Species Checklists for Salish Sea Seaweeds

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Species Checklist for Salish Sea Seaweeds:
Burrard Inlet & Boundary Bay
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INTRODUCTION

• British Columbia is home to 592 taxa of marine macroalgae or “seaweeds” (here “taxa” includes species, subspecies, forms, and varieties), including 313 Chlorophyta (green), 368 Rhodophyta (red), and 121 Ochrophyta (brown) seaweeds.1 The B.C. flora includes subtidal and intertidal taxa; this project focused on intertidal taxa.
• The number of B.C. taxa continues to increase as methods improve, in particular, with the addition of molecular data to taxonomy.1
• The marine shoreline around Greater Vancouver is extensive, however, there are no recent published species lists for seaweeds of this region (the most recent survey involving multiple regional sites we could find is from 1983 and unpublished. D. Garbarry, personal communication).

OBJECTIVES

1. Compile a contemporary species list of intertidal seaweeds around the Port of Vancouver and Boundary Bay
2. Collect and preserve voucher specimens and genetic sequences for taxonomic identification.

METHODS

• Sampling was done as a “bio blitz”: searching the intertidal, from lowest intertidal zone and moving progressively up the shoreline, looking for unique species.
• A representative specimen for each species was photographed in situ, dried in a plant press and preserved as a voucher specimen.
• Specimens were identified to the species level using gross morphology and microscopic features when necessary, using identification resources.1-4
• A selection of specimens which could not be reliably identified using morphology were selected for DNA Barcode genetic sequencing at the the Canadian Centre for DNA Barcoding.

RESULTS

Table 2: Summary of observed intertidal seaweeds from Greater Vancouver.

<table>
<thead>
<tr>
<th>Genera</th>
<th>Species</th>
<th>Specimens Preserved</th>
<th>Specimens sent for DNA Barcode*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Seaweeds</td>
<td>6</td>
<td>10</td>
<td>26</td>
</tr>
<tr>
<td>Red Seaweeds</td>
<td>41</td>
<td>52</td>
<td>144</td>
</tr>
<tr>
<td>Brown Seaweeds</td>
<td>13</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>75</td>
<td>181</td>
</tr>
</tbody>
</table>

Table 3: Seaweeds around Greater Vancouver by major group and broken down by taxonomic family, genus and species. Location names in Table 1.

RESULTS CONTINUED

Photographic plate and information to aid in identification were prepared for select local species. The following are examples of these plates.

DISCUSSION

• This project surveyed seaweed species from 11 sites around Greater Vancouver during the summer of 2019 and is the first seaweed species checklist for the region in over 30 years.
• 75 species in 60 genera of intertidal seaweeds were observed. All taxa were consistent with taxa previously reported for this area.
• The number of seaweeds in this area will certainly increase with greater temporal and spatial sampling, and with the inclusion of subtidal sites.

REFERENCES


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