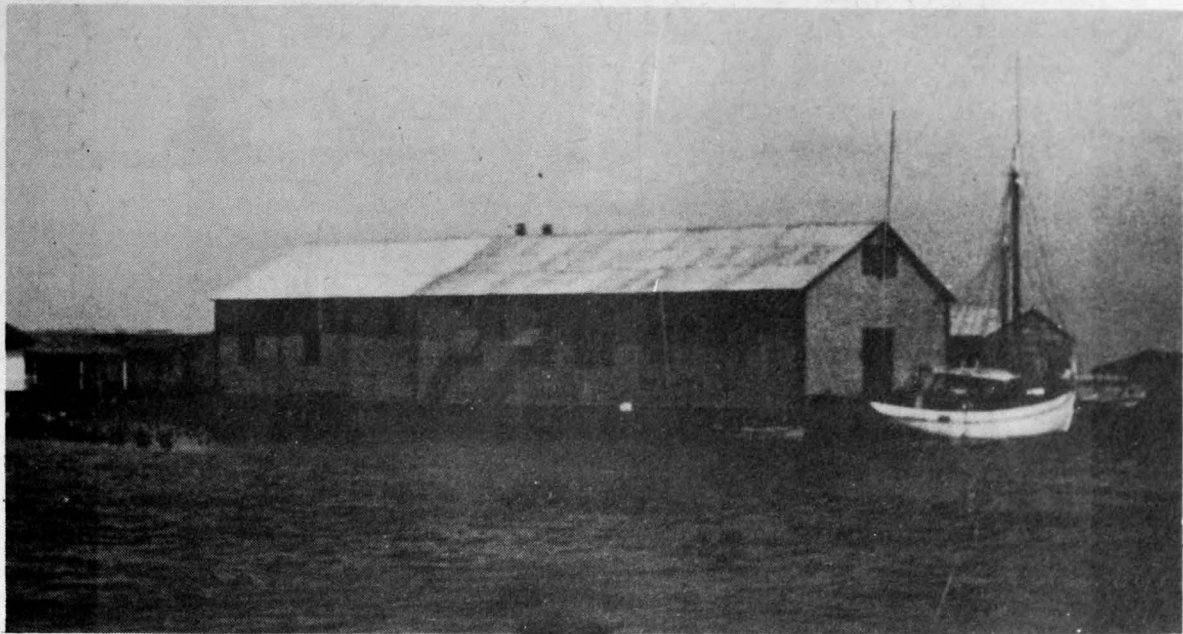


Figure 6. Cannery on the waterfront at La Coloma, Pinar del Rio Province.

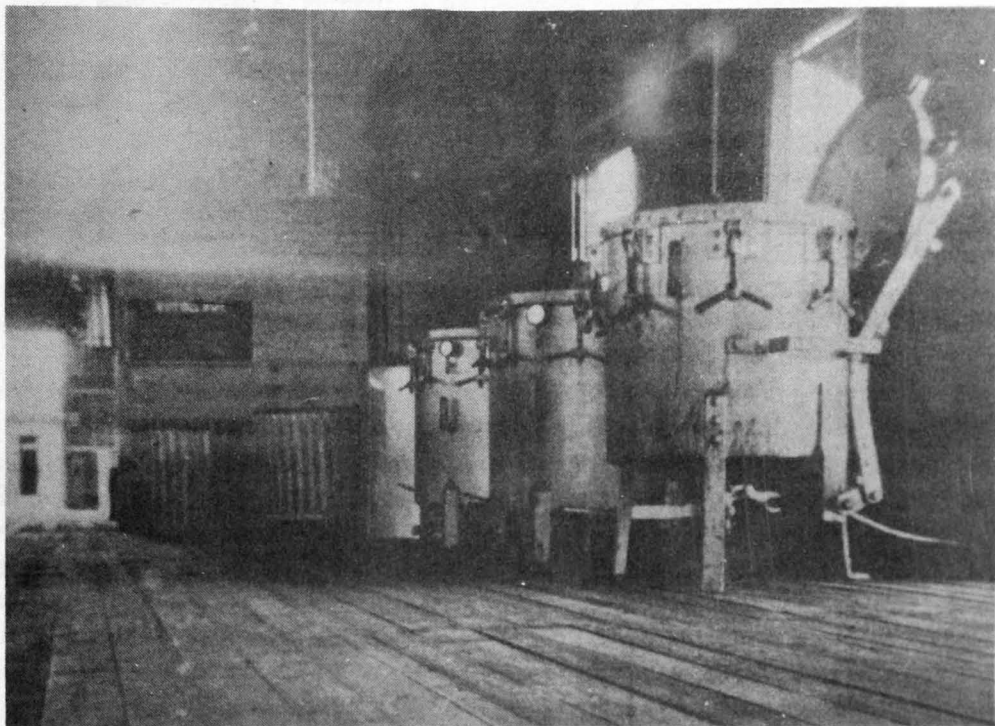


Figure 7. Auto-claves in lobster cannery at La Coloma.

Figure 8.
Sealing
Machine

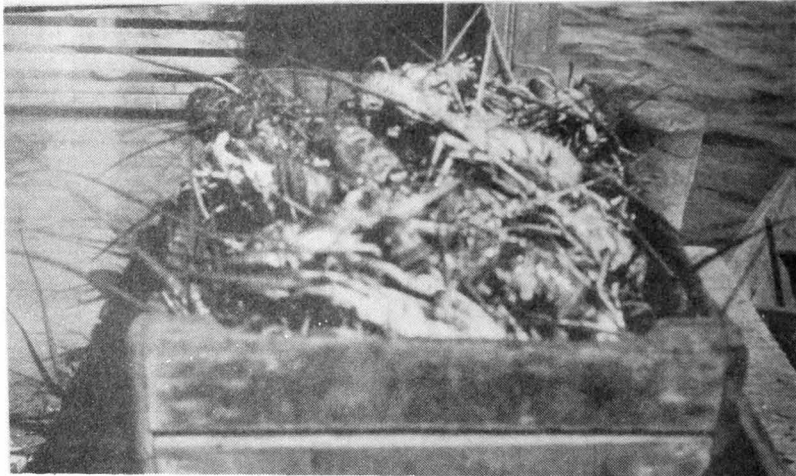
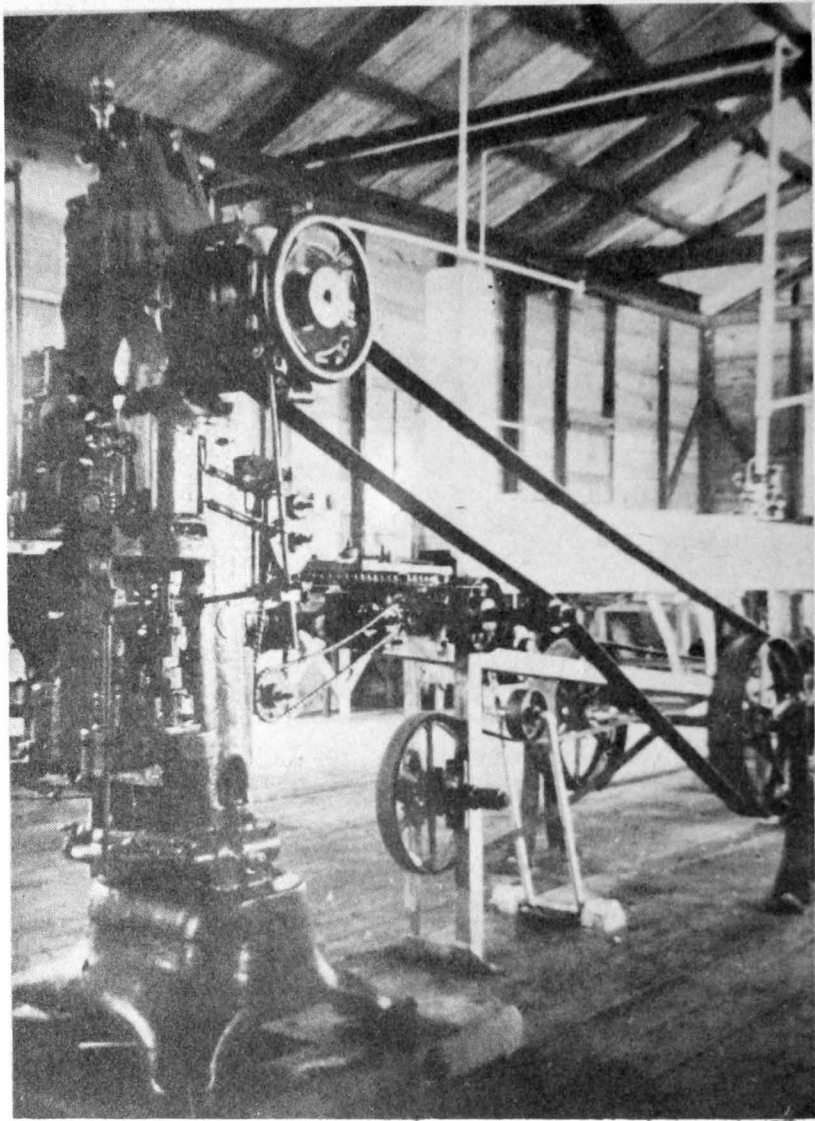


Figure 9.
Boxes in
which lobster
arrivals are
weighed at
cannery

fit closely into auto-claves (Figure 10) heated by steam from wood-burning boilers. The temperature in the auto-claves is maintained at 100 degrees centigrade or more, and this kills the lobsters instantly. The lobsters are left in the auto-clave to cook thoroughly.

Once cooked, the head and legs are removed. The tails are placed in steel trays and washed. Then they are cracked open and the shell is removed. The meat is then placed on screen-bottom trays 14 x 22 inches in size, and carried by hand to a rack above a steel trough wherein the meat is washed. The washed meat is carried in trays to rustless steel tables and weighed 5 or 5.5 ounces to a tin. Each portion is wrapped in vegetable paper and filled into the tin, which is then placed in a steam-propelled conveyor. On the way, water is poured into the tin which continues on the move to a vacuum chamber about 20 feet long. As the tin leaves the chamber 25 grains of salt are dropped into it. The tin is then conveyed to the automatic sealer.

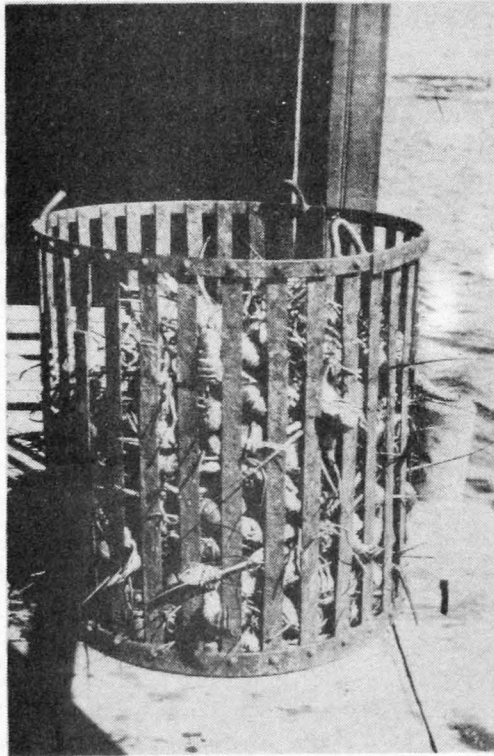


Figure 10. Metal cages which fit closely into auto-claves.

The hermetically-sealed tins are immersed in the auto-claves to eliminate any bacteria that might have remained. Thereafter the tins are cooled in a tank of water.

Sample tins from lots processed during the day are placed in an incubator for observation and final approval. The tins are also inspected for

swellings, for which a discount of 1/4 of 1 percent is allowed. Very few tins reportedly are condemned; and when they are, the development of some mechanical deficiency usually is the cause.

The processing methods of the other two large packers are about the same. One of these packers sells part of his production to jobbers who export with their own labels.

One packer has a dock and a warehouse by the sea at La Coloma, but his cannery is on the highway to Pinar del Rio about 26 kilometers away. The lobsters are killed at the warehouse and the tails are hauled by truck in ice-laden boxes to the cannery for processing.

The heads, shells and residues of the lobsters are all disposed of at sea (Figure 11). About 10 years ago they were ground to make lobster meal for chicken feed and fertilizer, but the price obtained did not cover the cost of production. A large dryer and a grinding mill for this purpose are still in the warehouse of one of the packers.

Some of the cannery laborers pick the bodies and claws of the lobsters, remove the meat, and prepare a peppery concoction which they can and sell to the local trade.



Figure 11. Lobster residues are disposed of at sea.

Labor: About 80 women and 25 to 30 men are employed by the largest packer during the main run and 60 women and 6 to 7 men the rest of the year. Women are required to wear white uniforms. Up to the middle of 1945 laborers earned 30 to 40 cents per hour, but in August 1945 they organized into a syndicate and obtained an increase of 5 cents per hour.

The capacity of the industry may be estimated at roughly 27,000 to 30,000 cartons of 48 five and one-half ounce tins per year. During the war, production probably ranged from 15,000 cartons in 1942-43 to 24,000 in 1944-45. During the packing season which began in October 1945 and ended March 1946, from 16,000 to 18,000 cartons reportedly were packed, of which some 2,000 remain unshipped.

Raw Refrigerated: Prior to the war a large quantity of raw glazed lobster tails was exported, principally to Miami; but this was discontinued owing to the lack of refrigerated vessels and the costly process involved 1/. At present shipments of raw lobster consist of either the refrigerated tails with shell or the refrigerated meat, in ice-laden wooden boxes containing 100 pounds net. The principal market is Miami, but some are also shipped to New York. Lately one exporter has been sending by air to Miami 3,000 to 4,000 pounds weekly of refrigerated raw tails.

Boiled Refrigerated: The principal centers for processing boiled lobster are Batabano, Habana Province; and La Coloma, Boca de Galafre and Arroyos de Mantua in Pinar del Rio Province. The boiled lobster meat or tails, devoid of shells, are put in one-pound cans with perforated bottoms. The cans are placed in ice-laden boxes containing about 100 pounds net. Some meat from claws and heads reportedly is included for use in soup.

Salted dried: Very small quantities of salted dried lobster are produced in Batabano and Punta de Carta and packed in 10-pound containers. When immersed in water the meat regains part of its natural state although it is salty and tougher than fresh meat.

EXPORTS: From scarcely 125,000 kilos valued at roughly \$60,000 in 1935, lobster exports in the aggregate rose in 1945 to about 500,000 kilos worth approximately \$600,000. The canned product made up 87 percent of the total.

The United States is the principal market for Cuban lobster, New York taking most of the canned product and Miami the raw and boiled refrigerated meat. Exports of canned lobster to the United States averaged 64 percent of total shipments from 1935 to 1939; 96 percent in 1940 to 1944; and 90 percent last year. A considerable part of this reportedly is re-exported to Europe.

From 1935 to 1939 Cuba developed a good lobster trade with France, but the import quota policy of the French Government and the war prevented its further expansion. At present other countries which import canned lobster to any appreciable extent are Sweden, Mexico and a number of the republics in Latin America. (See Appendix II) Recently substantial orders have been

1/ The raw tails still in the shell were glazed by dipping in cold water about 15 degrees Fahrenheit, and were packed in cartons.



Figure 12. The finished product

| | | | | |
|--|--|---|---|--|
| | <p>THROW LIQUID AWAY READY TO EAT SEASON TO TASTE</p> <p>VIERTASE EL LIQUIDO LISTA PARA COMER PREPARESE AL GUSTO</p> | <p>CUBAN STAR TRADE MARK</p> | <p>NET CONT. 5 1/2 OZ. NATURAL</p> | |
| <p>MARISCOS DEL CARIBE, S. A.</p> | | <p>FANCY ROCK LOBSTER</p> | | |
| | <p>VIERTASE EL LIQUIDO LISTA PARA COMER CONDIMENTESE AL GUSTO</p> | <p>ESTRELLA DEL SUR MARCA REGISTRADA</p> | <p>PESO NETO 5 1/2 Oz.</p> | |
| <p>COOPERATIVA DE PESCADORES DE BATABANO</p> | | <p>LANGOSTA NATURAL</p> | | |
| | <p>VIERTASE EL LIQUIDO LISTA PARA COMER CONDIMENTESE AL GUSTO</p> | <p>ESTRELLA DEL SUR MARCA REGISTRADA</p> | <p>PESO NETO 5 1/2 Oz.</p> | |
| <p>COOPERATIVA DE PESCADORES DE BATABANO</p> | | <p>LANGOSTA NATURAL</p> | | |

Figure 13. Labels on Canned Lobster

received from Belgium, Switzerland and Sweden. Increased production costs and price competition from South Africa reportedly will curtail Cuban exports to the United States.

Table 2. Exports of Cuban Lobster Meat, Raw, Boiled (Refrigerated) and Canned, 1934 to 1945, Inclusive.

Q U A N T I T Y

| Year | RAW | | BOILED | | CANNED | |
|------|--------------|--------------|--------------|--------------|--------------|--------------|
| | U. S. | Total | U. S. | Total | U. S. | Total |
| | <u>kilos</u> | <u>kilos</u> | <u>kilos</u> | <u>kilos</u> | <u>kilos</u> | <u>kilos</u> |
| 1934 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1935 | 50,222 | 51,203 | 0 | 0 | 64,407 | 74,448 |
| 1936 | 102,721 | 103,111 | 0 | 0 | 35,624 | 65,139 |
| 1937 | 117,690 | 119,510 | 0 | 0 | 38,487 | 85,766 |
| 1938 | 77,708 | 78,186 | 0 | 0 | 55,762 | 90,870 |
| 1939 | 83,781 | 83,781 | 0 | 0 | 104,722 | 151,558 |
| 1940 | 122,576 | 122,801 | 0 | 0 | 109,646 | 123,675 |
| 1941 | 430,485 | 434,087 | 0 | 0 | 52,198 | 57,665 |
| 1942 | 112,581 | 112,581 | 0 | 0 | 145,048 | 145,048 |
| 1943 | 163,656 | 163,656 | 0 | 0 | 231,018 | 232,018 |
| 1944 | 222,682 | 222,682 | 27,450 | 27,450 | 218,526 | 230,968 |
| 1945 | 117,988 | 117,988 | 40,409 | 40,456 | 250,754 | 279,437 |

V A L U E

| | <u>dollars</u> | <u>dollars</u> | <u>dollars</u> | <u>dollars</u> | <u>dollars</u> | <u>dollars</u> |
|------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1934 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1935 | 5,961 | 6,415 | 0 | 0 | 43,412 | 51,612 |
| 1936 | 25,267 | 25,393 | 0 | 0 | 20,420 | 40,209 |
| 1937 | 43,784 | 44,428 | 0 | 0 | 29,233 | 60,195 |
| 1938 | 25,417 | 25,688 | 0 | 0 | 34,413 | 59,150 |
| 1939 | 32,805 | 32,805 | 0 | 0 | 41,909 | 64,503 |
| 1940 | 43,642 | 43,692 | 0 | 0 | 44,831 | 54,000 |
| 1941 | 139,015 | 141,518 | 0 | 0 | 33,012 | 36,347 |
| 1942 | 39,755 | 39,755 | 0 | 0 | 183,554 | 183,554 |
| 1943 | 79,035 | 79,035 | 0 | 0 | 347,472 | 349,284 |
| 1944 | 95,264 | 95,264 | 15,885 | 15,885 | 411,195 | 439,456 |
| 1945 | 40,808 | 40,808 | 36,783 | 36,875 | 444,440 | 508,128 |

Source: Compiled from official foreign trade statistics, Cuban Ministry of the Treasury.

PRICES: Wholesale - Few commodities have sky-rocketed in price as much as Cuban lobster. The price of live lobster has risen from 60 cents and \$1.00 a case (60 pounds net weight) in 1932 to \$3.85 and \$4.50 in 1946; and canners expect a further increase now that the run is over, \$5.50 already being paid at Batabano for retailing locally.

Raw refrigerated lobster tails in the shell were quoted at 7 cents in 1938 and 18 cents in 1946. Prices per pound boiled and refrigerated in 1938 were 11 cents for the whole lobster and 33 cents for the meat in one-pound containers; as compared to the current prices of 35 and 65 cents, respectively.

The price of canned lobster also rose. The equivalent of a carton with 48 five-ounce tins in 1932 was \$6.00 f.o.b. Habana. By 1943 quotations had risen to \$16.00. In 1944 the sharp demand from the United States boosted the f.o.b. price to around \$20.00, but the price dropped to \$17.50 in 1945 when the United States price ceilings were instituted. This year shipments have been made to Europe for as much as \$21.50 per carton.

The price of the newly-developed salted and dehydrated lobster is 75 cents per pound for the tails and 55 cents for meat, f.o.b. Hatabano.

Table 3. Wholesale Prices of Cuban Spiny Lobsters, Live and Canned, 1932 to 1946, Inclusive.

| Year | Live, case of 60 pounds net <u>1/</u> | Canned, carton of 48 five-ounce tins f.o.b. Cuba |
|------|---|--|
| | dollars | dollars |
| 1932 | 0.60-1.00 | 6.00 |
| 1934 | 0.80-1.20 | 6.00 |
| 1936 | 1.20-1.50 | 6.50 |
| 1938 | 1.50-2.00 | 6.50 |
| 1940 | 2.00-2.50 | 6.75 |
| 1941 | 2.00-3.00 | 7.50 |
| 1942 | <u>2/</u> | 10.15 |
| 1943 | 3.00-3.50 | 16.00 |
| 1944 | <u>2/</u> | 20.00 |
| 1945 | 3.50-4.00 | 17.25-17.50 |
| 1946 | 3.85-4.50 | 17.25-21.50 |

Source: Embassy files and trade.

The retail price of live lobsters weighing on the average 1-1/2 pounds ranges from 25 to 35 cents each. That of canned lobster is 60 to 65 cents per tin of 5-1/2 ounces.

COST OF PRODUCTION: Canneries at La Coloma, Pinar del Rio Province, at present are paying from \$3.85 to \$4.50 per crate (60 pounds net weight) of live lobsters as compared to an average of \$0.80 in 1932, \$1.35 in 1936, and \$2.25 in 1940.

The cost of producing a carton of canned lobsters containing 48 five-ounce tins, according to two of the largest producers, is \$16.10, consisting of the following: \$10.00 for the lobsters, \$3.00 for salaries and wages, and \$3.10 for containers and operating expenses. Both producers expect prices of live lobsters to increase further in 1946. The cost of production of very small factories is much lower but the production methods employed reportedly are inferior.

1/ Lower prices prevail during the seasonal run. Each case contains about 4 or 5 dozen lobsters.

2/ Not available.

Exporters of raw refrigerated lobster state they cannot fill orders from the United States because the cost of production is higher than the price of 25 cents per pound which importers at Miami were willing to pay in February and March shortly before the seasonal prohibition to catch lobsters went into effect. Local processors pay 26 to 30 cents per pound at dock at the port of origin, plus transportation to plant. One exporter buying in ports of Matanzas and Las Villas Provinces, reportedly purchased at \$3.00 the dozen of live lobsters yielding 9 pounds of meat, or 33 cents per pound. In another instance, he paid 25 cents per pound for the lobster tails with shell, but so much reportedly was wasted that the cost became prohibitive. One exporter avers he cannot possibly ship for less than 35 cents per pound f.o.b. Habana.

GOVERNMENT MEASURES: In October 1945 the Cuban Ministry of Agriculture allocated \$80,000 with which to develop fisheries through a National Fisheries Cooperative (Cooperativa Nacional de Pesca). Part of the profits from this enterprise reportedly will be used for improvements and the rest will be prorated among members of the cooperative, stated to be all fishermen. The Cooperative reportedly intends to catch and can lobsters, but as yet nothing tangible has been done. Two large private canneries have expressed fear lest this subsidized cooperative in competing with them actually force them out of business.

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Embassy Legal Archives, and General Files.

APPENDIX I

Spiny Lobster Production in Cuba and Consumption in Habana City, 1927 to 1945, inclusive 1/.

| Year | TOTAL PRODUCTION | | | CONSUMPTION IN HABANA CITY | | |
|------|------------------|---------|-----------|----------------------------|---------|-----------|
| | Quantity | Total | Per dozen | Quantity | Value | |
| | | | | | Total | Per dozen |
| | dozen | dollars | dollars | dozen | dollars | dollars |
| 1927 | 171,445 | 82,400 | 0.48 | 2/ | 2/ | |
| 1928 | 35,378 | 55,992 | 1.58 | 2/ | 2/ | |
| 1929 | 54,317 | 67,232 | 1.24 | 2/ | 2/ | |
| 1930 | 71,841 | 73,256 | 1.02 | 2/ | 2/ | |
| 1931 | 54,884 | 75,440 | 1.37 | 2/ | 2/ | |
| 1932 | 69,630 | 69,467 | 1.00 | 2/ | 2/ | |
| 1933 | 64,605 | 38,314 | 0.59 | 2/ | 2/ | |
| 1934 | 69,546 | 43,268 | 0.62 | 28,861 | 13,852 | 0.48 |
| 1935 | 87,674 | 65,038 | 0.74 | 37,949 | 45,411 | 1.20 |
| 1936 | 88,011 | 36,581 | 0.42 | 45,847 | 57,209 | 1.25 |
| 1937 | 109,669 | 47,724 | 0.44 | 62,686 | 90,505 | 1.44 |
| 1938 | 76,022 | 32,078 | 0.42 | 60,439 | 82,503 | 1.37 |
| 1939 | 2/ | 2/ | 2/ | 84,325 | 97,479 | 1.16 |
| 1940 | 109,995 | 32,678 | 0.30 | 2/ | 2/ | 2/ |
| 1941 | 142,400 | 62,582 | 0.44 | 2/ | 2/ | 2/ |
| 1942 | 193,171 | 74,832 | 0.39 | 46,208 | 48,702 | 1.05 |
| 1943 | 157,383 | 95,331 | 0.61 | 57,410 | 88,420 | 1.54 |
| 1944 | 183,827 | 130,352 | 0.71 | 52,657 | 121,092 | 2.30 |
| 1945 | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ |

Spiny Lobster Production in Cuba, 1944, by Ports 1/.

| Port | Province | Total Production | |
|------------------|---------------|------------------|---------|
| | | Quantity | Value |
| | | dozen | dollars |
| La Coloma | Pinar del Rio | 102,632 | 61,588 |
| Nueva Gerona | Isle of Pines | 39,239 | 25,195 |
| Boca de Galafre | Pinar del Rio | 16,005 | 10,207 |
| Batabano | Habana | 6,543 | 20,300 |
| Tunas de Zaza | Las Villas | 4,488 | 3,398 |
| Cajio | Habana | 3,400 | 2,040 |
| Gardenas | Matanzas | 2,874 | 1,584 |
| Guanimar | Habana | 2,345 | 1,249 |
| Sagua | Las Villas | 1,736 | 1,248 |
| Caibarien | " | 1,022 | 412 |
| Dimas | Pinar del Rio | 1,600 | 715 |
| Nuevitas | Camaguey | 520 | 520 |
| Bahia Honda | Pinar del Rio | 625 | 261 |
| Santiago de Cuba | Oriente | 323 | 737 |
| Habana | Habana | 305 | 794 |
| Matanzas | Matanzas | 170 | 107 |
| | Total | 183,827 | 130,352 |

Source: Compiled from Embassy reports as originally submitted by Bureau of Fisheries formerly in the Cuban Navy and now in the Ministry of Agriculture.

1/ These official figures do not reflect actual production but are submitted to show relative importance of ports and also for comparative purposes.

2/ No data available.

APPENDIX II

Exports of Cuban Canned Lobster, by Countries of Destination, Annual Averages 1935-1939 and 1940-1944 and Annual 1945.

Q U A N T I T Y

| Country | Yearly Average | | Year |
|-------------------|----------------|----------------|----------------|
| | 1935-39 | 1940-44 | 1945 |
| | <u>kilos</u> | <u>kilos</u> | <u>kilos</u> |
| United States | 59,800 | 151,287 | 250,754 |
| France | 13,420 | 851 | 0 |
| Germany | 11,480 | 0 | 0 |
| Sweden | 0 | 0 | 14,721 |
| Mexico | 2,656 | 2,802 | 9,606 |
| Brazil | 0 | 0 | 1,709 |
| Belgium | 2,181 | 0 | 0 |
| Switzerland | 814 | 210 | 1 |
| Italy | 214 | 1,410 | 0 |
| Peru | 733 | 0 | 551 |
| Great Britain | 699 | 0 | 0 |
| Other, in America | 945 | 1,286 | 2,054 |
| Other, elsewhere | 616 | 28 | 41 |
| Total | 93,558 | 157,874 | 279,437 |

V A L U E

| | <u>dollars</u> | <u>dollars</u> | <u>dollars</u> |
|-------------------|----------------|----------------|----------------|
| United States | 33,877 | 204,013 | 444,440 |
| France | 6,989 | 660 | 0 |
| Germany | 8,398 | 0 | 0 |
| Sweden | 0 | 0 | 32,296 |
| Mexico | 2,173 | 5,366 | 21,348 |
| Brazil | 0 | 0 | 4,418 |
| Belgium | 1,092 | 0 | 0 |
| Switzerland | 675 | 127 | 2 |
| Italy | 119 | 782 | 0 |
| Peru | 362 | 0 | 957 |
| Great Britain | 343 | 0 | 0 |
| Other, in America | 547 | 1,567 | 4,562 |
| Other, elsewhere | 555 | 13 | 105 |
| Total | 55,130 | 212,528 | 508,128 |

Source: Compiled by Embassy from official foreign trade statistics, Cuban Ministry of Finance.