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Maternal effects and larval nutrition: plastic responses may favour recruitment success in a tropical barnacle

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Conference Programme and Map

Maternal effects and larval nutrition: plastic responses may favour recruitment success in a tropical barnacle

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Maternal effects on resource allocation to embryos, and pelagic food supply for larvae, may largely affect recruitment success by determining overall reproductive output and larval quality. However the interplay between these two processes is poorly known. In this study, we manipulated in a factorial design the food supply to adults and larvae of the barnacle *Chthamalus bisinuatus* and measured (i) naupliar development rate, and both (ii) the total yield and (iii) the quality of late stage larvae (the cyprid). Our results showed substantial plasticity on maternal allocation and larval development. Adults fed with a restrained diet released two times more larvae than adults given a high food supply, compatible to an anticipatory maternal effect (AME). In spite of equal mortality rates up to the cyprid stage, such surplus larval production rendered sub standard development rate under low pelagic food supply. Regardless of pelagic allocation, this AME strategy also rendered lower cyprid size. When fed a non-restrained diet, mothers producing larger cyprids may increase survival of recruits; a strategy compatible to a bet-hedging maternal effect.