Törnebohmite-(Ce)  
\((\text{Ce,La})_2\text{Al(SiO}_4\text{)}_2\text{(OH)}\)

©2001 Mineral Data Publishing, version 1.2

**Crystal Data:** Monoclinic, pseudo-hexagonal.  
*Point Group:* 2/m.  
Fine-grained, massive; as inclusions in cerite.

**Physical Properties:**  
Hardness = 4.5  
D(meas.) = 4.94  
D(calc.) = 5.12

**Optical Properties:**  
Semitransparent.  
*Color:* Light green to olive.  
*Luster:* Vitreous.  
*Optical Class:* Biaxial (+).  
*Planochromism:* Very strong;  
X = light rose to greenish yellow;  
Y = bluish green;  
Z = light rose.  
*Dispersion:* r < v, very strong.  
*Absorption:* Y > X = Z.

**Cell Data:**  
*Space Group:* P2_1/c.  
*a* = 7.383(3)  
*b* = 5.673(3)  
*c* = 16.937(6)  
*β* = 112.04(2)°  
*Z* = 4

**X-ray Powder Pattern:**  
Bastnäs mine, Sweden.  
3.08 (100), 2.82 (90), 2.01 (60), 2.18 (50), 1.783 (50), 4.57 (40), 3.53 (40)

**Chemistry:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SiO(_2)</td>
<td>22.05</td>
<td>23.64</td>
</tr>
<tr>
<td>Al(_2)O(_3)</td>
<td>8.55</td>
<td>10.03</td>
</tr>
<tr>
<td>(La, Nd)(_2)O(_3)</td>
<td>34.85</td>
<td></td>
</tr>
<tr>
<td>Ce(_2)O(_3)</td>
<td>27.52</td>
<td>64.56</td>
</tr>
<tr>
<td>FeO</td>
<td>1.91</td>
<td></td>
</tr>
<tr>
<td>MnO</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>MgO</td>
<td>0.49</td>
<td></td>
</tr>
<tr>
<td>CaO</td>
<td>0.23</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>0.29</td>
<td></td>
</tr>
<tr>
<td>H(_2)O</td>
<td>1.77</td>
<td></td>
</tr>
<tr>
<td>LOI</td>
<td>1.70</td>
<td></td>
</tr>
<tr>
<td>insol.</td>
<td>0.95</td>
<td></td>
</tr>
<tr>
<td>chalcopyrite</td>
<td>0.96</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>99.55</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Bastnäs mine, Sweden.  
(2) Ce\(_2\)Al(SiO\(_4\))\(_2\)(OH).

**Occurrence:** In a contact metamorphosed limestone deposit (Bastnäs mine, Sweden).

**Association:** Allanite, cerite, bastnäsite.

**Distribution:** From the Bastnäs mine, Riddarhyttan, Västmanland, Sweden. In the Jamestown district, Boulder Co., and the Black Cloud pegmatite. Teller Co., Colorado, USA.

**Name:** For Alfred Elis Törnebohm (1838–1911), former Director of the Geological Survey of Sweden, and for its cerium content.

**Type Material:** n.d.

**References:**  
(2) (1921) Amer. Mineral., 6, 118–119 (abs. ref. 1).  

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of Mineral Data Publishing.