Volutaria in Newport Beach
<table>
<thead>
<tr>
<th>HISTORY</th>
<th>CURRENT SITUATION</th>
<th>ECOLOGICAL IMPACTS</th>
<th>FUTURE MANAGEMENT</th>
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<tr>
<td>More than we knew</td>
<td>Management to date</td>
<td>Newport Beach vs. to Borrego Springs</td>
<td>Where do we go from here?</td>
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<td>Value of Early Detection &amp;</td>
<td>Scope of the infestation</td>
<td>Impact to native ecology</td>
<td></td>
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<tr>
<td>accurate identification.</td>
<td>Current management</td>
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</table>

History of the Newport Beach Infestation

Current Situation

Ecological Impacts

Future Management Actions and Goals
History of the Newport Beach Infestation

Current Situation

Ecological Impacts

Future Management Actions and Goals
VOLUTARIA
THE CALIFORNIA INVASION
Big Canyon, Newport Beach

Mar 3, 2015

BARBARA BOETHLING
VOLUTARIA
THE CALIFORNIA INVASION
VOLUTARIA
THE CALIFORNIA INVASION

BORREGO SPRINGS: 1 plant, RT HAWKE, Feb 23

CHULA VISTA: JESSE VINJE, Jun 6

NEWPORT BEACH: BARBARA BOETHLING, Mar 31

POINT LOMA: KEIR MORSE
Accession Detail Results

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<table>
<thead>
<tr>
<th>Specimen number</th>
<th>UCR188936</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determination</td>
<td>Volutaria tubuliflora</td>
</tr>
<tr>
<td>Collector, number, date</td>
<td>Robert DeRuff, 364, 2009-Mar-</td>
</tr>
<tr>
<td>County</td>
<td>Orange</td>
</tr>
<tr>
<td>Locality</td>
<td>Newport Beach, Upper Newport Bay, bluff top between Delhi Ditch and 23rd Street</td>
</tr>
<tr>
<td>Elevation</td>
<td>19 m</td>
</tr>
<tr>
<td>Voucher information</td>
<td>Uncommon annual, several plants found here and across the Bay at Big Canyon as early as 1987, 19 m</td>
</tr>
</tbody>
</table>

**Annotations and/or curatorial actions**

- current determination (uncorrected): Volutaria tubuliflora
- USGS quad: Newport Beach 7.5' Q.

**Related searches:**
1. taxon=Volutaria tubuliflora
2. county=Orange; taxon=Volutaria tubuliflora
3. county=Orange; collector=DeRuff
4. collector=DeRuff; taxon=Volutaria tubuliflora
5. collector=DeRuff; number=364
6. collector=DeRuff; number=364; include nearby numbers
7. Possible GBIF records [External]
8. Plot elevation range (from Jepson Manual) against latitude

**Check for yellow flag**

Explanations of the fields are available by clicking on the left-hand headings. Information about the collector is available by clicking on the collector name. The location can be mapped by clicking on "BerkeleyMapper". Other possibly pertinent records can be retrieved by clicking on "Related searches".

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Centaurea muricata L.

Upper Newport Bay, bluff top between Delhi Ditch and 23rd Street. (Newport Beach: 33°39'07"N, 117°53'22"W). Alt.: 19m. Annual grassland.

Annual. Uncommon, several plants found here. Found across Bay at Big Canyon as early as 1987.

Robert DeRuff 364
Mar 2003
Entered into UCR Database (516FMR)
VOLUTARIA
THE CALIFORNIA INVASION

NEWPORT BEACH: BOB DeRUFF, May 1, photo

NEWPORT BEACH: BOB DeRUFF, Mar 1, Voucher

BOREGGO SPRINGS: 1 plant, RT HAWKE, Feb 23

NEWPORT BEACH: BARBARA BOETHLING, Mar 31

CHULA VISTA: JESSE VINJE, Jun 6

POINT LOMA: KEIR MORSE

85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19

23 YEARS

30 YEARS
Volutaria’s

Volutaria muricata
 (=Centaurea muricata)

Volutaria tubuliflora
History of the Newport Beach Infestation

Current Situation

Ecological Impacts

Future Management Actions and Goals
Irvine Blvd.

Managed by Orange County Parks

Gross cover: 2.5 acres
2017: 4,000 plants treated or hand pulled

Big Canyon

Managed by Irvine Ranch Conservancy, under contract from City of Newport Beach

Gross cover: 2 acres
2015: 4,200 plants removed
2016: 2,000 plants removed
2017: 1,000 plants removed
History of the Newport Beach Infestation

Current Situation

Ecological Impacts

Future Management Actions and Goals
- Disturbed sites
- Exposed soils
- Road edges, trail edges
- Seldom within native vegetation
• Disturbed sites
• Exposed soils
• Road edges, trail edges
• Seldom within native vegetation
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Competition from non-native Brassica nigra
Competition from non-native Brassica nigra
Competition from non-native Brassica nigra
Volutaria Annual Precipitation Niche

Newport Beach
1987-current

Canary Islands
Historical

Anza-Borrego
2010-current

Rainfall inches

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

Anza-Borrego
3.17 avg.

Canary Islands
5.62 avg.

Newport Beach
10.63 avg.
History of the Newport Beach Infestation

Current Situation

Ecological Impacts

Future Management Actions and Goals
Future Management

Big Canyon

Continuation of management by Irvine Ranch Conservancy, under contract by City of Newport Beach.

Irvine Blvd.

Management by Orange County Parks. Less certain.
Needs:

Comprehensive annual surveys throughout the entire bay. 3,300 acres.

Long term continuation of IRC management contract in Big Canyon.

Comprehensive management plan by OC Parks at Irvine Blvd. colony.
VOLUTARIA IN NEWPORT BEACH

Thank you to:  
Jason Giessow, Dendra, Inc.  
Keir Morse, Biological Consultant, San Diego  
Jennifer Naegele, Resource Specialist Orange Co. Parks  
Riley Pratt, Irvine Ranch Conservancy

Ron Vanderhoff  
CA Native Plant Society, Orange County  
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