

ROMERO GUARDAMINO, LIZ EVELYN. Caracterización morfométrica y Aspectos filogenéticos de cepas de rotíferos del grupo *Brachionus plicatilis* (Rotifera: Brachionidae) utilizados en la acuicultura.

ABSTRACT

Aquaculturists of the world need to determine and characterize the strains they culture as live food, in order to optimize the mass culture of them and to avoid crashes. In this context, it is necessary to determine the Peruvian strains and the introduced ones which are used in aquaculture in Peru. In the present work was made a morphometric characterization of 3 native strains: Tumbes (TP), Puerto Viejo 2 (PVL2), Ventanilla (VL), and 2 introduced: FONDEPES (CF) Y Universidad Agraria "La Molina" (CA), these strains are used in aquaculture centers in Peru.

The morphometric characterization was performed using rotifers of the same cohort and grown under a common garden design, and as reference strains were used 3 species of the *Brachionus plicatilis* complex: *Brachionus plicatilis* s. s. (L 1 strain), *B. rotundiformis* (SS2 strain) and *B. ibericus* (SM2 strain). The morphometric characterization was performed using the step wise discriminant analysis; In addition, 6 ANOVAS were made using the ratios of the morphometric characters measured.

The morphometric analysis formed 4 groups: the first, include the strain SM2 (*B. ibericus*); the second, the strain SS2 (*B. rotundiformis*); the third, grouped L 1 strain (*B. plicatilis*) and CA (Univ. Agraria La Molina), and finally the fourth group include the natives strains: TP (Tumbes), PVL2 (Puerto Viejo 2), VL (Ventanilla) and the introduced CF (FONDEPES).

Additionally, fixed samples of the strains L1, SS2, CHL (strain from Chilca, Lima), VL; PVL 1 (Strain from a previous collect of PVL2 strain but from de same place) and CA, were sent to Hull University, in order to obtain the sequences of the COI molecular marker.

Two phylogenetic trees were made using these sequences and 7 additional sequences of each lineage of the complex.

The results of phylogenetic analysis reveal that the strains PVL 1 and CHL belong to the *Brachionus* sp. Cayman lineage (Bootstrap 99%), the VL strain to *Brachionus* sp. Almenara (Bootstrap 100%) and the CA strain to *Brachionus plicatilis* S. S.

In conclusion, from the morphometric analysis the Peruvian strains and CF strain do not belong to none of the 3 species used as a reference. The phylogenetic analysis confirms the morphometric results, and also that the strain CA is a *Brachionus plicatilis* s. s. Finally, the presence of strains belonging to *Brachionus* sp. Cayman lineage and *Brachionus* sp. Almenara were reported.