EGG PRODUCTION, FEEDING AND METABOLISM OF *CLAUSOCALANUS FURCATUS* IN A MEDITERRANEAN COASTAL AREA (SARONIKOS GULF, AEGEAN SEA, GREECE)

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Abstract
Egg production, feeding and metabolism experiments of the calanoid copepod *Clausocalanus furcatus* were studied from July until October 2009 in an eastern Mediterranean coastal area. Egg production rate ranged from 8,28 to 20,65 eggs/fem/day. Ingestion rate ranged from 0,0013 to 0,0208 μg chl-α/fem/day. The range of respiration rate was 0,0614 - 0,0958 μl O_2/ind/hour, while those of phosphate-P and ammonium-N excretion rates were 0,0001 - 0,0002 μg P/ind/hour and 0,0010 - 0,0034 μg N/ind/hour respectively. Egg production was not related with chl-α whereas ingestion was in agreement with egg production. In general ingestion followed chl-α variability.
Keywords: Aegean Sea, Copepoda, Eastern Mediterranean, Zooplankton

Introduction
Clausocalanus furcatus is a widespread species inhabiting epipelagic waters in subtropical and tropical areas [4]. In Mediterranean it attains high numbers during warm season [8]. Most studies concerning this copepod deal with spatial and temporal distribution whereas little is known about its biology ([1], [2], [3], [5], [6], [7], [9], [10]). The present study provides data on feeding activity, egg production and metabolism of this copepod in a coastal area of the eastern Mediterranean during summer and autumn 2009.

Materials & Methods
Adult females were incubated in seawater collected from the sampling area. A total of 20 experiments (9 for egg production, 7 for feeding and 4 for metabolism) were performed biweekly from July 2009 until October 2009. Experimental bottles were incubated in a temperature-control room at *in situ* temperature with photoperiod (egg production, feeding) or in the dark (metabolism) for 24 hours.

Results & Discussion
Temperature ranged from 26,5 °C to 22,7 °C showing a constant decline during the study period. Chl-α (from the initial bottles of the feeding experiments) ranged from 0,071 to 0,336 μg chl-α/lt. Egg production rate (EPR) ranged from 8,28 to 20,65 eggs/fem/day and Ingestion rate (IR) ranged from 0,0013 to 0,0208 μg chl-α/ind/day (Fig. 1). Ranges of metabolic rates were 0,0614-0,0958 μl O_2/ind/hour for respiration, 0,0001 - 0,0002 μg P/ind/hour for phosphate-P excretion and 0,0010 - 0,0034 μg N/ind/hour for ammonia-N excretion (Fig 2). Egg production was not related with chl-α whereas it was in agreement with ingestion. Ingestion appears to follow the pattern of chl-α. Concerning metabolism, the maximum of respiration and the minimum of excretion (for both phosphate and ammonium) are all recorded at the end of the study period.

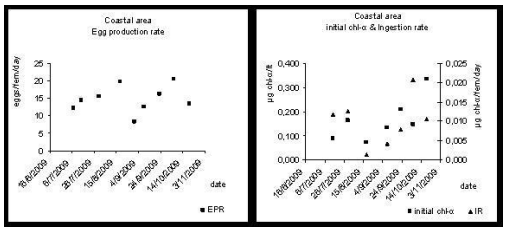

Fig. 1. Egg production rate, initial chl-α and ingestion rate

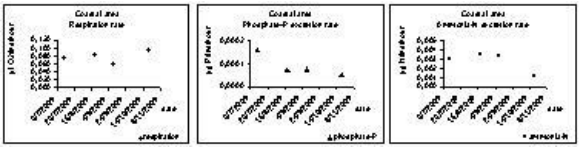

Fig. 2. Respiration rate, Phosphate-P and Ammonium-N excretion rate

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