

TITLE: FIRST RECORD OF THE NON-NATIVE COPEPOD *PSEUDODIAPTOMUS TRIHAMATUS* WRIGHT, 1937 (COPEPODA, CALANOIDA) IN RIO DE JANEIRO STATE, BRAZIL

AUTHORS: ESTEVES B.S.¹; ROCHA, G.M.²; FÉRES, J.C.²; SANTOS, J.A.P.R.T.¹; STERZA, J.M.²

INSTITUTIONS: ¹PORTO DO AÇU OPERAÇÕES S.A, SÃO JOÃO DA BARRA, RJ, BRAZIL; ²ETHICA AMBIENTAL SERVIÇOS E CONSULTORIA LTDA. RUA ANÉSIO ALVARENGA 276, PRAIA DA COSTA, VILA VELHA, ES, BRAZIL.

ABSTRACT:

During the two last decades, an increasing number of non-native zooplanktonic species have been registered. *Pseudodiaptomus trihamatus* is originally from Indo-pacific coast and was first registered in Brazil in 1977, associated with shrimp farms on Pontegi estuary, Rio Grande do Norte State. The aim of this study was report the first record of *P. trihamatus* in southeastern Brazilian coast, handing an updated scenario of its distribution. Planktonic samples were collected during two years in a coastal lagoon (Açu lagoon), between Campos dos Goytacazes and São João da Barra Municipalities, Rio de Janeiro State. We filtered 200 L using standard buckets with 50 µm plankton net. Samples were fixed with 4% formalin solutions. Salinity was measured by a portable Hanna Multiparameter. Two adult specimens, a female and a male, of *P. trihamatus* were registered in October 2015. An interesting feature observed was the presence of three spinules on the female postero-dorsal margin of the Urosome, instead of two, as described in the taxonomy of this species. As far as we know, morphological difference observed on *P. trihamatus* female sampled was not described in any other study. *P. trihamatus* is the only species among *Pseudodiaptomus* registered on Brazilian waters that presents reproduction activity in salinity over 42, being registered even on 70. During the surveys at Açu lagoon, salinity was 24.81 on average, with a peak of 74 in September 2015, one month earlier than its registration. The high salinity tolerance of *P. trihamatus* makes it extremely competitive, increasing dispersal and adaptation potential along Brazilian waters, and may lead to local replacement of native species of the same Genus. Açu lagoon is under influence of fishing and livestock activities, is located on an Industrial District and has history of shrimp farming on a nearby lagoon (Salgada) during the 60's. Therefore, the complexity of this environment makes it difficult to identify the exact route of *P. trihamatus* introduction. The presence of an exotic species is diagnostic of the vulnerability of this environment. The continued biological studies are important to monitor its establishment, understand ecological relationships with native species and to prevent new introductions in southeastern Brazil.

Keywords: exotic species, coastal lagoon, plankton

Development Agency: Porto do Açu Operações S.A.