PRELIMINARY DATA ON A NEW STRAIN OF *ARTEMIA* (CRUSTACEA, BRANCHIOPODA) FROM EL-BAHIRA LAKE (NORTHEAST ALGERIA)

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Abstract
Artemia from El-Bahira lake (northeast of Algeria) has been studied in point of view of its biometrics, its dynamics and its cyst hatching quality. Adults are only represented by females. Those measure between 9.04 and 12.15 mm length and produce between 3.75 and 18.43 offspring/brood, according to the sampling period. Cyst diameter is 277.26 µm and freshly hatched nauplii are 549.12 µm length. Population density varied during the wet period of 2009 between 12.38 and 107.7 ind.L^{-1}. Hatching percentage of cysts is 63.45 %.
Keywords: Aquaculture, Biometrics, Crustacea, Reproduction, Zooplankton

Introduction
In Algeria, *Artemia* (L., 1819) (Crustacea, Branchiopoda) made the object of some ecological and biological works. The aim of these investigations is to understand the dynamics of the different populations and to check their quality for aquaculture purposes. Three bisexual strains are well known, that of Sebkha Arzew [1], that of Chott Marouane [2, 3, 4] and that of Sebkha Ez-Zemoul [4]. We describe here for the first time an Algerian parthenogenetic population, in point of view of its biometrics, some aspects of its dynamics and its cyst hatching quality.

Materials and Methods
El-Bahira is a seasonal saline lake of 10 ha, situated in the semi-arid high table land of Constantine in the northeast of Algeria (35°50'19"N 05°15'04"E, 1000 m altitude). The salinity varied during the study period between 80 and 120 g.L^{-1}. Samples of *Artemia* have been taken between February and June 2009, using a plankton net of 125 µm mesh vacuum, and fixed in 3 % formalin. Diameter of hydrated cysts has been determined. Adults and freshly hatched nauplii have been measured from the naupliar eye to the anus. Individuals have been counted under a binocular, using Dollfus cells, and gathered, according to their developing stage, into nauplii and metanauplii, juveniles and adults [5]. Cysts have been incubated in standard conditions recognized by [5], after hydrogen peroxide treatment used for diapause's deactivation. Cyst hatching percentage has been determined.

Results and Discussion
Artemia population from El-Bahira lake is represented only by females and should be parthenogenetic. The latter are big in size (Tab. 1) in comparison with bisexual Mediterranean populations [3, 6, 7, 8] and are little fertile (3.75 ± 1.06 and 18.43 ± 9.67 offspring/brood). The oviparity is the dominant mode of reproduction as it is the case for the other Algerian populations (4). That mode occurs when conditions are harsh. Thus, it is a way to unsure the perennial continuity of the species [9]. Hydrated cysts and nauplii are relatively big in size (Tab. 1) [2] and are close to those of parthenogenetic origin [5].

Tab. 1. Biometrics of adults, cysts and nauplii of *Artemia* sp from El-Bahira lake, Algeria (values between parentheses represent the number of observations)

Mean adult's size (mm±S.D)			Mean cyst's	Mean naupli's
February	April	June	diameter (µm± S.D)	size (µm± S.D)
9.06	9.72	12.15	277.26	549.12
±0.83	±1	±1.13	±22.36	±60.32
(88)	(200)	(347)	(100)	(100)

In February 2009 (the beginning of the wet period), nauplii and metanauplii dominated while adults were present at a low percentage (Fig. 1). The same demographical structure was observed in April. In June, adults dominated while nauplii and metanauplii presented less than 10 % of the population. Total density was 63.8 ± 3.22 ind.L^{-1} in February, attained a maximum of 107.7 ± 7.78 ind.L^{-1} in April and decreased to 12.38 ± 1.6 in June. According to [10], a natural density of 100 ind.L^{-1} is considered as very high. Hatching percentage of cysts is 63.45 ± 21.18 %, which should be acceptable of their use in aquaculture.

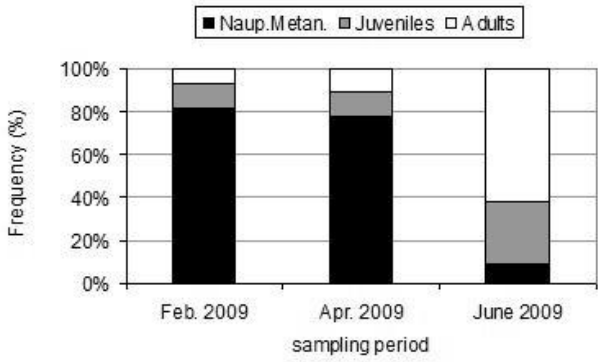

Fig. 1. Frequency of the developing stages of *Artemia* sp from El-Bahira lake, Algeria

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