

Changes of Some Biogenic Amines in Yellow Fin Tuna (*Thunnus albacares*) During Iced and Frozen Storage in Fishing Vessels of Chabahar

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Abstract

In this study, the amount of biogenic amines (putrescine, cadaverine and histamine) in *Thunnus albacares* and its relation with microbial load in ice and frozen storage were determined. We incubated the microbial load from 15 pieces of yellow fin tuna, and extracted the solution from them and then were analyzed. The most detected samples for amines were putrescine, cadaverine and histamine. In ice storage condition, putrescine was the most detected amines according to increasing the bacterial load. The amount of putrescine, cadaverine and histamine were also increased and these two factors have got direct and positive relation with increasing the microbial load. The amount of putrescine and cadaverine were also increased and have got the linear, positive, high ($r=0.97$), ($r=0.94$) and significant relation ($P<0.05$).

During ice and frozen storage, the maximum amount was related to putrescine. With increasing the amount of histamine in ice storage, microbial load was also increased and have got positive high ($r=0.99$) and linear and significant relation ($P<0.05$).

The amount of histamine in ice and frozen storage was related to production of putrescine and cadaverine. By increasing the amount of putrescine and cadaverine, the amount of histamine was also increased.

In frozen storage, histamine was not detected, because the psychrophilic bacteria were not capable of producing histamine.

Keywords: *Biogenic amines, Histamine, Putrescine, Cadaverine, Thunnus albacares, Bacterial load, Ice and Frozen storage.*
