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Effects of skin abrasion in immersion challenge with *Vibrio harveyi* in Asian seabass *Lates calcarifer* fingerlings (Article) [\(Open Access\)](#)

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Abstract

Skin abrasions often occur in farmed fish following handling by labourers, injury by farm facilities, cannibalism and ectoparasites. *Vibrio* spp. are opportunistic pathogens that can invade host fish through damaged tissues and cause outbreaks of vibriosis. This study describes the effect of skin abrasions on the infectivity of *V. harveyi* using Asian seabass *Lates calcarifer* (Bloch, 1790) fingerlings as a case example and compares bacterial load and fish survival following immersion challenge with different doses. In total, 315 fish (6.67 ± 1.8 g) were divided into 3 treatments: Skin abrasion followed by immersion infection, immersion infection only and an uninfected, uninjured control. Fish in the infection treatments were divided into 3 subgroups and exposed in triplicate to a 7 d immersion challenge with 10^6 , 10^7 and 10^8 CFU ml⁻¹ of live *V. harveyi*. No mortalities were observed in the control and immersion infection groups. However, fish in the skin abrasion treatment group that were infected with 10^8 CFU ml⁻¹ of live *V. harveyi* showed signs of progressing disease throughout the experiment, which resulted in mortalities. Significantly higher bacterial loads ($p < 0.05$) were recorded in the intestine, liver and gills of the fish in this group. Fish in the skin abrasion treatment that were exposed to 10^7 and 10^8 CFU ml⁻¹ of *V. harveyi* showed 100% mortality by Days 5 and 4, respectively. These findings confirm that skin injuries increase the susceptibility of seabass fingerlings to *V. harveyi* infection. © Inter-Research 2020.

SciVal Topic Prominence ⓘ

Topic: *Vibrio* *Harveyi* | *Litopenaeu* *Vannamei* | *Epinephelu* *Fuscoguttatu*

Prominence percentile: 82.705



Author keywords

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