

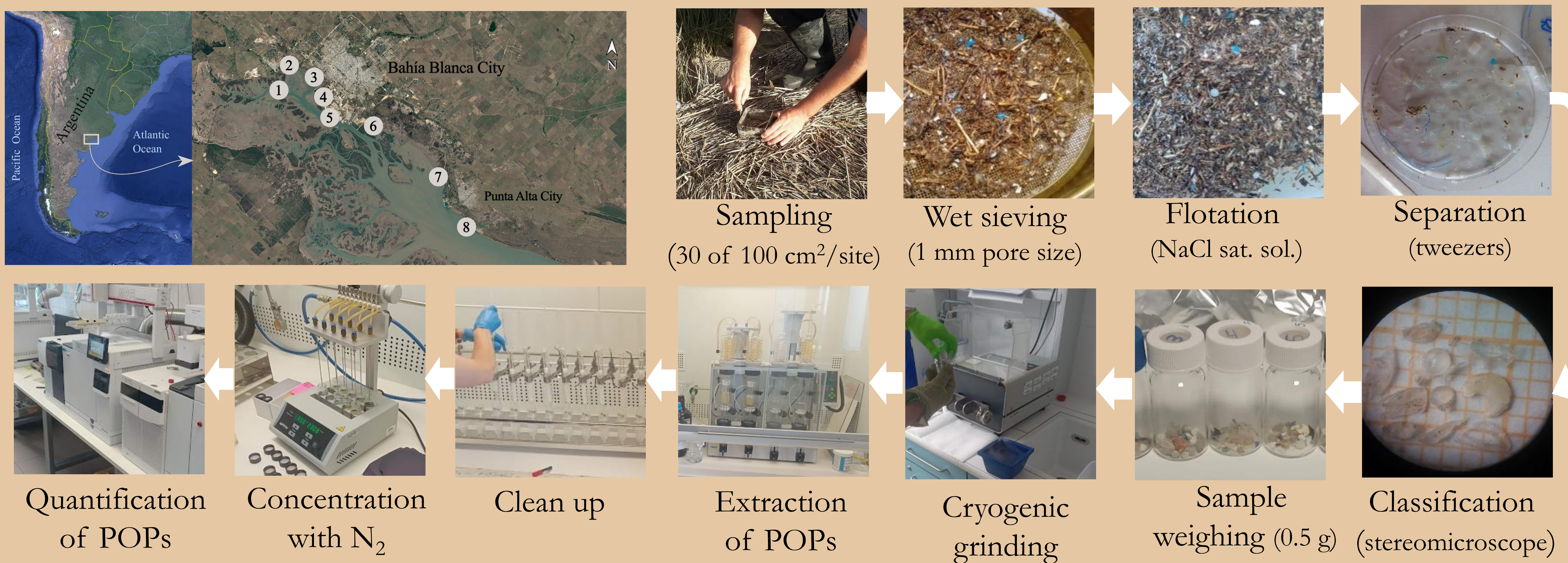
Persistent organic pollutants (POPs) in plastics and sediments from South Atlantic coastal wetlands, Bahía Blanca, Argentina

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INTRODUCTION

This is the first study on the presence of persistent organic pollutants (POPs) in plastics from Argentina and coastal wetlands around the world. Our goal was to analyze the accumulation of POPs, specifically polychlorinated biphenyls (PCBs), pentachlorobenzene (PeCB), hexachlorobenzene (HCB), DDT and its metabolites (DDXs) and hexachlorocyclohexanes (HCHs) in micro/meso-plastics (1-25 mm size), macro-plastics (25-100 mm size), and sediments from salt marshes in the Bahía Blanca Estuary, Argentina.

MATERIAL & METHODS



RESULTS

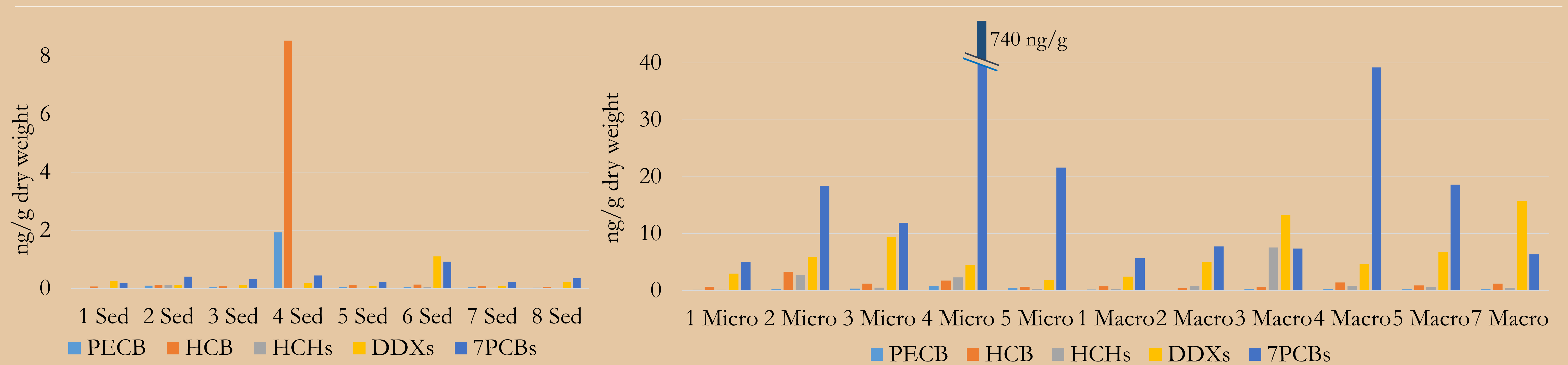


Figure 1 and 2. POP levels in sediments (Sed), micro/mesoplastics (Micro), and macro-plastics (Macro). The number indicates the sampling location in the map.

POP concentrations were substantially higher in micro/meso-plastics (167.4 ng/g) and macro-plastics (25.2 ng/g) than in sediments (2.7 ng/g), showing the high capacity of plastics to accumulate these compounds (Fig 1 and 2).

The most abundant chemicals were PCBs > DDTs > HCHs > HCB > PeCB in all matrices and sites (Fig. 1 and 2). Except in sediments close to an open dump and industrial effluents where HCB and PeCB were dominant.

The spatial distribution varied according to the POPs group series and the matrix. While HCH and DDT were higher in plastics near Maldonado creek discharge, higher PCBs, HCB, and PeCB levels correlated urban-industrial facilities and dumps.

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