

## Silver pompano: An emerging farmed species for processing industry

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Silver pompano (*Trachinotus blochii*) is an emerging aquaculture species in India. Due to its gaining popularity among the farmers and customers, there is a need to study the shelf life of this fish in most commonly used method of storage i.e ice storage. Icing is an ordinary preservation method that is commonly used to control the quality of fish during storage. With the evolution of successful breeding and seed production technology of silver pompano, farmers now are being engaged in culturing this species in cages. It has excellent meat quality and fetches high prices in the market. To our knowledge no reports have been found on the shelf life study of farmed silver pompano during ice storage. Freshly caught pompano (Figure 1) were procured from ADAK Farm and brought to the laboratory in ice for studying its shelf life during ice storage. Biochemical, physical and microbial quality parameters were studied during the period.

Proximate composition of the pompano showed 71.52% moisture, 12.50% protein, 3.75% ash and 12.28% fat. The pH of the fish muscle ranged from 6.21 to 6.91 during the storage period. Biochemical parameters such as PV, TBA and TVN, were under the acceptable limits throughout the storage periods. However *K*-value exceeded permitted limit of 50% at 12<sup>th</sup> day of storage. Microbiologically, sample was rejected on 25<sup>th</sup> day of storage. However, sensorily the fish was not rejected till 27 days of storage.

In processing front, this species is an ideal one for filleting as it is devoid of intramuscular bones (called pins) and spines, except the larger bones running along the vertebrae. Also it has thick, smooth and shining skin, making the removal of skin easy for the processor (Fig. 2).



Fig. 1. Silver pompano used for the study



Fig. 2. Processing of Silver pompano

Table 1. Composition of silver pompano

Component	Weight (%)
Fillet	41.00
Head	20.04
Viscera	20.45
Frame	12.98
Skin	7.06
Fins	1.62
Off cut from fillet	2.11

The fillet constitutes up to 41% of its weight and is a good indication of yield. The average processing yield of different components of silver pompano is represented in Table 1.

Owing to its similarity to high value fish, pomfret in terms of shape and meat quality, pompano is an alternate species. Hence developing processing protocols for such farmed species is the need of the hour.

## Antimicrobial activity of Silver nanoparticles (AgNPs) against human significant pathogens

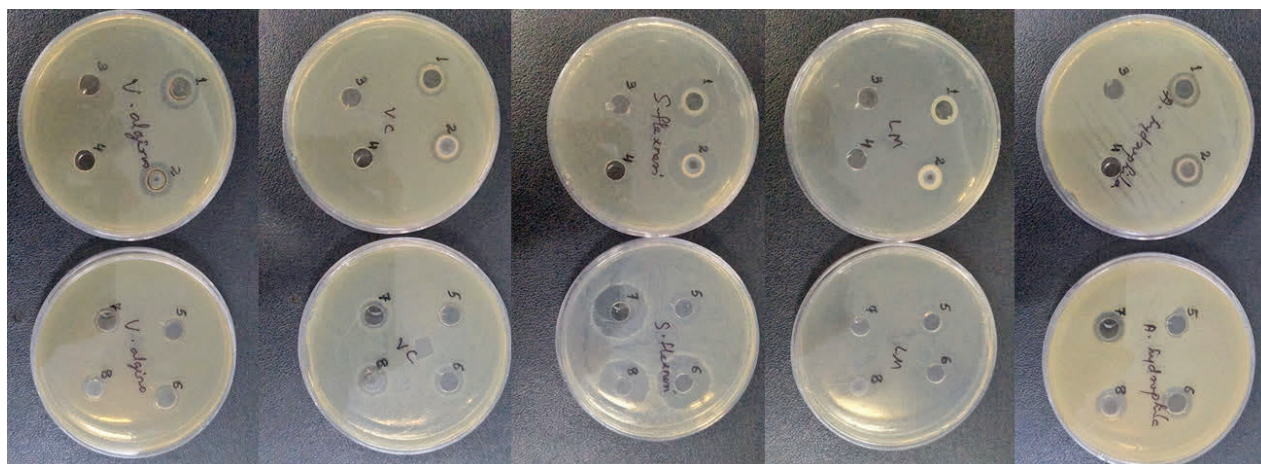
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There is a quest for searching new antimicrobial agents as there are frequent reports on the multi-drug resistance of many pathogens. Currently many researchers and pharmaceutical companies are examining novel antibacterial agents to save millions of lives (CDC, 2015; Rai *et al.*, 2009). Nanotechnology is a rapidly growing field with its various applications for the purpose of manufacturing new materials at the nanoscale level (Albrecht *et al.*, 2006). Nanoscale materials have been used as novel antimicrobial agents due to their high surface area to volume ratio and the unique chemical and physical properties (Kim *et al.*, 2007). Since centuries silver has been used for the treatment of burns and chronic wounds as well as for water treatment (Richard *et al.*, 2002;

Castellano *et al.*, 2007). It is also being used in many food varieties, cosmetics and ayurvedic preparations. Nano-silver particles present several advantages which make them as useful antimicrobial agents. They possess very high activity against a broad range of microbes and parasites, even at very low concentrations. Silver causes very little systemic toxicity toward humans, and is relatively inexpensive and available commonly (Le Ouay and Stellacci, 2015).

In the present study we have assessed the antimicrobial effect of silver nanoparticles (AgNPs) against eight different pathogens. Different reducing agents like high molecular weight chitosan, low molecular weight chitosan, trisodium citrate, ascorbic acid, ethylene glycol, combi-



Inhibition zone of pathogens with synthesized AgNP