



## Research note

# New records of *Erichsonella attenuata* (Isopoda: Valvifera: Idoteidae) in the Gulf of Mexico

## *Nuevos registros de Erichsonella attenuata (Isopoda: Valvifera: Idoteidae) en el golfo de México*

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### Abstract

*Erichsonella attenuata* is an isopod species distributed in the Western Atlantic region of the Gulf of Mexico and is associated with sea-grass beds composed of *Ruppia maritima*, *Halodule wrightii* and *Thalassia testudinum*. In the Gulf of Mexico, this isopod species is found only along the USA coasts, in Texas and Florida. The aim of this work is to report, for the first time, the presence of *E. attenuata* along Mexican coasts, particularly in the Tamiahua and Términos lagoons in the states of Veracruz and Campeche, respectively. These are the most southern records for the Gulf of Mexico, showing that this species expands its coverage virtually to the entire coast of the Gulf of Mexico. The specimens were deposited in the Colección Nacional de Crustáceos, Instituto de Biología, Universidad Nacional Autónoma de México.

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**Keywords:** *Erichsonella attenuata*; New record; Tamiahua lagoon; Términos lagoon

### Resumen

*Erichsonella attenuata* es una especie de isópodo distribuida en el Atlántico oeste del golfo de México y está asociada a pastos marinos compuestos por *Ruppia maritima*, *Halodule wrightii* y *Thalassia testudinum*. En el golfo de México, en las costas de los EE. UU., este isópodo se encuentra en Texas y Florida. El objetivo de este trabajo es registrar por primera vez la presencia de *E. attenuata* en costas mexicanas, particularmente en las lagunas de Tamiahua y Términos en los estados de Veracruz y Campeche, respectivamente. Estos registros son los más sureños en el golfo de México y muestran que esta especie se expande en cobertura virtualmente a todas las costas del golfo de México. Los ejemplares fueron depositados en la Colección Nacional de Crustáceos, Instituto de Biología, Universidad Nacional Autónoma de México.

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**Palabras clave:** *Erichsonella attenuata*; Nuevo registro; Laguna de Tamiahua; Laguna de Términos

*Erichsonella* Richardson, 1900 is a shallow-water American genus of isopod, inhabiting tropical and warm temperate regions found on algae, mud flats, sea grasses and oyster beds (Pirés, 1984). *Erichsonella attenuata* (Harger, 1874) vary in colour,

from amber to brown and both male and female individuals may have darker spots on the dorsal and ventral areas, with a maximum total length of 18.4 mm; on average adult males are longer than females and are known from the New Jersey, Connecticut, Miami, Florida and Mississippi (Pirés, 1984).

In the Gulf of Mexico, *E. attenuata* is present along the Texas coast, in the intertidal zone from 0 m to 20 m depth (Boström & Mattila, 2005; Kensley & Schotte, 1989; Pirés, 1984). According to the division of the Gulf of Mexico proposed by Felder, Camp,

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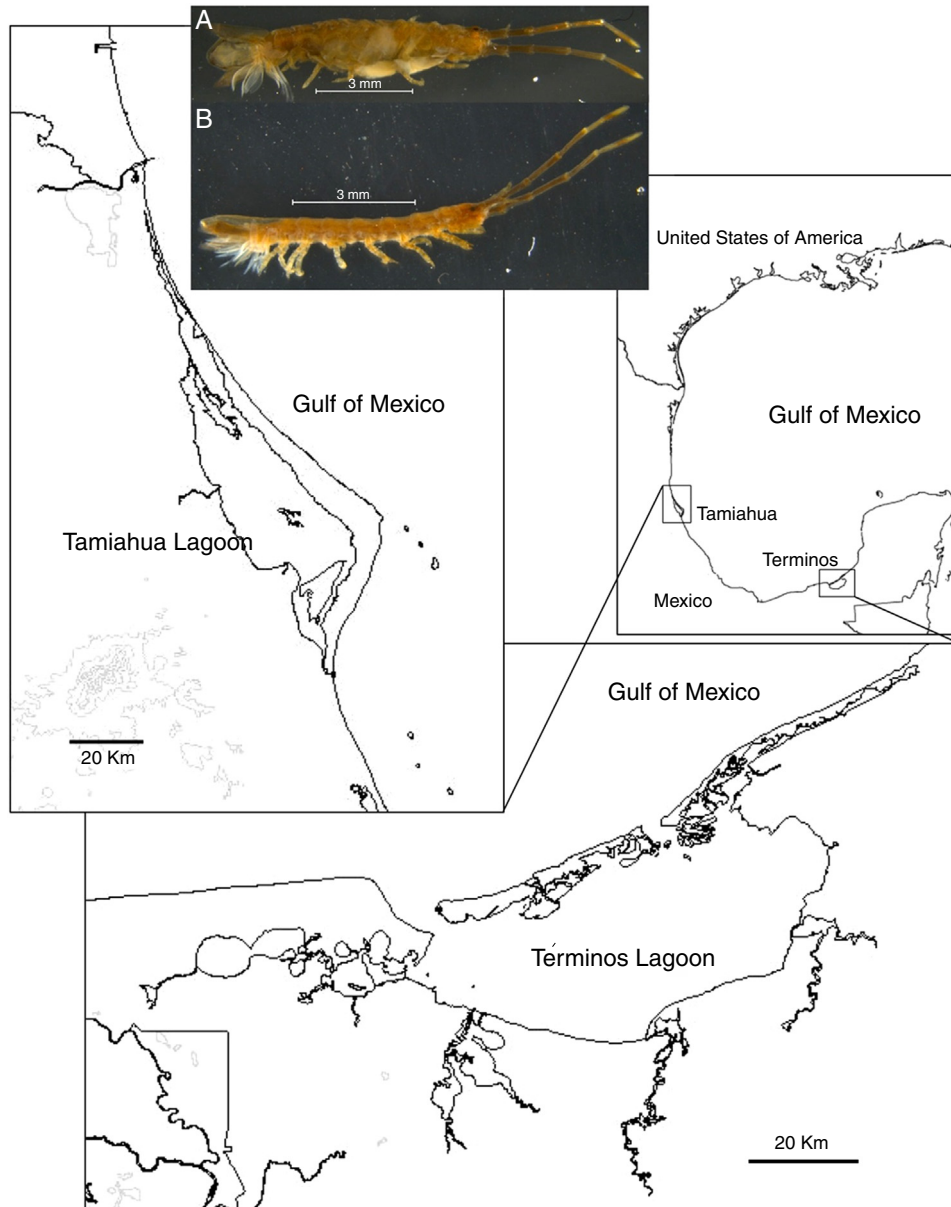


Figure 1. Map showing Tamiahua and Términos lagoons in Mexican coast in the Southern, Southwestern and East-Northeast regions, respectively, of the Gulf of Mexico. Inset: *Erichsonella attenuata* (Harger, 1874). (A) Ovigerous female and (B) male.

and Tunnell (2009), the species is observed in the North-East and North-West regions, delimited in the South by parallel 25° N.

This isopod species has been observed in some sites of the Western Atlantic part of the Gulf of Mexico (Kensley, Nelson, & Schotte, 1995) and it is associated with sea-grass beds (Boström & Mattila, 1999; Darcy & Eggleston, 2005; Sheridan, 2004), such as *Ruppia maritima*, *Halodule wrightii* and *Thalassia testudinum* (Boström & Mattila, 2005; Kensley et al., 1995). In the Indian River Lagoon, Florida, *E. attenuata* is one of the 3 most common invertebrate species found in *H. wrightii* beds and it is an important epiphytic grazer. It is also an important food resource for higher trophic levels, occasionally consumed extensively by sea grass-associated fish (Ryer & Orth, 1987).

In this paper, the presence of *E. attenuata* is reported for the first time in Mexican coasts, in the Tamiahua Lagoon,

Veracruz and in the Términos Lagoon, Campeche (Fig. 1). Tamiahua is located in the West-Southwest (WSW) region of the Gulf of Mexico and the Términos Lagoon is located in the South-Southwest (SSW) region (Felder et al., 2009). Schotte, Markham, and Wilson (2009), according to regions mentioned by Felder et al. (2009), reported *E. attenuata* in the North-Northeast (NNE) and the East-Northeast (ENE) regions of the Gulf of Mexico.

In the Tamiahua Lagoon 2,315 individuals of *E. attenuata* were collected with scoop nets (mesh aperture 1.6 mm) from July 2010 to August 2011, between 21°25'46"–21°28'46" N and 97°24'22"–97°26'57" W. These were associated with *H. wrightii*, which is present on the eastern coasts of America, including Alabama, Florida, Louisiana, Mississippi, and North Carolina (USA), the east coast of Mexico, the West Indies (Cuba,

Table 1

Basic biological information of the collected material of *Erichsonella attenuata* (Harger, 1874). Morphological nomenclature is according to Pirés (1984) (Tam, Tamiahua; Ter, Términos).

	Total	Males	Females	
Total collected individuals	Total sample	2,318	1,225	1,093
	In CNCR	261 (Tam 258; Ter 3)	133 (Tam 131; Ter 2)	129 (Tam 128; Ter 1)
Range of total length (TL) cm	0.2–2.92			
Morphology	Frontal process	Distally round.		
	Pereon	Pereon dorsally depressed: pereonites I–III in the basal 1/3, IV middorsally, V–VII in the distal 1/3; pereonite IV longest, I shortest, major body width on pereonite V; coxal plates small, round, more developed on last 2 pereonites, present and visible dorsally on pereonites II–VII.		
	Pleotelson	With a dorsal elevation on anterior 2/5, lateral margin slightly protruded at proximal 1/3, apex tapering, distally round.		
	Antenna 1	Peduncular article 1 widest, round, nearly as long as following article, many setules on outer lateral margin; article 3 about 3 times narrower and 1.5 times longer than first; flagellar article slightly longer than preceding one, bearing 18 paired aesthetascs.		
	Antenna 2	1.3 times longer than antenna 1; first article shortest, nearly 5 times shorter than flagellum; second article widest, 1–5 times shorter than third; articles 4–5 subequal in length; flagellar article nearly 1.3 times as long as the preceding one; many short setae on surface of articles 3–6.		
	Uropod	Basis nearly 3.6 times longer than distal part, with long plumose setae at outer apical margin.		

Jamaica, Haiti, Dominican Republic and Puerto Rico), Central America (Belize, Guatemala, Nicaragua), and South America (Venezuela and Brazil) (Ferguson, Pawlak, & Wood, 1993; Haynes, 2000).

In the Términos Lagoon, *E. attenuata* individuals were collected with a Seagrove sledge net (mesh aperture 0.8 mm). Only 3 individuals were collected, 1 isopod per month, in December 2012 and in the months of May and July 2013 in the same sampling station (18°30'13" N, 91°41'58" W). They were associated with *T. testudinum* beds, which are present in the Caribbean and the Gulf of Mexico. The northernmost station of *T. testudinum* is in San Sebastian Inlet, near Cape Kennedy, Florida, in the East, Bermuda Island; while in Central America, it is present in British Honduras, Costa Rica, Panama and Venezuela (Hartog, 1970).

These data suggest that *E. attenuata* may be widely distributed in the Gulf of Mexico, extending its original distribution from the coasts of Texas, USA to at least the coasts of Campeche, Mexico. The first report was from 26° N and the last is reaching 18° N. Thus, the current distribution of *E. attenuata* is from the state of Connecticut in the USA, to the state of Campeche in Mexico, covering the North-Western Atlantic coast of Florida and virtually the entire Gulf of Mexico.

The material examined and identified as *E. attenuata* was 2,318 individuals; 2,315 collected in Tamiahua Lagoon, Veracruz and 3 in Términos Lagoon, Campeche; some individuals were deposited in the Colección Nacional de Crustáceos of the Instituto de Biología, Universidad Nacional Autónoma de México; 258 from Tamiahua Lagoon with catalogue number: CNCR 26120 and from Términos Lagoon, 3 with catalogue numbers: CNCR 28796; CNCR 28797; and CNCR 28798. According to Pirés (1984), of the 6 species of the genus, *E. attenuata* presents the greatest number of primitive characters. In Table 1 we present basic morphological data of the collected material from the 2 sites including number of males and females, range of total length, morphology of the frontal process, pereonites, pleotelson, antenna 1, antenna 2, and uropod.

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