Resumen

La centolla es uno de los mariscos de alto valor comercial que se captura en el mar Argentino. Este cangrejo que habita aguas templado-frías es apreciado en mercados nacionales e internacionales, por el gusto y sabor de su carne.
Las capturas se iniciaron en la década del treinta en el canal Beagle al sur de Tierra del Fuego. Siendo en la actualidad el área de mayor captura, la zona sur del golfo San Jorge, litoral marítimo de las provincias Chubut y Santa Cruz.

El objetivo de esta tesis fue determinar la composición de nutrientes en la carne de centolla (Lithodes santolla Molina, 1782) fresca y cocida, y evaluar los cambios producidos en los mismos con el almacenamiento refrigerado y congelado de la carne cocida, como así también índices de calidad químicos, gusto y textura.

El motivo principal de la realización de este trabajo de investigación fue la escasa información de las propiedades nutritivas y calidad de la carne de este crustáceo.

El trabajo se organizó en 9 capítulos, referencias bibliográficas y 2 anexos. Los cuatro primeros capítulos son de introducción, le sigue uno de materiales, tres de resultados y discusión y se finaliza con un capítulo de conclusiones.

En el capítulo 1 se trata generalidades del tema tales como la importancia del recurso pesquero y estado actual del mismo.

En el capítulo 2 se revisan los antecedentes de investigación en biología y bioquímica describiendo las características biológicas de la especie.

En el capítulo 3 se describen los procesos de deterioro en especies marinas y los índices nacionales e internacionales que son utilizados en la evaluación de la calidad.

En el capítulo 4 se realiza una introducción teórica de los efectos de la conservación de la carne cocida sobre los principales nutrientes como los ácidos grasos y aminoácidos libres, como así también los cambios producidos en el gusto y textura.

En el capítulo 5 se describen los materiales y métodos empleados en el desarrollo de la parte experimental de esta tesis.

En el capítulo 6 se presentan y discuten los resultados en medidas morfológicas, composición centesimal, ácidos grasos, colesterol, tocoferoles, fosfolípidos, compuestos polares, aminoácidos y minerales de la carne cruda y cocida. En el análisis de ácidos grasos se determina la relación ω 3 a ω 6 y contenido de EPA y DHA en el aceite de la especie. Se evalúa la calidad proteica de acuerdo al potencial químico de la proteína. Se analizan estadísticamente las diferencias en composición química de la carne fresca y cocida.

En el capítulo 7 se muestran y discuten los resultados obtenidos en los índices de calidad como NBVT, TMA, FA, indol, ácido láctico, nucleótidos (índices K, Ki, H, G,

P y Fr) y aminas biógenas, analizados en la carne cocida almacenada en refrigeración a 0 °C y congelación a -20 °C.

En el capítulo 8 se analizan los cambios sufridos por los nutrientes (ácidos grasos y aminoácidos libres), gusto y textura durante la conservación de carne refrigerada y congelada. El gusto se evalúa por los aminoácidos libres y nucleótidos (AMP e IMP). La textura se describe mediante microscopía electrónica de barrido.

En el capítulo 9 se dan las conclusiones del trabajo respecto a las características nutritivas de la carne durante el cocinado y almacenado de la misma en frío, los índices de calidad más adecuados para esta especie y sugerencias para trabajos futuros.

Finalmente se presentan: las referencias bibliográficas ordenadas alfabéticamente y los anexos con las curvas de calibración de los estándares de nucleótidos y aminas biógenas de las técnicas cromatográficas implementadas para el desarrollo de esta tesis.

Palabras claves: centolla, nutrientes, composición química, ácidos grasos, índices de calidad

Abstract

The Southern King Crab (SKC) is highly prized seafood, caught in Argentinean seawater. This crab lives in fresh seawater and it is very much appreciated in national and international markets for its delicious taste and flavor.

The fishing has started in 1930's in Beagle Channel, south of Tierra del Fuego. In the present time the major fishing area being in San Jorge gulf, costal area of Chubut and Santa Cruz province.

The objective of this thesis is to determine the nutrient composition in fresh and cooked crabmeat (*Lithodes santolla* Molina, 1782) and to assess changes produced in it by refrigerator and freezer storage, as well as the chemical quality index, taste and freshness.

The primary reason for this work was the scarcity of information of nutritional properties and meat quality of this crustacean.

The present work is organized in 9 (nine) chapters, reviewed bibliography and 2 (two) appendixes. Introductory first four chapters, followed by material and methods in one chapter, results and discussion in three chapter and summarized in the conclusion.

Chapter 1 gives an overall view of the topic, like the importance of fishery resources and its present state of affairs.

Chapter 2 deals with the revision of previous research in biology and biochemistry describing biological characteristics of the specie.

In Chapter 3, decay processes in marine species are described along with national and International index used in quality assessment, decay processes in marine species are described along with national and international index used in quality assessment.

In Chapter 4 there is a theoretical introduction about the main effects of cooked meat conservation on the main nutrients like fatty acids and free amino acids, as well as changes produced in taste and texture.

In Chapter 5, there is a description of the materials and methods used in the development of the experimental phase of the thesis.

In Chapter 6, the results in morphological measures, centesimal composition, fatty acids, cholesterol, tocopherols, fosfolipids, polar compounds, aminoacids, and minerals of raw and cooked meat are presented and discussed. In the analysis of fatty acids, the relation ω 3 to ω 6 and content of EPA and DHA was determined. Protein quality was assessed according to the chemical potential of the protein. Differences in chemical composition of fresh and cooked meat were analyzed statistically.

In Chapter 7, the results in quality index like NBVT,TMA, FA, indole, lactic acid, nucleotides (index K, Ki, H, G, P and Fr) and biogenic amines analyzed in cooked meat refrigerated at 0 °C and frozen at -20 °C, are displayed and discussed.

In Chapter 8, there is an analysis of the changes suffered by nutrients (fatty acids and free amino acids), taste and texture during freezing and refrigerated storage of meat. Taste is evaluated by free amino acids and nucleotides (AMP and IMP). Texture is described through electronic microscopy photography.

Chapter 9 summarizes the conclusions of the work, nutritional quality of meat crab during the cooking and storing processes, together with appropriate quality index for the specie and further research lines. In the end, bibliography references, alphabetically ordered, and appendix with the calibration curves of the standards of nucleotides and biogenic amines of chromatographic techniques used in the development of the present work, are displayed.

Key words: Southern King Crab, nutrients, chemical composition, fatty acids, index quality.

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