

COMPARATIVE FEEDING HABITS OF SWIMMING AND NON-SWIMMING OSTRACODS (OSTRACODA) IN A BRAZILIAN TROPICAL FLOODPLAIN

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Introduction

Ostracods exhibit a wide variety of feeding habits, including herbivory, detritivore, and carnivory, with a preference for consuming algae and organic detritus. Ostracods mostly disperse passively. However, some species differ in their mode of locomotion. They can be swimmers or non-swimmers, and this can influence their food exploration.

Methodology

Three swimming (*Cypricercus alfredo* Almeida et al. 2021; *Cabelodopsis hispida* (Sars 1901); *Triangocypretta hirsuta* Ferreira et al. 2023) and three non-swimming species (*Cytheridella ilosvayi* Daday 1905; *Alicenula serricaudata* (Klie 1935); *Vestalenula pagliolii* (Pinto & Kotzian 1961)) (Fig. 1) were selected.

The valves of these species were opened with dissection needles and the faecal pellets removed. Ten slides of each species were mounted, and the content of faecal pellets were analysed to identify the items consumed by these microcrustaceans.

Results and Discussion

A total of 29 food items (Fig. 2) were recorded. Higher richness and abundance of food items were found in faecal pellets of swimming ostracods. However, the results were not significantly different ($p > 0.05$) (Fig. 3).

In contrast, the diet composition between the groups was significantly distinct ($p = 0.001$) (Fig. 4), with diatoms being the main food item for swimming species, and fungi for non-swimming species (Fig. 5). Both groups also consumed items that cannot be quantified, such as detritus (organic and inorganic) and plant tissue.

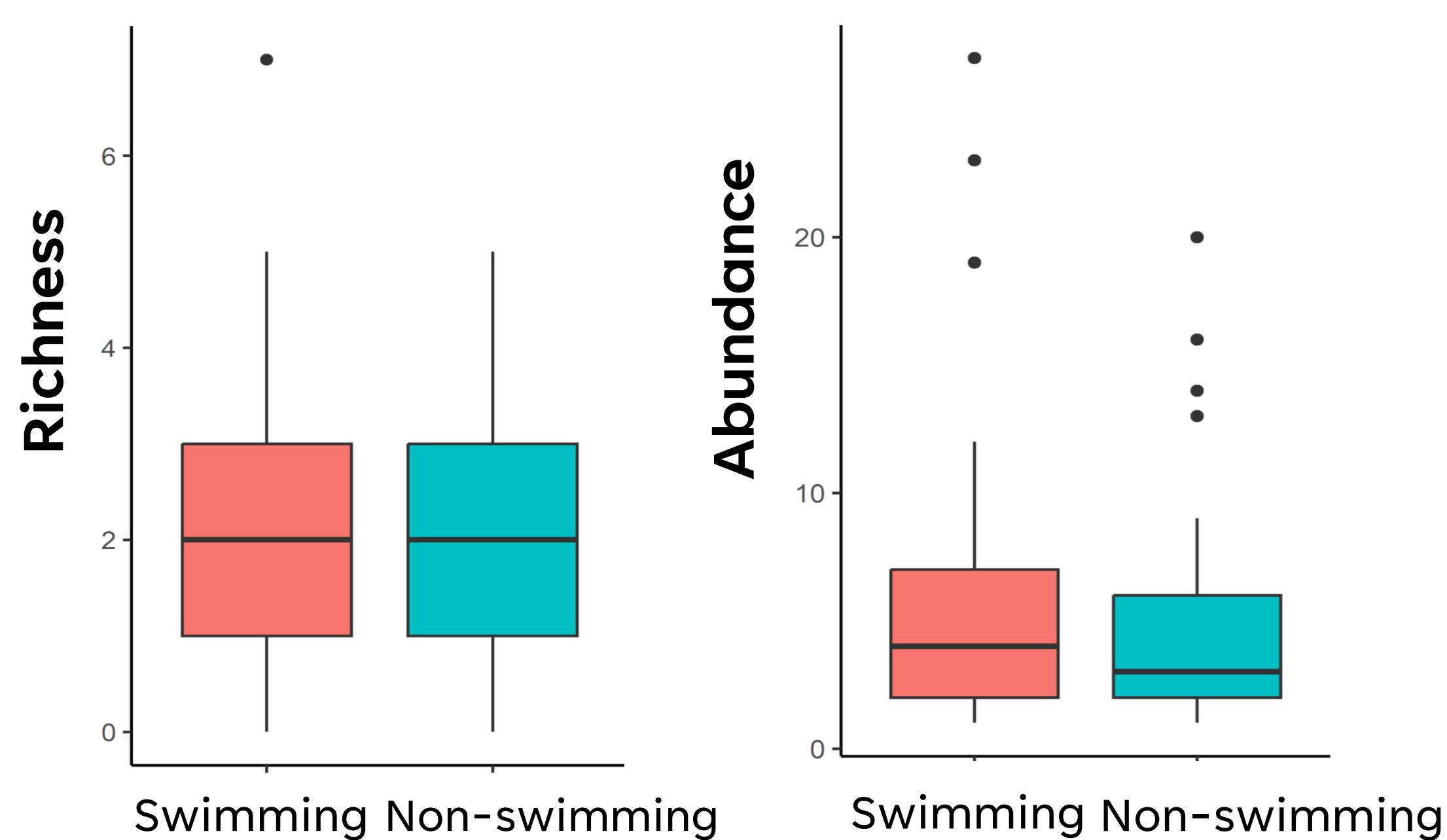


Fig. 3. Boxplot of richness and abundance of food items of swimming and non-swimming ostracods.

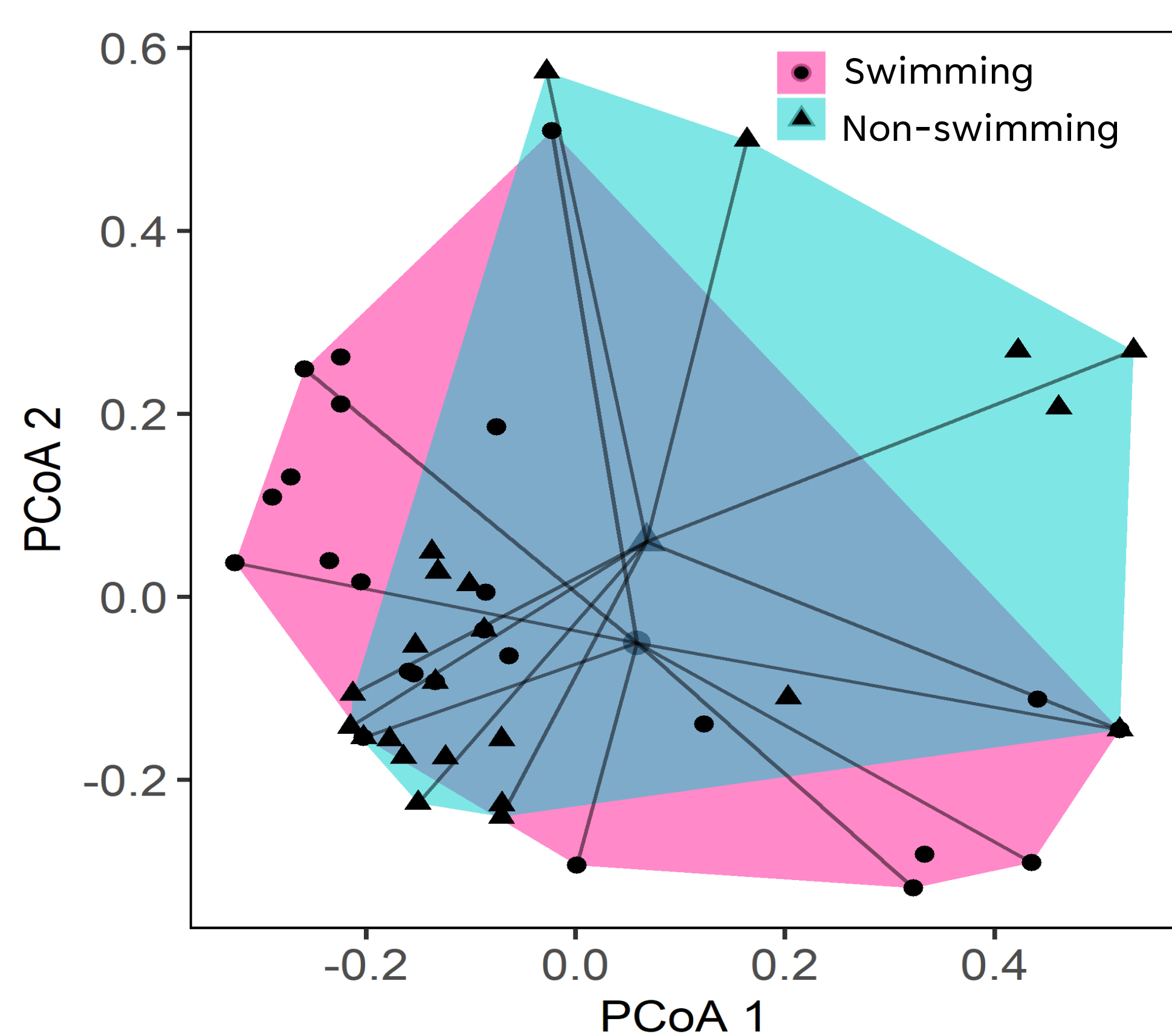


Fig. 4. PCoA of food items composition of swimming and non-swimming ostracods.

Hypothesis

We test the hypothesis that the richness, abundance, and diet composition differ between swimming and non-swimming ostracods from the Upper Paraná River floodplain. We expect a higher richness and abundance of food items consumed by swimming ostracods.

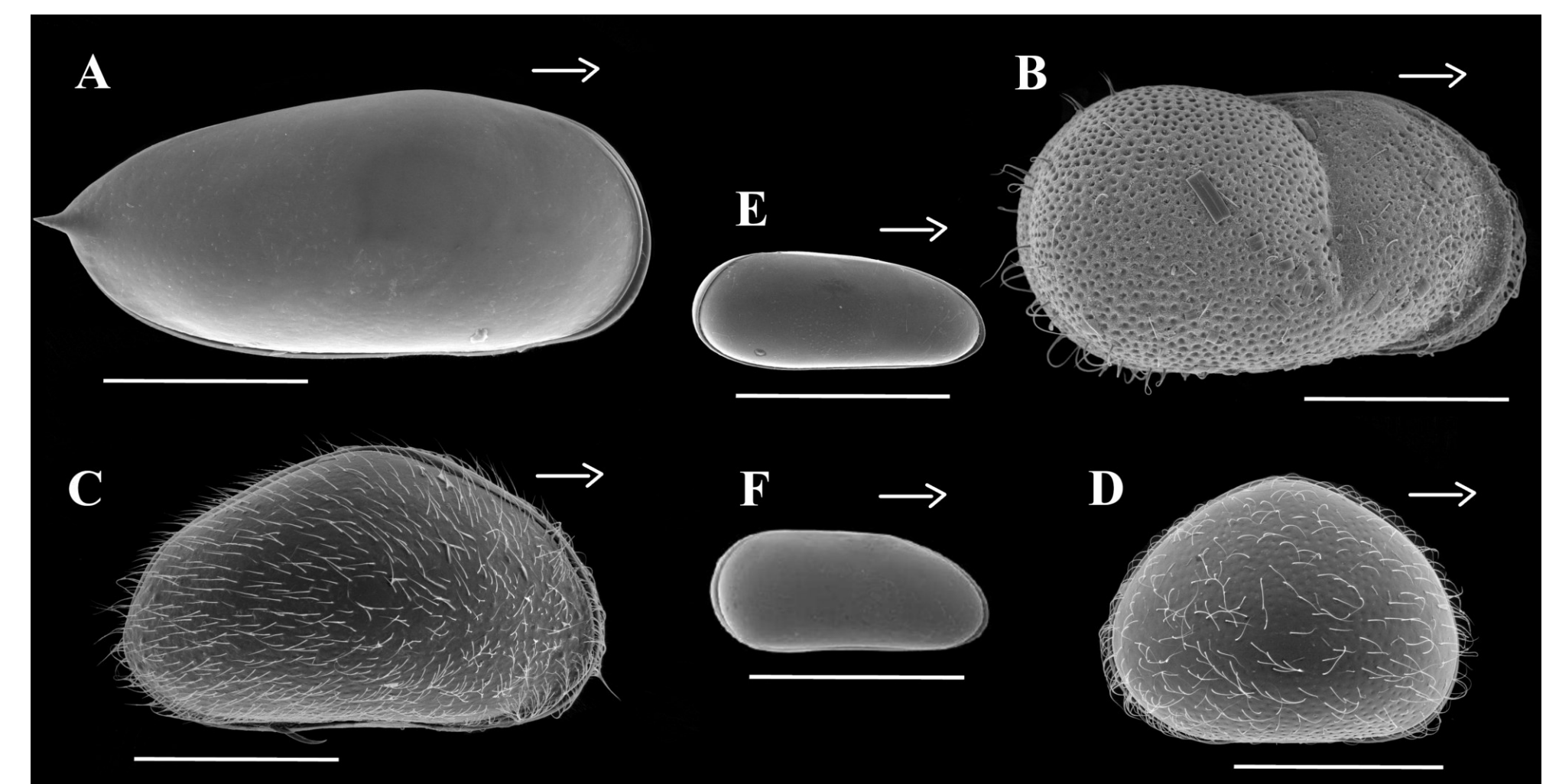


Fig. 1. A. *C. alfredo*. B. *C. ilosvayi*. C. *C. hispida*. D. *T. hirsuta*. E. *A. serricaudata*. F. *V. pagliolii*. Scale bars: 400 μm (all same scale).

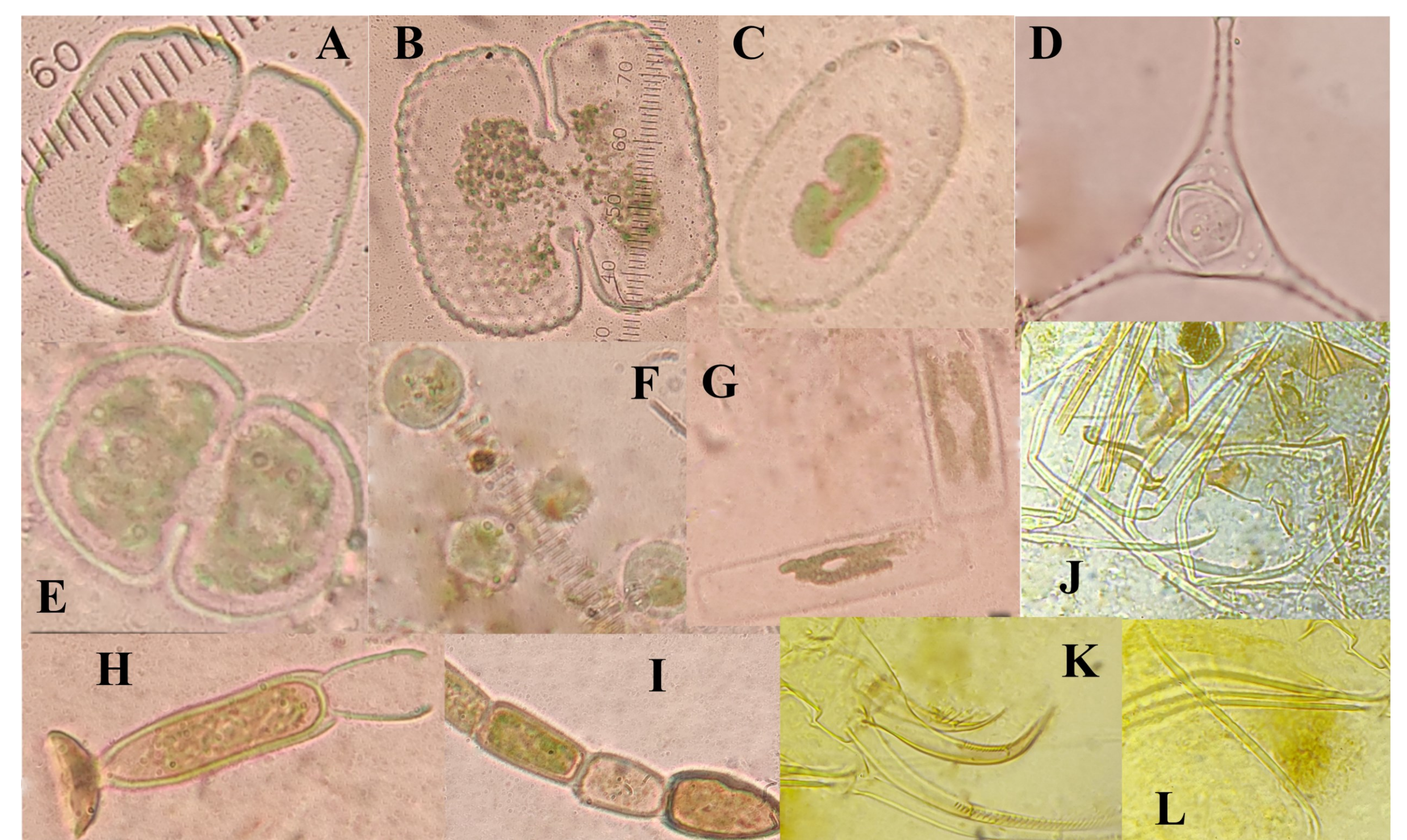


Fig. 2. Photos of some food items recorded. **Green algae:** A-B, E. *Cosmarium* sp.; D. *Staurastrum* sp.; H-I. *Oedogonium* sp. **Cyanobacteria:** F. *Dolichospermum* sp. **Diatom:** C. *Cocconeis* sp.; G. *Gomphonema* sp. **Invertebrate:** J, L. *Oligochaeta* chaetae. K. Invertebrate claws.

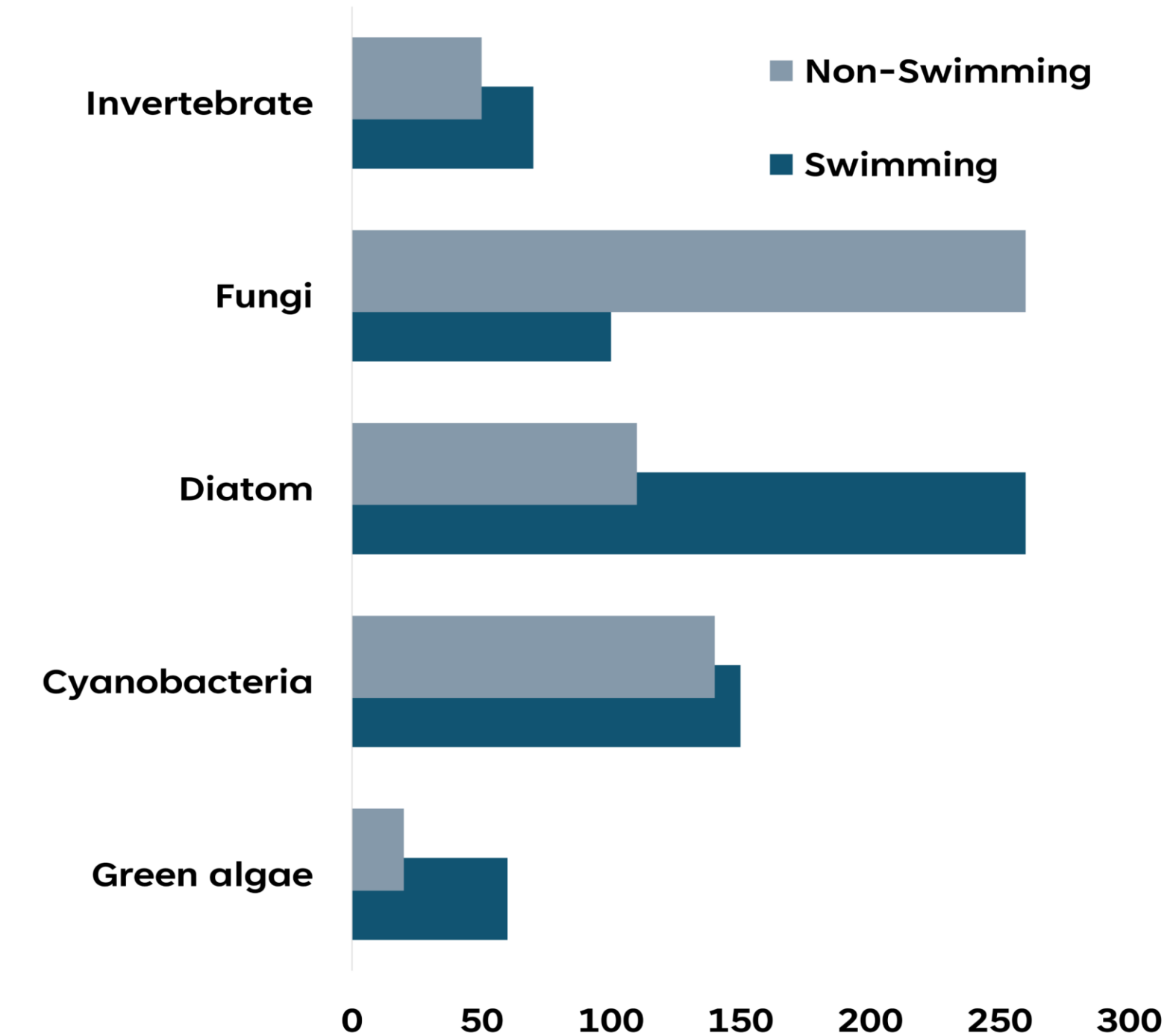


Fig. 5. Main food items found in swimming and non-swimming ostracods.

The aphotic zone in the roots of the aquatic macrophyte encourages fungal proliferation, which were consumed by non-swimming ostracods that have restricted mobility.

However, despite swimming ostracods' trend towards herbivory and non-swimming towards fungivory, both groups can consume the same items with differences in their proportion.