Extraction and characterization of gelatin from cobia (*Rachycentron canadum*) skins.

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Cobia (*Rachycentron canadum*) has gained popularity as a good candidate for mariculture due to its rapid growth. However, the great responsible for valuation of this species is the economic value of their meat, which is of versatile use. Moreover, the skins are not always effectively used and are considered as waste. Gelatin, a biopolymer obtained by hydrolysis of collagen, is an alternative to supply the waste of these skins. The aim of this study was to characterize the gelatin extracted from the skins of cobia. Gelatin had two consecutive alkaline pre-treatment (NaOH 3 M, at pH 11 and 20-25°C by 15 min and 90 min, respectively) followed by acid pre-treatment (HCl 3 M, at pH 2 and 20-25°C by 15 min). The alkalis solutions of pre-treatments were replaced after the pre-treatment time (15 min). After each pre-treatment, the remaining skins were washed until neutral pH. Gelatin was extracted at pH 4, 50-52°C by 120 min and the gelatin solution was filtered. Proximate composition of the raw material, gelatin yield (wet basis), gel strength and turbidity were evaluated. The skins showed moisture (77.7±3.4%), fat (10.3±0.4%), crude protein (10.1±0.5%) and ash (1.9±0.2%). Gelatin yield was 8.8±0.3% and the physic-chemical properties of the gelatin gel strength and turbidity were 278.7±8.3 g and 662.0±18.0 NTU, respectively. Turbidity was higher than those of fish gelatin freshwater, whereas the gel strength (which is the most important property) value was similar to the mammalian gelatins. Thus, depending on the application, cobia skins gelatin can be used commercially.