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DEB theory

I first heard about DEB from a PhD researcher. She told me about how helpful it was in the treatment of some data, and so. I got curious about it since then, but other works come along, and I had to wait a little, till this year to have the opportunity to participate in DEB telecourse.

Curiosity to discover what DEB theory was gave me the motivation to participate in this telecourse, and also the concern to learn, to have more knowledge about something that seemed to be very important and needed in the future.

During the course I realized that it was very hard, difficult, much more than I had imagined. The formulas presented in the book make it very hard to understand some concepts, ideas. It was therefore rather difficult to assimilate every part of the book. Most certainly for whom who was presented to the theory for the first time. Getting into DEB theory needs a great among of time (and that is very difficult with our working schedule), and I almost can say for sure (for most people) that, is not possible to understand this theory at first, in one time.

Nonetheless, I found, in this first approach, the book very well organized, which was a very good help. Most of all, I found the theory very interesting, putting things into perspective, opening ideas, new thoughts, for future work.

I´m starting to work with *Carcinus maenas* (previously I worked with *Crangon cragon*). Being an opportunistic feeder and a potential invasive specie, I´m really interested in study its feeding habits and ecology, so I´m starting to see literature, to collect some data.

I think the paper wrote by Baeta *et all.* in 2005, is a very good start, and there I could see connections that can be made with DEB theory, for example with the chapter 2.1.2, where it's written that «*feeding rates tend to be proportional to the surface area when a small individual is compared to a large one of the same species.*» In the paper referred previously, no differences were found between juveniles (< 1 year old) and adults (>1 year old), fig. 31A (last page), in terms of food items found in stomach content. Nonetheless, juveniles showed lower levels of Teleostei and higher levels of small crustaceans, in comparison to adult crabs. So we can apply:

$$\dot{p}_X = \{\, \dot{p}_X \,\}\, L^2$$

But as I said earlier, this is only the first, first step.

DEB theory is giving me new knowledge and tools to analyze this specie. And being potential invasive specie, I want to take my time mostly on chapters 8 and 9.
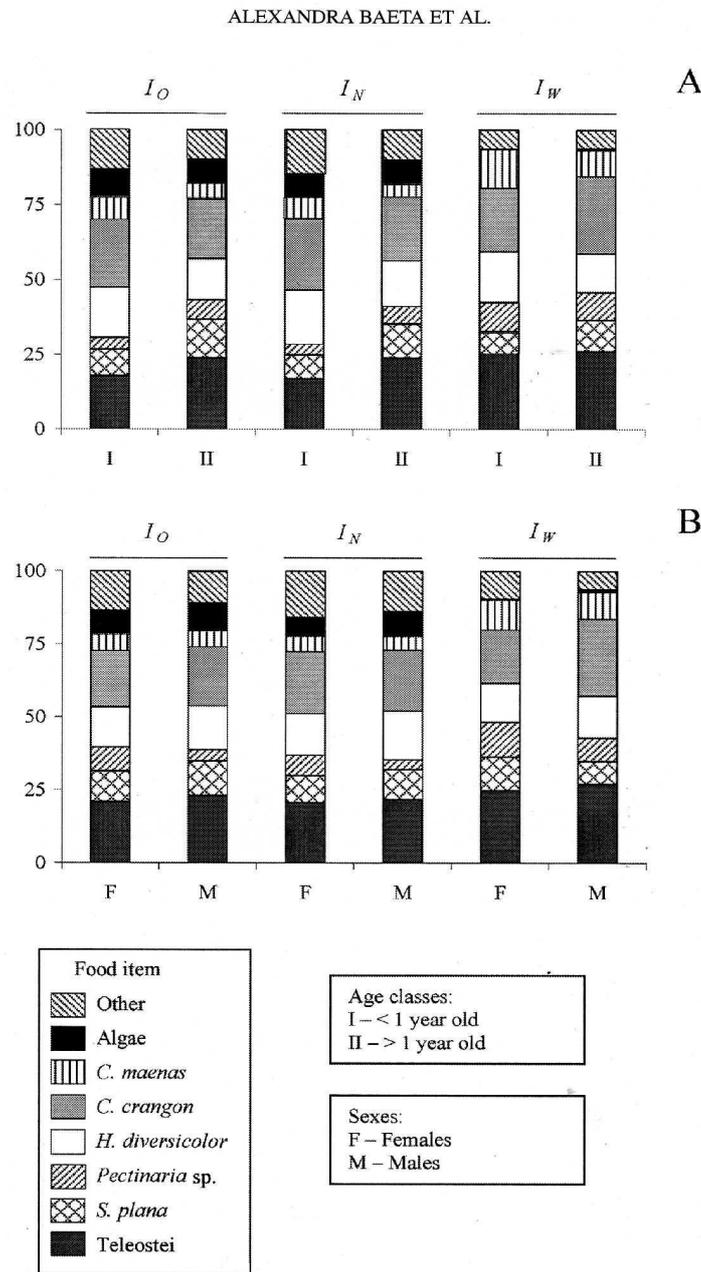
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Fig. 3. Relative importance of food items in the diet of *Carcinus maenas* (L., 1758), according to: A, carapace width; B, sex; based on: I_O, occurrence index; I_N, numerical index; I_W, gravimetric index.

BAETA, A., H., N., CABRAL, J., M., NETO, J., C., MARQUES & M., A., PARDAL, 2005. Biology, population dinamics and secondary production of the green crab, *Carcinus maenas* (L.) in a temperate estuary. Est. coast. Shelf Sci., **65**: 43-52.