Preliminary studies on the lipidic compounds in the gonads of *Catostylus tagi*

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Introduction

Due to the variety of organisms with different physiologies, the marine environment is considered the main source for new drugs. The most promising appear to be microorganisms, invertebrates and algae, respectively, being the lipids a chemical class with high potential, especially terpenoids, steroids and eicosanoids [1].

The objective of this study was to initiate the characterization of the lipidic compounds present in the gonads of both sexes of the scyphozoan Catostylus tagi, native of the Tagus and Sado estuaries [2] (Fig. 1).

Fig. 1. Left: *C. tagi* in medusa stage. Up: gonads.

Materials and Methods

Chloroform soluble compounds were obtained by soxhlet extraction from the lyophilized gonads of *C. tagi* (Fig. 2).

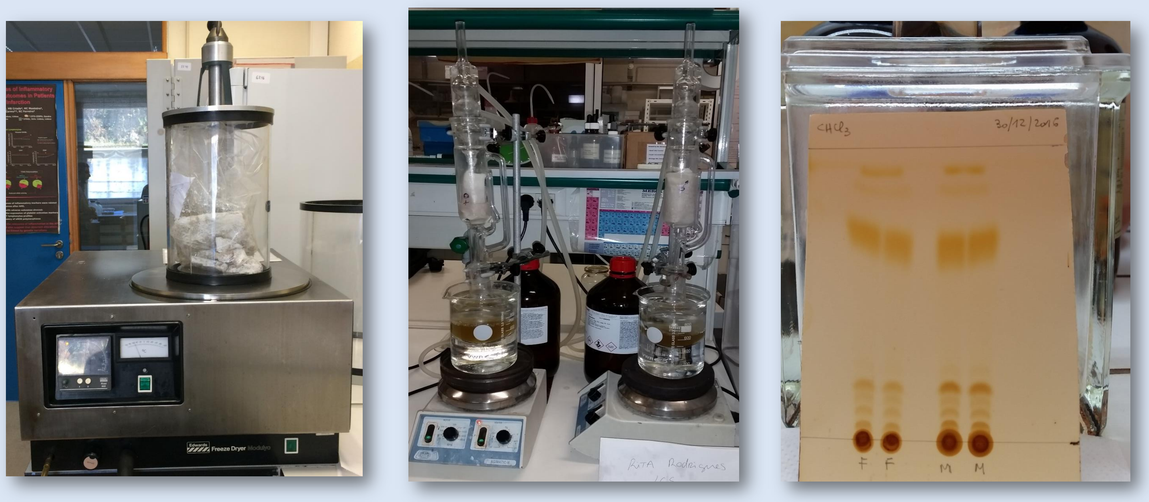

Fig. 2. Sample preparation for GC-MS and previous analysis.

Chromatographic conditions: Samples were injected as trimethylsilyl derivatives. T_i: 250ºC; Split ratio: 1:20; gas rate (He): 1mL/min. Column: VF5-ms, 30m, 0.25 nm ID, 0.25 mm film; T_c: 60°C (1min), 2°C/min until 90°C (0 min), 3°C/min until 280°C (40.67 min). Equipment GC/MS: GC Agilent 6890N - MS Thermo DSQ.

Results

Stearic, palmitic and oleic, respectively, were the three most abundant fatty acids in both sexes.

Considering sterols, cholesterol, 24-methylenecholesterol, campesterol and β-sitosterol were unequivocally detected both in male and female.

The [(3β)-cholestca-5,24-dien-3-yloxy], RT 78.094, was confirmed only in male (Fig. 3).

Isofucosterol (Stigmasta-5,24(28)-dien-3-ol, (3β,24Z)) reported for a jellyfish [3] was not detected.

These findings are in agreement with lipids reported for another cnidarian [4]. Studies focused at unambiguous chemical differentiation of each sex are now being planned.

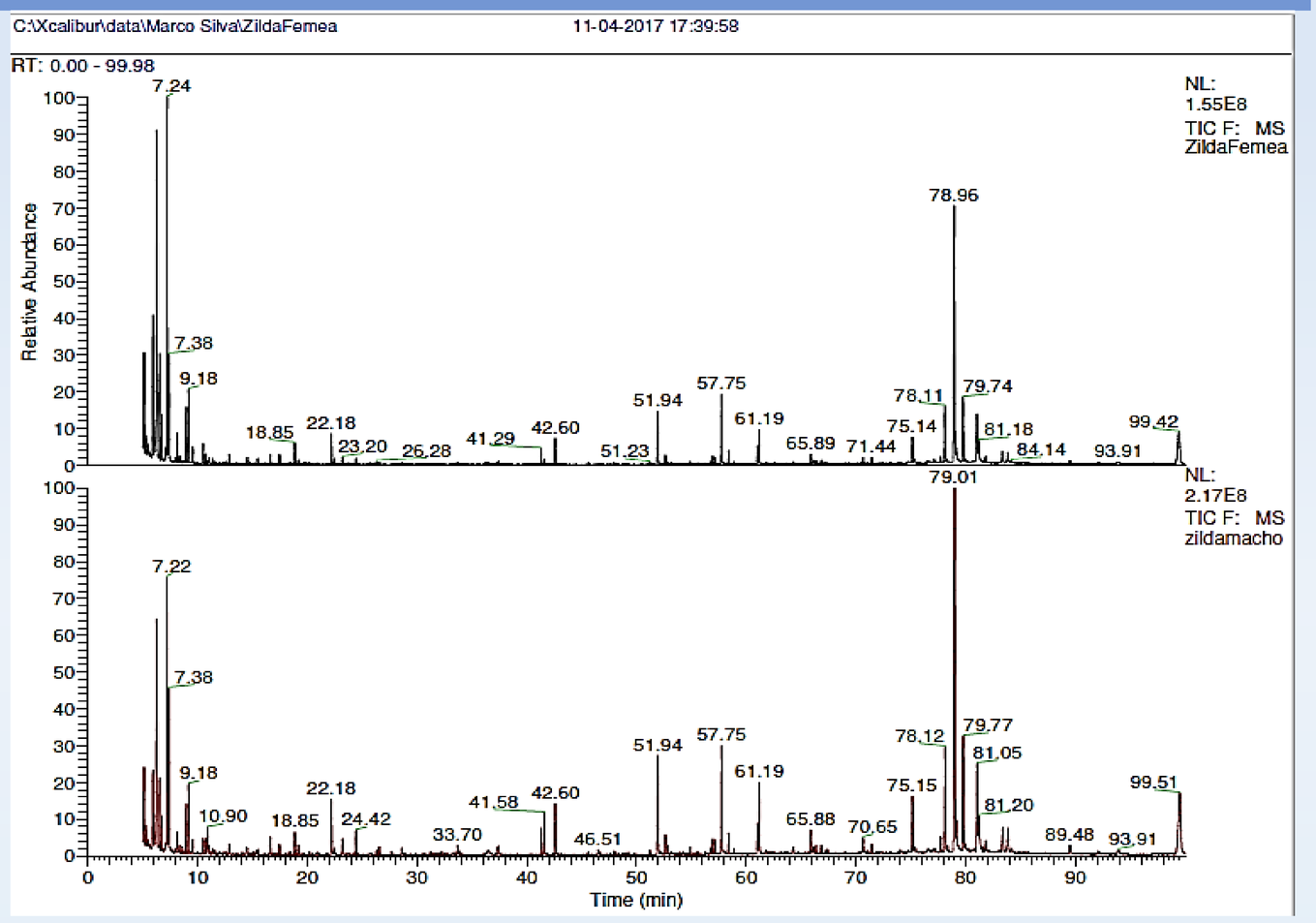

Fig. 3. GC-MS of chloroform extracts of gonads of *C. tagi*. Up: female, Down: male.

References

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