New record of *Laeonereis acuta* (Treadwell, 1923)
(Nereididae: Polychaeta) in Northeast coast of Brazil

*Pamplin, PAZ et al.*


A versão on-line completa deste artigo está disponível em:
On line version of this paper is available at:

Recebido em/ Data Received 22/09/06 -
Versão reformulada recebida em/ Revised 24/07/07 - Publicado em/ Accepted 01/09/07

ISSN 1676-0603 (on-line)
New record of *Laeonereis acuta* (Treadwell, 1923) (Nereididae: Polychaeta) in Northeast coast of Brazil

Paulo Augusto Zaitune Pamplin¹, Tito César Marques de Almeida² & Jeremias Pereira da Silva-Filho³

Biota Neotropica v7 (n3) – http://www.biotaneotropica.org.br/v7n3/pt/abstract?article=bn00607032007

Data Received 22/09/06
Revised 24/07/07
Published 01/09/07

¹Campus Universitário Profº. Cinobelina Elvas, Universidade Federal do Piauí, Rodovia BR-135 Km 03, CEP 64900-000, Bom Jesus, PI, Brazil
²Laboratório de Ecologia Aquática, Centro de Ciências da Terra e do Mar, Universidade do Vale do Itajaí, Rua Uruguai 458, CEP 88302-2002, Itajaí, SC, Brazil
³Departamento de Biologia, Campus “Min. Petrônio Portela”, Centro de Ciências Naturais (SG-02), Universidade Federal do Piauí, CEP 64049-550, Teresina, PI, Brazil
⁴Corresponding author: Paulo Augusto Zaitune Pamplin, e-mail: pazpamplin@click21.com.br

Abstract


In the present study, we report the presence of the nereidid polychaete *Laeonereis acuta* near to the estuarine areas of Parnaíba River, extending its distribution towards the north of the northeastern Brazilian coast.

**Keywords:** Polychaeta, new record, Laeonereis acuta, distribution, Brazil.

Resumo


No presente estudo, nós relatamos a presença do poliqueta nereidídico *Laeonereis acuta* próximo à região estuarina do rio Parnaíba, ampliando sua distribuição para o litoral norte do nordeste brasileiro.

**Palavras-chave:** Polychaeta, novo registro, Laeonereis acuta, distribuição, Brasil.
Introduction

Nereididae family (previously named as Nereidae) is one of the well known families of errant polychaetes. Main morphological characteristics of this family are: prostomium with a pair of palps and antennae; parapodia generally biramous, except for the first two pairs that are uniramous; peristomium fused with the first body segment and usually with two pairs of tentacular cirri; compound noto- and neurochaetae; notopodia distinct and usually with more flattened lobes and the pharynx distinctively formed by two rings (Santos & Lana 2001). The ragworms or clam worms, as they are commonly called, are predominantly marine and can reach high density and diversity in estuarine environments. Some nereidid species developed morphological adaptation being able to inhabit both freshwater and semi-terrestrial environments, as observed in the Namanereidinae subfamily (Glasby 1999). There are about 540 described species in the world (Bakken & Wilson 2005) while in Brazil, Santos & Lana (2001) pointed out 46 nereidid species.

In this paper, we report a new record of nereidid *Laeonereis acuta* (Treadwell, 1923) extending its distribution to almost the whole Brazilian coast.

Material and Methods

In February of 2006, we collected some nereidid specimens from sediment in Parnaíba River (2° 59’ 33.9” S and 41° 48’ 41.5” W) near the estuarine area. Sediment samples were obtained using a Van Veen grab (377 cm²), and posteriorly washed trough a sieve with 300 μm. The specimens were preserved in formalin 10%. The material was examined under optic (Olympus CH30, 1000x) and stereomicroscope (Nikon SMZ645, 50x) and identified based on Amaral & Nonato (1996), Santos & Lana (2001) and Amaral et al. (2005).

During the collection and sieving procedures, many specimens suffered mechanical injuries and only one entire specimen left over. For this exemplar, total length of body and the number of setigers were measured under stereomicroscope. In addition, the length between prostomium and 1st setiger, and between 1st setiger to 2nd, 6th, 13th and 19th setigers, as well as the width of these setigers were measured for other ten fragmentary specimens with the anterior portion of the body in good conditions. Mean values and standard error (SE) of these measurements are presented. Further, some chemical and physical variables (pH, conductivity, dissolved oxygen concentration and salinity) were measured using a multiprobe equipment HORIBA® model U-10.

Voucher specimens were deposited in Laboratory of Benthos, at the Federal University of Paraná, Brazil, under registration number MCEMBPO 1492.

Results and Discussion

One hundred and thirteen polychaetes were collected close to macrophyte banks (*Eicchornia* sp. and *Canarana* sp.), near the estuarine region of Parnaíba River. Although pharynx (= proboscis) was not extended (due to direct fixation with 10% formalin), all specimens were identified as *Laeonereis acuta* (Treadwell 1923) based on morphology of anterior region and by the presence and distribution of papillae on pharynx, conspicuous features of this species, as mentioned by Amaral et al. (2005) (Figure 1). Hartman (1945) and Pettibone (1971) considered this species a junior synonym of *Laeonereis culveri* (Webster 1880) distributed from Florida to Uruguay. Posteriorly, they were separated once again by Orensanz & Gianuca (1974) by differences in the proportion between the posterior notopodial lobes and reproductive aspects. According to these authors, *L. culveri* refers to the species distributed in subtropical region of North America, while *L. acuta* occurs in South America.

We counted 106 setigers on the specimen that was complete, which was 23 mm long and 1.5 mm wide. The mean length from prostomium to the 1st setiger was 3.34 ± 0.02 mm, between the 1st-2nd setigers 0.18 ± 0.1 mm, 1st-6th setigers 0.82 ± 0.04 mm, 1st-13th setigers 2.29 ± 0.04 mm and 1st-19th setigers 3.74 ± 0.14 mm. The mean width of 2nd, 6th, 13th and 19th setigers were 0.64 ± 0.02 mm, 0.83 ± 0.03 mm, 0.73 ± 0.02 mm and 0.65 ± 0.02 mm, respectively.

*Laeonereis acuta* is an abundant polychaete in intertidal areas and sandy beaches. As others nereidids, this species is primarily omnivorous and an important link in marine food web, being preyed on by fishes, shorebirds and others invertebrates (Botto et al. 1998, Ieno et al. 2000, Palombo et al. 2004). In addition to the ecological importance *L. acuta* has been used as indicator in many studies of stressed environments (Geracitano et al. 2002, 2004).

In our investigation, *L. acuta* was collected in shallow areas (<0.5 meters), with pH ranging from 8.24 to 9.20 (8.68 ± 0.36) and conductivity relatively low (40.83 ± 0.98 ms.cm⁻¹). As expected for summer, the temperature was high (28.92 ± 0.10 °C) and the water was well oxygenated (6.53 ± 0.71 mg.L⁻¹). In the delta area of Parnaíba River, the specimens of *L. acuta* were collected in salinity zero. According to Rizzo & Amaral (2001), this species tolerates high salinity variation.

According to Orensanz & Gianuca (1974), *Laeonereis acuta* occurs from Peninsula de Valdés - Argentina to Recife, in Northeast Brazil. Our registration of *L. acuta* near to the estuarine region of Parnaíba River, Piauí State, extends the range of distribution to the north.

Acknowledgments

We are grateful to CODEVASF for financial support.

References


http://www.biotaneotropica.org.br