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Pathogenicity profile of *Vibrio parahaemolyticus* in farmed Pacific white shrimp, *Penaeus vannamei*

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1 **Pathogenicity profile of *Vibrio parahaemolyticus* in farmed Pacific white**
2 **shrimp, *Penaeus vannamei***

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11 **ABSTRACT**

12 A pathobiological study was conducted using *Vibrio parahaemolyticus* (*V_P*) strain
13 isolated from vibriosis affected shrimp (*Penaeus vannamei*) farms in Kancheepuram and
14 Thiruvallur districts of Tamil Nadu during August 2014 to February 2015. The isolate was
15 identified based on the morphological, physiological, biochemical and molecular characters.
16 LD₅₀ value with intramuscular injection was determined as 2.6 x 10⁴ cfu/shrimp and
17 sequential pathology was studied giving 6.1 x 10³ cfu/shrimp (LD₂₅). Total plate count (TPC)
18 and total *Vibrio* count (TVC) in water, pond sediment, haemolymph, muscle, HP and gut
19 were found significantly (P<0.01) higher in natural cases than the experimental set up.
20 Clinical signs and lesions observed in the natural and experimental cases were anorexia,
21 lethargy, cuticle softening, loose shells, abdominal muscle cramp, red discoloration, opaque
22 and whitish abdominal and tail musculature, necrosis of exoskeleton or splinter burns, reddish
23 pleural borders of antennae, uropods and telson, swollen tail fan, ulcers, moribund shrimp
24 sinking to bottom, and mortalities with shrunken discoloured HP with empty gut. Total
25 haemocyte count (THC), small nongranular haemocyte (SNGH), large nongranular
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