

## Spatio-temporal distribution of shrimp species in the lake Nokoué-Cotonou channel complex in southern Benin

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The aim of this work was to study the spatio-temporal distribution of shrimp species in the lake Nokoué-Cotonou channel complex in southern Benin. On five stations (North, South, Center, East and West) of lake Nokoué, the sampling was carried out thanks to the creel and the net every fifteen days following each station.

The results of seven months showed the following specific proportions: *Penaeus notialis* 87%, *Macrobrachium macrobrachion* 5%, *Penaeus Kerathurus* and *Macrobrachium vollenhoveni* 2% followed by the species *Penaeus monodon*, *Macrobrachium felicinum* and *Macrobrachium sp1* which occupy 1%. The rest of the species *Macrobrachium zariquieyi*, *Macrobrachium equidens*, *Macrobrachium sp2* and *Macrobrachium sp3* being less than 1%. The highest size frequency [60, 70[mm was observed in *Penaeus notialis* with an abundance west of lake Nokoué. Large specimens with a size frequency of [120, 130[mm were sampled east of lake Nokoué in April and May. The largest size sampled from *Penaeus notialis* was 125.9 mm with a body mass of 16.5 g. The abundance of species of the genus *Penaeus* is positively correlated with salinity, transparency, and dissolved solids concentration, while the abundance of species of the genus *Macrobrachium* is negatively correlated with salinity. The highest 7-month average salinity of 32.3±2‰ was obtained in the south of lake Nokoué while the lowest 7-month average salinity of 8.35±7.028‰ was observed in the east of lake Nokoué. A high specific diversity of shrimps is observed during the months of November and December more precisely in the North (1.17±0.044‰) and East (0.6±0.54‰) of lake Nokoué. However a low specific diversity of shrimps dominated mainly by *Penaeus notialis* is observed in lake Nokoué from January to May (period of high salinity).

From these preliminary results, we suggest to concentrate fishing effort in the eastern part of the lake to favour a judicious management of the shrimp stock in the lake Nokoué-Ocean complex.

Keywords: Crustacea; Decapoda; Palaemonidae; Penaeidae; Penaeus; Favorable habitat; Salinity; Southern Benin