

NOTE

***Eurytemora americana* Williams, 1906, not
Eurytemora affinis (Poppe, 1880), inhabits the Bahía
Blanca estuary, Argentina***

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SUMMARY: The aim of this report is to clarify the taxonomical identity of the species of *Eurytemora* (Copepoda, Calanoida) present in the Bahía Blanca estuary, Argentina. Observations of taxonomical details were performed and the results led us to conclude that this species is *Eurytemora americana* Williams, 1906 and not *Eurytemora affinis* (Poppe, 1880), as previously identified. *E. americana* is a recent invader in this estuary and could have been accidentally introduced with ballast water of ships.

Key words: *Eurytemora americana*, *Eurytemora affinis*, Bahía Blanca estuary, Argentina.:

INTRODUCTION

The aim of this note is to clarify the correct identity of the calanoid copepod from the Bahía Blanca estuary reported as *Eurytemora affinis* (Poppe, 1880) in several previous papers. This clarification is necessary to avoid misunderstanding the identity of the species in Argentine coastal waters. In addition, since the genus *Eurytemora* was previously known in the Northern Hemisphere, we suggest also a possible origin for the population of *E. americana* Williams, 1906 from the Bahía Blanca estuary.

E. affinis was first mentioned in the Bahía Blanca estuary by Hoffmeyer (1993). Subsequently it was reported and discussed by Hoffmeyer (1994) who described the seasonal succession of copepods and

other zooplankters in the Bahía Blanca estuary during 1990-1991. *E. affinis* was covered in two additional papers: (a) its oral field chaetotaxy was compared with that of the copepod *Acartia tonsa* (Hoffmeyer and Prado Figueroa, 1997); and (b) in a study devoted to the egg production and egg viability in different species of copepods feeding on high concentrations of diatoms (Ban *et al.*, 1997). *E. affinis* was also mentioned in various unpublished progress reports during 1993-1998 (Hoffmeyer, 1997; IADO, 1997). The species identification there was based on Rose (1970) and Bush and Brenning (1992), but a direct comparison with specimens of *E. affinis* was not made.

Specimens of *Eurytemora* from Bahía Blanca estuary were recently observed by one of us (BWF) and tentatively identified as *E. americana*, not *E. affinis*. We carried out a taxonomic study of this species to corroborate this tentative assignment.

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MATERIAL AND METHODS

A taxonomic study following Heron's (1964) redescription of *E. americana* was performed in order to corroborate the identity of the species from the Bahía Blanca. Details of taxonomic significance were checked under stereoscopic microscopy in five adult females and males, including total body length (front of cephalon to end of caudal rami), body proportions, morphology of the fifth leg of both sexes, and morphology of lateral wings of the last female pedigerous somite. The individuals were extracted at random from a 4% formalin fixed zooplankton sample obtained on September 30, 1998 from Port Cuatreros, in the inner area of Bahía Blanca estuary. In addition, the total body length of 15 adult females selected from a preserved zooplankton sample obtained on September 11, 1992 in the inner zone of the estuary were also measured.

RESULTS AND DISCUSSION

The average total length of 15 adult females was 1.26 mm (range 1.16-1.42 mm). In contrast, Heron (op. cit.) gave an average total length of 1.43 mm for 23 females from Washington (range 1.35-1.58 mm). Good agreement was found with the following characteristics mentioned as diagnostic by Heron (1964: p. 206-209 and Fig. 19-26) for *E. americana* obtained from San Juan Island, Washington (collected in July and August 1958 and 1960): (1) the female fifth leg with the second basal segment with fine setae longer than segment, exopod 1 elongated with two lateral plumose setae and between them a short fine hair, inner margin with fine hairs, inner process curved, pointed with its distal half setose; exopod 2 with two long flexible, plumose setae and fine hairs on inner margin; (2) the male fifth leg with swelling on inner right second basal segment, exopod 1 long and slender, exopod 2 falcate, with small spines; second basal segment of left leg with proximal swelling, exopod 1 slender; apical part of exopod 2 dilated (like a foot), with two small spines and covered by fine hairs; (3) wings of last pedigerous somite with inner rounded lobe and acutely pointed tip, wing angle and size slightly variable between individuals, extending middle of genital somite; males without wings; and (4) dorsal surface of caudal rami and anal somite spinulose, except in the medial zone. However, the total body length of our specimens was slightly smaller than that reported by Heron (1964) for specimens from Washington. This

led us to corroborate that the species of genus *Eurytemora* in Bahía Blanca estuary was certainly *E. americana*.

E. americana inhabits the upper reaches of the Bahía Blanca estuary (Villarino Viejo to approximately buoy 24) (De Aracama, 1987). It occurs in the plankton from July to October every year (Hoffmeyer, 1994; Hoffmeyer and Prado Figueroa, 1997), reaching maximum numbers in August-September. Like other congeners (Uye, 1985; Ban and Minoda, 1991; 1994), it persists during the rest of the year as diapause eggs in the sediment (Marcus, 1984; Næss, 1991).

The presence of *E. americana* in Bahía Blanca estuary is recent, dating from little more than ten years ago. Possibly it was accidentally introduced in the estuary with ballast water of ships coming to the harbour zone from northern hemisphere locations. Given the broad geographical distribution of *E. americana* in the northern hemisphere (Kos, 1977), the population in Bahía Blanca estuary could have its origin in northeast Asia (Japan or Russia), North America (east or west coast), or even southern England. According to our knowledge, this is the first report of the species from the southern hemisphere.

The scant knowledge of the biology and ecology of *E. americana* at present compared to other congeners such as *E. affinis* and *E. herdmani* Thompson and Scott, 1897, and its apparent important ecological role in a number of estuaries and coasts where it occurs (Deevey, 1960; Jeffries, 1967; Frolander *et al.*, 1973; Tremblay, 1942 in Bousfield *et al.*, 1975; Miller, 1983; Marcus, 1984; De Aracama, 1987; Næss, 1991; Hoffmeyer, 1993; 1994; Hoffmeyer and Prado Figueroa, 1997; Ban *et al.*, 1997; Avent, unpubl. result.), justifies continued research on this species.

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