



TELOSCHISTACEAE

**SYN.: *Caloplaca fuscoatra* (Decuill.) Zahlbr.; *Placodium fuscoatrum* (Nyl.) A.L. Sm.; *Caloplaca viridirufa* (Ach.) Zahlbr.**

**Status**

Nationally Rare  
Vulnerable (2003)  
2/233 10km squares (2 in England)

Lead Partner: Plantlife  
UK BAP Priority Species

**UK Biodiversity Action Plan**

These are the current BAP targets following the 2001 Targets Review:

T1 Maintain all known populations of this species.

Progress on targets as reported in the UKBAP 2002 reporting round can be viewed online at: <http://www.ukbap.org.uk/2002OnlineReport/mainframe.htm>.

The full action plan for *Caloplaca aractina* can be viewed on the following web page: <http://www.ukbap.org.uk/UKPlans.aspx?ID=182>.

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# 1 Morphology, Identification, Taxonomy & Genetics

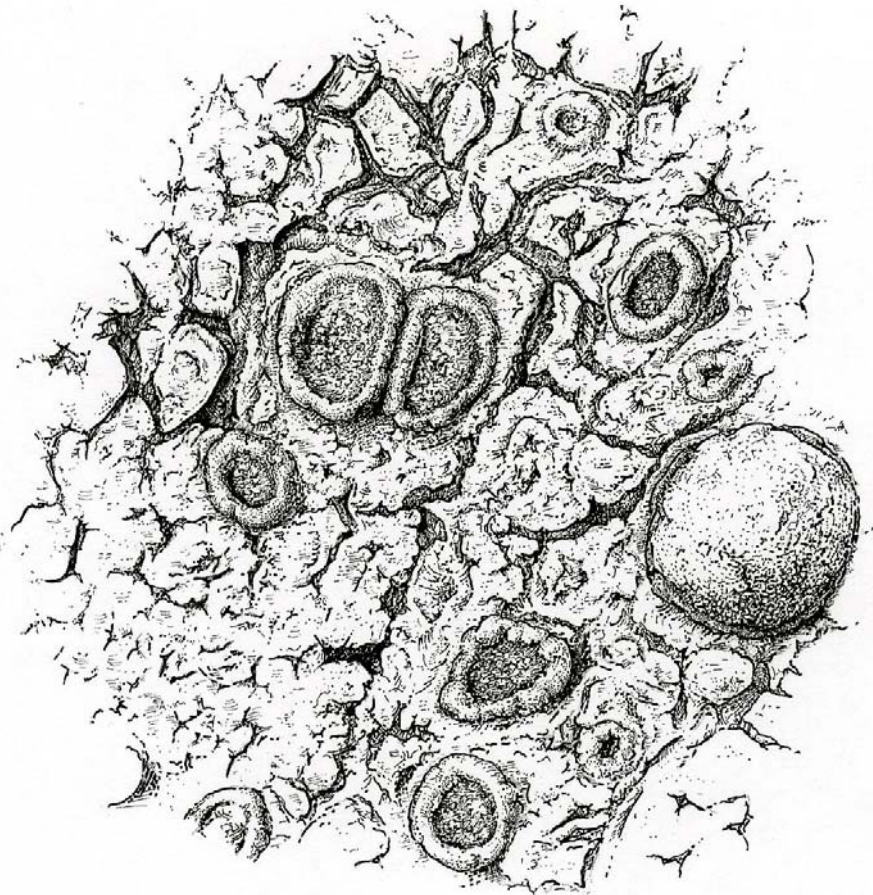
## 1.1 MORPHOLOGY & IDENTIFICATION

### DESCRIPTION

*C. aractina* is a fairly distinctive species. It has a distinctly oily dark brown to leaden-grey, crustose thallus which is cracked-areolate and often delimited by a black prothallus. The 0.4-1.0 mm sessile apothecia are dark orange-brown, densely orange-pruinose, with a persistent, thick, dark grey thalline margin.

### CHEMISTRY

Thallus K-; apothecia K+ purple (parietin).



**Figure 1** – Line drawing of *Caloplaca aractina* (Illustration by Fred Rumsey).



**Figure 2** –  
*Caloplaca*  
*aractina* on  
[serpentine](#)  
outcrop  
(Photograph  
by Bryan  
Edwards).

#### **SIMILAR SPECIES**

In Britain *Caloplaca aractina* is most likely to be confused with poorly developed specimens of *C. crenularia* and *C. ceracea*, or worn specimens of *C. chlorina*.

#### **1.2 TAXONOMIC CONSIDERATIONS**

*Caloplaca aractina* is part of the *Caloplaca cerina* group, which are characterised by a persistent thick grey [thalline](#) margin. In old literature the species was known as *Caloplaca fuscoatra* or *C. viridirufa*, and inland records of *Caloplaca aractina* in southern Europe are possibly referable to *C. fuscoatra* (Purvis, 1992). A taxonomic review of these species is required.

#### **1.3 GENETIC IMPLICATIONS**

None.

## **2 Distribution & Current Status**

### **2.1 WORLD**

Europe.

### **2.2 EUROPE**

A coastal species distributed from the Mediterranean region to Scandinavia. Inland [montane](#) records may be referable to other species.

## 2.3 UNITED KINGDOM

### 2.3.1 ENGLAND

*Caloplaca aractina* is confined in the UK to the [serpentine](#) and [gabbro](#) coasts of The Lizard Peninsula in west Cornwall. It was first collected here in 1924 by Walter Watson (Hb. **BM**). There were no further records until 1986 when the [British Lichen Society \(BLS\)](#) found the species again at Watson's site; Kynance Cove.

This was thought to be the only UK site until 2000, when Plantlife undertook a wider survey of The Lizard coastline. The species is now known from 23 populations around the coast of The Lizard. The sites are detailed in Table 1 on page 5.

At present it is not known from any other sites in the UK. Old collections from northwest England and Isle of Man proved not to be of *Caloplaca aractina*, but were mostly *C. ceracea*.

### 2.3.2 NORTHERN IRELAND

No confirmed records.

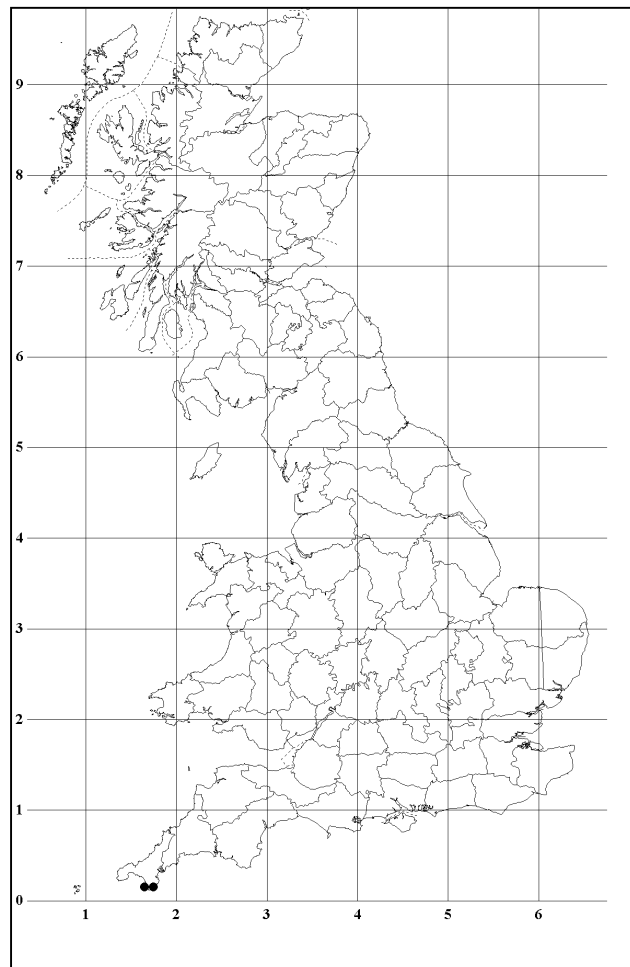
### 2.3.3 SCOTLAND

No confirmed records. Old collections from western Scotland proved not to be of *Caloplaca aractina*, but were mostly *C. ceracea*.

### 2.3.4 WALES

No confirmed records.

**Figure 3** - Current distribution of *Caloplaca aractina* in Britain.





**Table 1** - Summary of sites for *Caloplaca aractina* in England.

SITE	GRID REF.	STATUS	DATE	RECORDER/S
Mullion Cliff	SW6617	SSSI	May-03	Bryan Edwards & Paul Gainey
Lower Predannack Cliffs	SW6813	SSSI	May-03	Bryan Edwards
Pengersick	SW6614	SSSI	May-03	Bryan Edwards
Pigeon Ogo	SW6714	SSSI	May-03	Bryan Edwards
Kynance Cliff	SW6713	SSSI	May-03	Bryan Edwards
Kynance Cliff	SW6813	SSSI	May-02	Bryan Edwards
Kynance Cove	SW6813	SSSI	May-00	Bryan Edwards
Pentreath Beach	SW6912	SSSI	May-00	Bryan Edwards
Enys Head	SW7214	SSSI	Nov-00	Bryan Edwards
Carleon Cove	SW7215	SSSI	Nov-00	Bryan Edwards
Kennack Sands	SW7316	SSSI	Nov-00	Bryan Edwards
Kennack Sands	SW7316	SSSI	May-03	Bryan Edwards & Paul Gainey
Carrick Luz	SW7516	SSSI	May-01	Bryan Edwards & Peter James
The Gaider	SW7616	SSSI	May-03	Bryan Edwards & Peter James
Beagles Hole-Treleaver Cliff	SW7616-7716	SSSI	Nov-00	Bryan Edwards
i). Beagles Hole	SW7616		Nov-00	Bryan Edwards
ii). Treleaver Cliff	SW7616		Nov-00	Bryan Edwards
iii). The Bees	SW7616		Nov-00	Bryan Edwards
iv). Pedn Boar	SW7716		Nov-00	Bryan Edwards
Black Head	SW7716	SSSI	Nov-00	Bryan Edwards
Ebber Rocks	SW7816	SSSI	Nov-00	Bryan Edwards
Chynhalls Point	SW7817	SSSI	Nov-00	Bryan Edwards
Dolor Point	SW7818	None	Nov-00	Bryan Edwards
Lowland Point	SW7919	SSSI	May-03	Bryan Edwards & Paul Gainey

### 3 Ecology & Life Cycle

In the UK *Caloplaca aractina* is a maritime species found in the [mesic-supralittoral](#), or 'orange' zone within the *Caloplacetum marinae* community. It is typically 2-5m above Mean High Water (MHW) in sheltered sites, but extends much higher up the shore in exposed situations. It is most abundant on the smooth faces of vertical, or near-vertical, outcrops of [serpentine](#) rock, or on large serpentine, or more rarely [gabbro](#), boulders and rock faces.

Common associates include *Caloplaca marina*, *C. microthallina*, *C. thallincola*, *Diplotomma chlorophaeum*, *Lecanora actophila*, *L. helicopsis*, *Lichina confinis* and *Verrucaria nigrescens*. *Caloplaca aractina* occasionally occurs on more enriched rocks with *Aspicilia leproscens* and *Xanthoria parietina* in situations similar to *Caloplaca verruculifera*. *Caloplaca aractina* is a constant and important member of the mesic-supralittoral along the more sheltered parts of the serpentine and gabbro coast of The Lizard.

### 4 Habitat Requirements

#### 4.1 THE LANDSCAPE PERSPECTIVE

Shelter seems to be an important factor in the distribution of *Caloplaca aractina*. Many sites along the west coast appear suitable for the species but are probably too exposed as they receive the force of the waves. This is clearly illustrated at Pentreath Beach

where *Caloplaca aractina* is absent from the exposed, vertical serpentine cliffs, but is present on a large boulder on a rocky platform towards the back of the beach.

Along the east coast of The Lizard the mesic-supralittoral is much better developed as the rock outcrops and boulders are protected from the full force of the wave action by rocky shelves as exemplified below in Figure 4.



**Figure 4** - Habitat for *Caloplaca aractina* on the eastern coast of The Lizard. *Caloplaca aractina* (indicated by the arrow) is present in a typical *Caloplacetum marinae* community within the xeric-supralittoral zone. Beagles, November 2000 (Photograph by Bryan Edwards).

#### 4.2 COMMUNITIES & VEGETATION

*Caloplaca aractina* is a constant and important member of the mesic-supralittoral zone where it is abundant and sometimes co-dominant with *Caloplaca marina*. Typical associates include *Aspicilia leproscens*, *Caloplaca microthallina*, *C. thallincola*, *Diplotomma chlorophaeum*, *Lecanora actophila*, *L. helicopsis*, *Lichina confinis*, *Solenopsora holophaea* and *Verrucaria maura*. The quadrat data in Table 2 illustrates the mesic-supralittoral community make-up.



**Table 2** - Quadrat data.

SPECIES	1	2	3	4	5	6	7
<i>Aspicilia leproscens</i>			4	2	5		4
<b><i>Caloplaca aractina</i></b>	<b>5</b>	<b>4</b>	<b>6</b>	<b>5</b>	<b>5</b>	<b>3</b>	<b>8</b>
<i>Caloplaca marina</i>		5	1	4	4	5	3
<i>Caloplaca microthallina</i>	3		3				
<i>Caloplaca thallincola</i>	3	4	1	6	3	1	
<i>Catillaria chalybaea</i>	2			3			
<i>Diplotomma chlorophaeum</i>	5		2	2	3	2	2
<i>Lecanora actophila</i>		3	1	6		6	4
<i>Lecanora dispersa</i>	2						
<i>Lecanora helicopsis</i>	3		3		2		
<i>Ramalina siliquosa</i>					2	2	5
<i>Xanthoria ectaneoides</i>	2						3
<i>Xanthoria parietina</i>			6	4	5	3	
Bare rock	7	8	6	6	6	6	5

Q1 Kynance Cove – south side, SW6852 1333, 30 x 50 cm, 340°, 85-90°, [serpentine](#).

Q2 Kynance Cove – north side, SW6845 1335, 30 x 50 cm, 160°, 65°, serpentine.

Q3 Poltesco – Carleon Cove, SW7280 1568, 50 x 50 cm, 180°, 34°, serpentine.

Q4 Coverack – Dolor Point, SW7850 1811, 30 x 40 cm, 140°, 65°, serpentine.

Q5 Treleaver Cliff, SW7705 1608, 50 x 50 cm, 200°, 70°, serpentine.

Q6 Carrick Lüz, SW7555 1645, 50 x 50 cm, 160°, 40°, [gabbro](#).

Q7 Carrick Lüz, SW7555 1645, 50 x 50 cm, 210°, 80°, gabbro.

The population of *Caloplaca aractina* is difficult to estimate, and at most sites it is frequent to locally abundant. All the lichen species associated with *Caloplaca aractina* are [crustose](#) and grow at an exceedingly slow rate. Therefore competition is not a threat.



**Figure 5** - Typical *Caloplacetum marinae* community on vertical rock face with *Caloplaca aractina* (dark grey patches) associated with *Caloplaca marina* and *C. thallincola* (orange patches) and *Lecanora actophila* (cream patches), (Photograph by Bryan Edwards).

### 4.3 SUMMARY OF HABITAT REQUIREMENTS

Shelter seems to be an important factor in the distribution of *Caloplaca aractina*, exemplified where the [mesic-supralittoral](#) is much better developed as rocky shelves protect the rock outcrops from the full force of the wave action.

## 5 Management Implications

Populations may be more dynamic than previously thought. One colony on a vertical [serpentine](#) rock face disappeared over a three year period due to the natural erosion of the rock surface. However, this process has been going on for several millennia and the species has managed to survive.

Occurs on boulders rather than on sites that require active management, so management is not usually an issue. The conservation agencies that own and manage land on The Lizard such as [English Nature](#) and [National Trust](#) have been made aware of the presence and importance of the species.

## 6 Threats / Factors Leading to Loss or Decline or Limiting Recovery

No immediate threats. In reality the vast majority of sites are under no real threat except from natural catastrophes such as landslips or rock falls.

## 7 Current Conservation Measures

### 7.1 *IN SITU* MEASURES

All but one of the sites is within a [Site of Special Scientific Interest \(SSSI\)](#). The Lizard peninsula is designated as a [Special Area of Conservation \(SAC\)](#).

### 7.2 *EX SITU* MEASURES

None.

### 7.3 RESEARCH DATA

At present *Caloplaca aractina* is classed as Vulnerable (Woods & Coppins, 2003) on account of its restricted distribution in the UK. Recent surveys (Edwards, 2000) have shown that the species is well established around The Lizard coastline, when areas of serpentine along the east and west coasts were targeted. However the area of search was limited to sites where the lower shore could be reached with safety.

### 7.4 MONITORING *CALOPLACA ARACTINA* & THE COMMON MONITORING STANDARD

As the species is under no immediate threat, monitoring is not a high priority. All the known sites should be visited every 3-5 years to establish whether *Caloplaca aractina* is still present.

## 8 References

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- Edwards, B. (2001). *The current status of Caloplaca aractina (Fr.) Häyrén in Cornwall*. Plantlife Report no. 160. Plantlife, London.



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## 9 Acknowledgements

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## 10 Contacts

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## 11 Links

- ARKive species web page for *Caloplaca aractina*:  
[http://www.arkive.org/species/ARK/fungi/Caloplaca\\_aractina](http://www.arkive.org/species/ARK/fungi/Caloplaca_aractina).
- British Lichen Society: <http://www.thebls.org.uk/>.

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