



BUTTERFLIES
in Great Britain



and a HALF

2008 I started photographing butterflies



2015 White-letter Hairstreak
completed Surrey set in my 8th season

I added 4 in Sussex



Pearl-bordered Frit



Small Pearl



Duke of Burgundy



Wall Brown

West 4



Marsh Fritillary



High Brown Frit



Lulworth Skipper



Large Blue

East & Midlands 3



Heath Fritillary



Swallowtail



Black Hairstreak

North 4



Large Heath



Mountain Ringlet



Chequered Skipper



Scotch Argus

My GB total to 2022

Surrey incl. Glanville Fritillary	42
Sussex	4
West	4
East & Midlands.....	3
North	4
VARIETIES	57

EXCLUDES

Ireland Cryptic Wood White
Irregulars Long-tailed Blue etc

2023

One more
GB species
to photograph

**Northern
Brown Argus**

DNA analysis confirms that
**Brown Argus &
Northern BA**
are separate species

But what exactly
do we have in GB?

National Trust says:

Durham Argus is
an even rarer subspecies
of Northern Brown Argus

There are also references to

Castle Eden Argus
on east coast between
Hartlepool & Sunderland

It was only after
I had booked
my trip to **Durham**
that I realised
the position . . .

Northern Brown Argus
in Northern England
is a **HYBRID**

Brown Argus & NBA

DNA analysis indicates

150-200km overlap zone

N Wales & N England

2010 Chris Thomas *et al.*
Royal Entomological Society

Original hybridisation
possibly post-glacial
from c11,500 years ago

Cold periods

NBA retreats south,
reaching Peak District

Warm periods

BA advances north,
reaching Scottish Borders,
as it threatens now

FAMILY Lycaenidae: 6,000 species world-wide
Genus Polyommatus.....Blues
Sub-genus AriciaArguses

Species

Brown Argus agestis

Northern BA artaxerxes: NOT unique to Scotland

sub-species *artaxerxes allous*.....Europe

artaxerxes artaxerxes.....Scotland

hybrid *artaxerxes salmacis*..North Eng/Wales

Argus
many-eyed giant
in Greek
mythology,
references the
underside spots





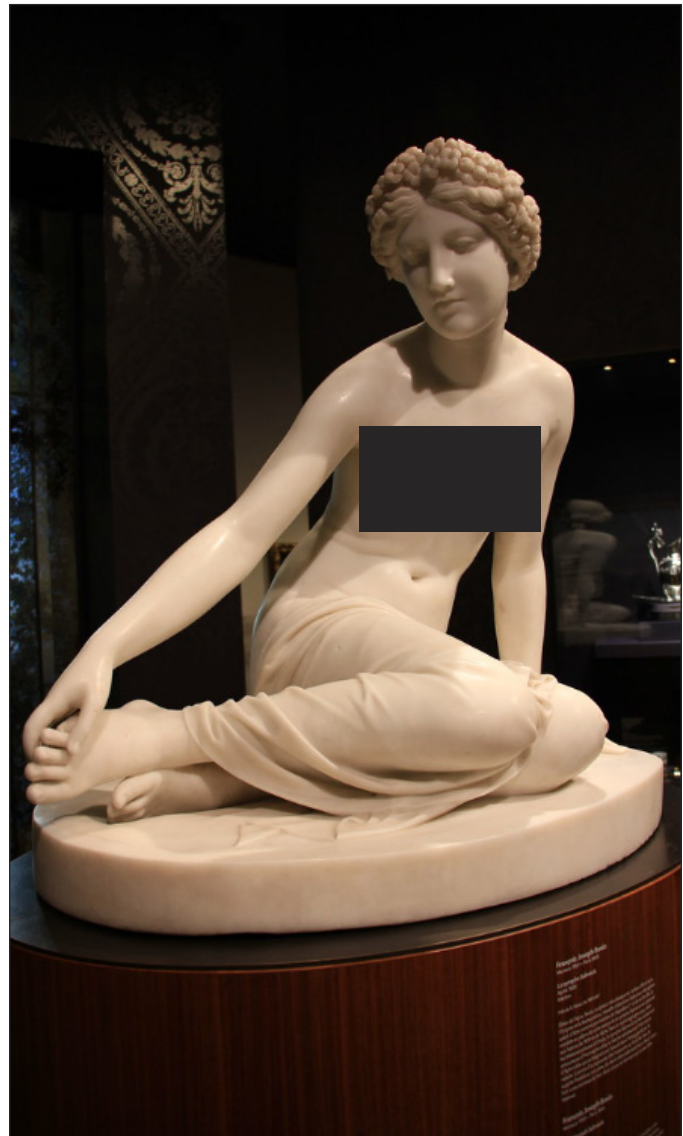
Species name

Artaxerxes

King of
Persian Empire
465 – 424 BC

Sub-species name
Salmacis

Those easily offended
should look away now

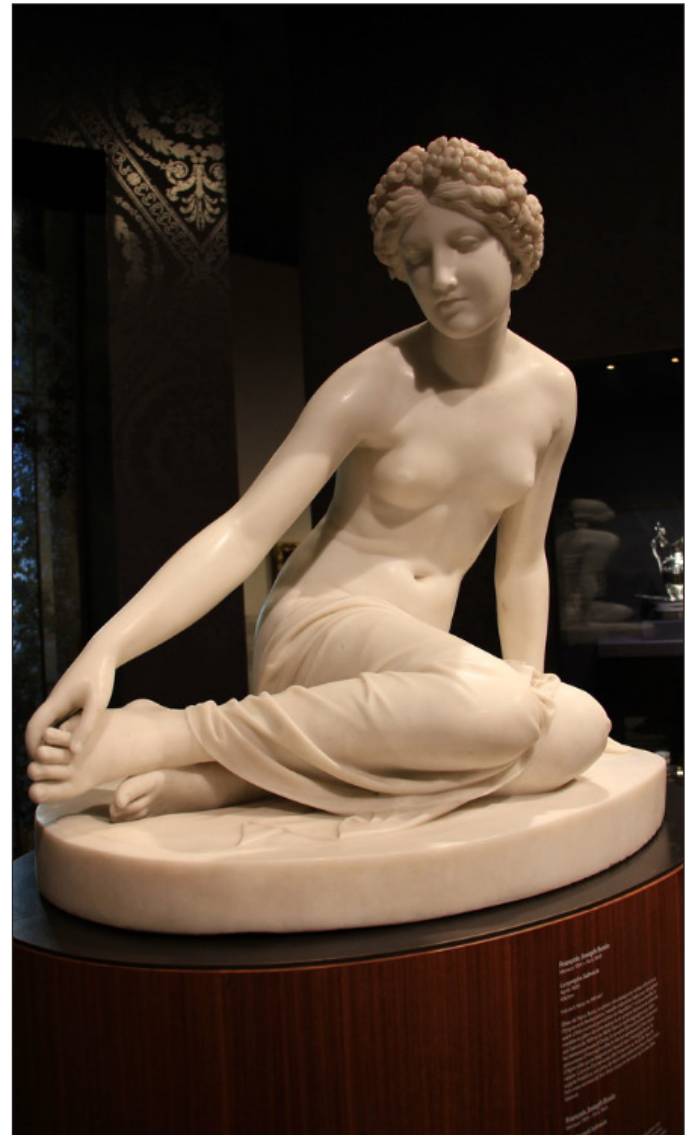


Salmacis

Greek nymph
immortalised in
Latin poem by Ovid

AND

1971 song by Genesis
Fountain of Salmacis





Salmacis is not to be confused with **Salamis**, the 480bc sea battle in which Themistocles (Athens) defeated Xerxes (Persia), father of **Artaxerxes**

Brown Argus is advancing
up east side of England:
hybridisation likely to resume!

1983 reached E Yorks Wolds

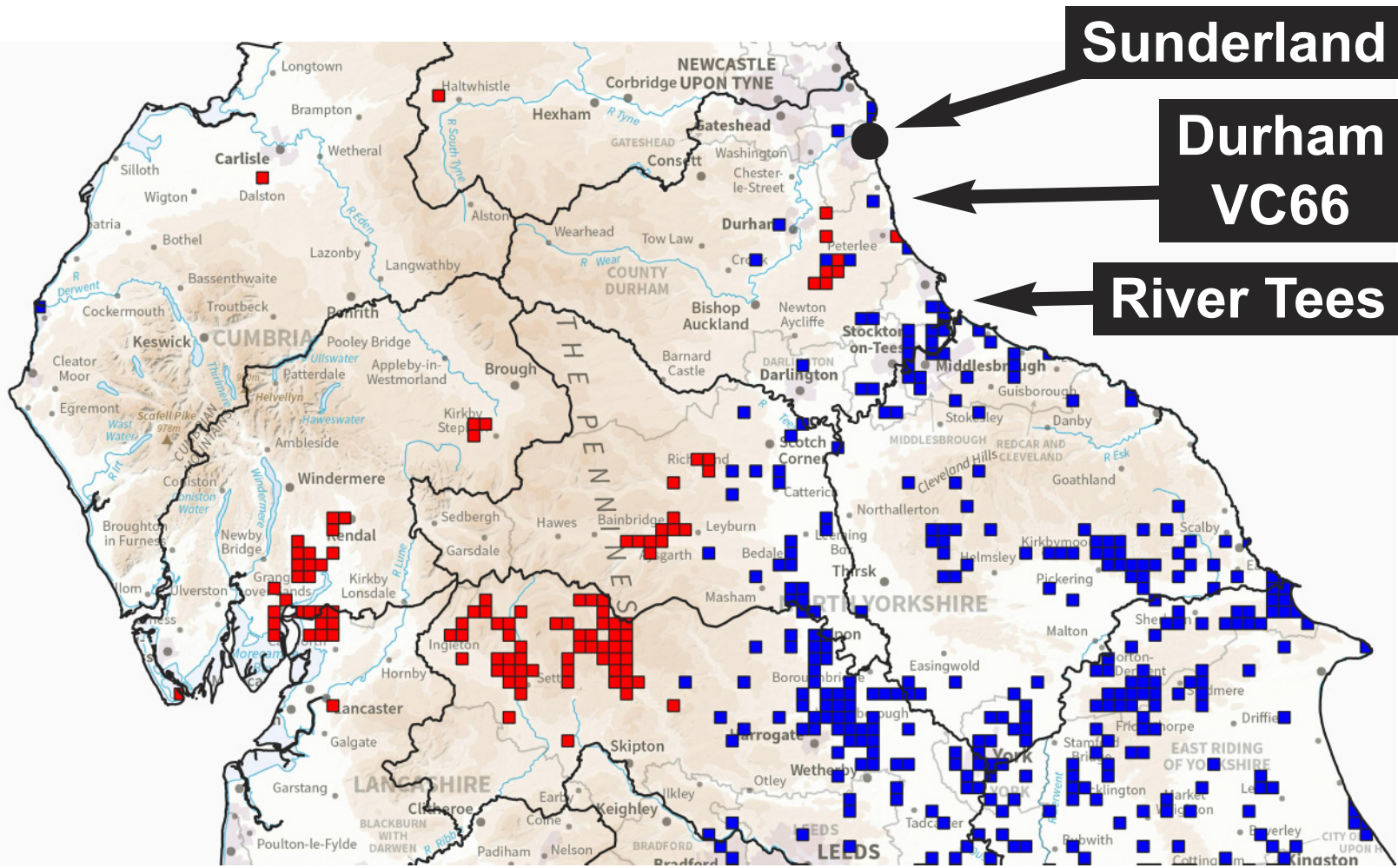
2006 reached Durham

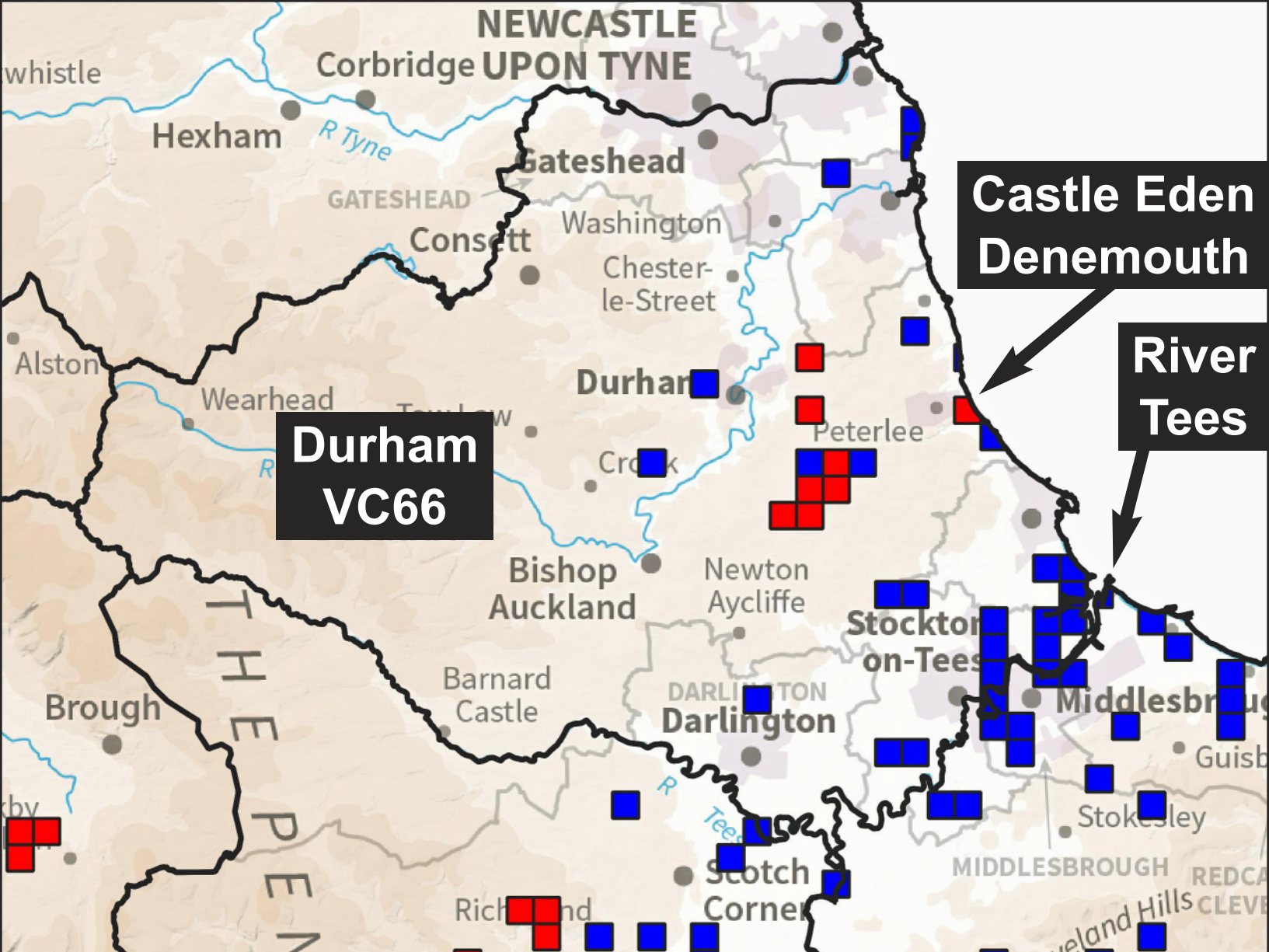
1983-2020 expansion:

71 miles = 1.9 miles per year

Brown & NBA tetrads 2000-2023

Thanks to Martin Partridge Yorks Branch Chair





**Durham
VC66**

**Castle Eden
Denemouth**

**River
Tees**

Brown Argus

Why advancing?

- Climate change
- Escape from predators

Why dominant?

- Cranesbills, not just Rock-rose
- Bivoltine

When

June week 3:
fresh specimens will be
NBA

Brown Argus

1st brood
largely over

Where in Durham

Magnesian limestone
with Rock-rose

- Inland quarries
- Coastal cliffs

Sunderland

Durham

A1

Hartlepool

**Bishop
Auckland**



Sunderland

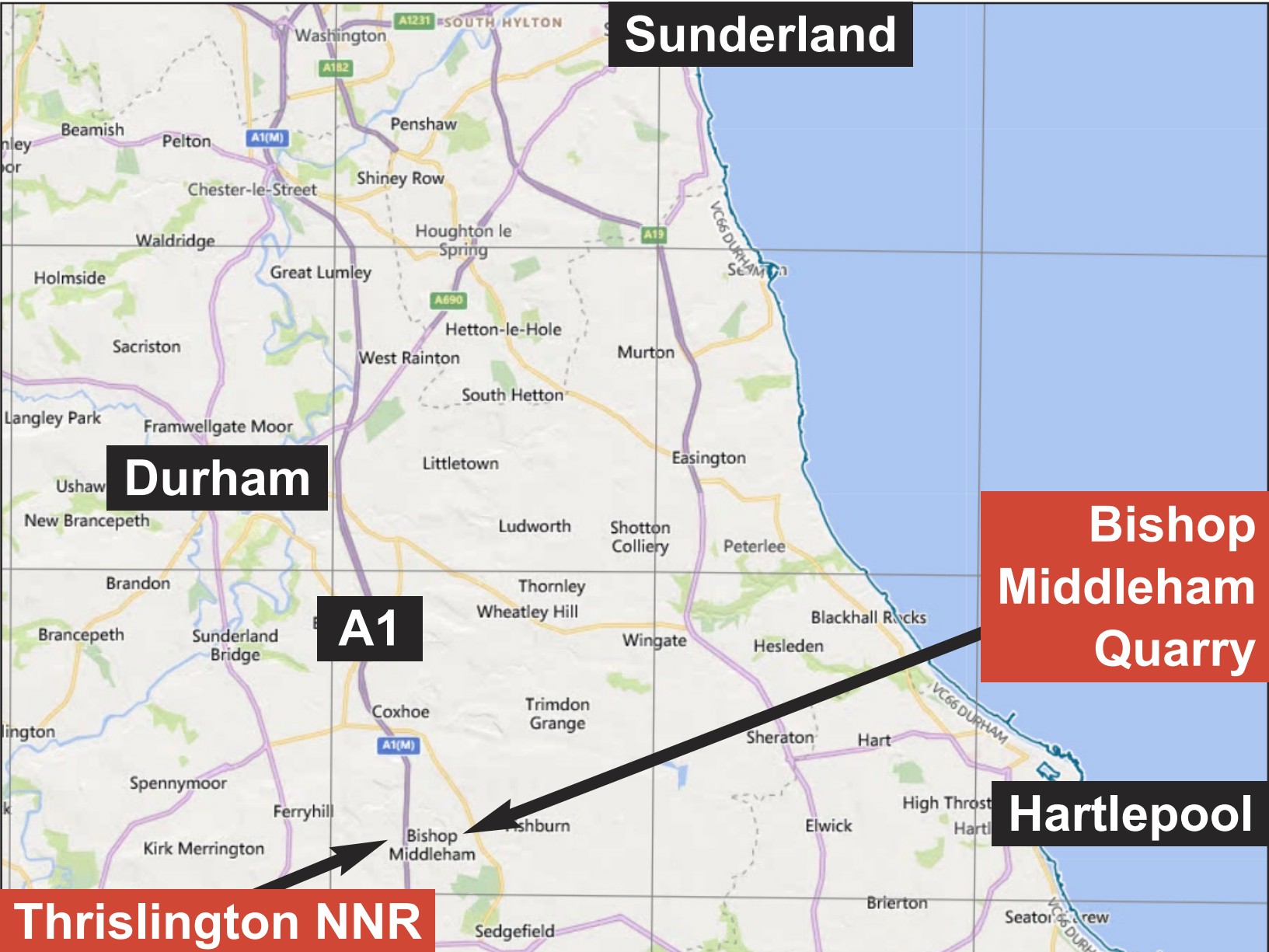
Durham

**Bishop
Middleham
Quarry**

A1

Hartlepool

Thrislington NNR



Bishop Middleham Quarry



DURHAM

A globally important habitat

This magnesian limestone quarry was abandoned in the 1930's and since that time has been re-colonised by a variety of limestone flora, which are representative of magnesian limestone grassland. This is an internationally rare habitat type the majority of which is only found in County Durham and has been designated as a Site of Special Scientific Interest.



Poor thin soil leads to species rich grassland
The thin, nutrient poor, lime rich soil reduces competition from the stronger growing coarse-leaved grasses which usually dominate in richer soils. The result is a rich and diverse collection of plants, characteristic of magnesian limestone grassland.



Rare and spectacular orchids thrive
The grasslands are particularly rich in orchid species such as Pyramidal, Common Spotted, Fragrant and Bee-orchid and most importantly large numbers of Dark-red Helleborines which thrive on the nutrient poor, lime rich soils.



— Permissive path
— Public footpath
P Parking

Herb-rich grassland attracts butterflies
Extensive areas of common rock rose in the quarry support one of the country's largest colonies of Northern Brown Argus butterfly, which can be seen, on the wing in June and July. Other butterflies seen throughout the year include Dingy Skipper, Common Blue, Ringlet and Small Skipper.



Exotic visitors from the Mediterranean
A unique visitor for a unique place - bee-eaters are rare southern visitors to the UK. They successfully raised three young here in a cliff face nest in 2002, the first recorded British brood since 1955.



- Help protect wildlife**
- Take litter home
 - No fires
 - No camping
 - Keep to the paths
 - Don't pick wild flowers
 - Don't allow dogs to foul the site

Membership information
Durham Wildlife Trust is one of a network of Wildlife Trusts. Since 1912 these Trusts have been working for wildlife in Britain in close partnership with government, industry, landowners, communities and families. To become a member and support the work of Durham Wildlife Trust telephone 0191 584 3112 or write to:

Durham Wildlife Trust,
Rainton Meadows, Chilton Moor,
Houghton-le-Spring,
Tyne & Wear DH4 6PU
Charity no. 501038

ENGLISH Reserves Enhancement NATURE Scheme

Supported by the Heritage Lottery Fund

Bishop Middleham Quarry SSSI

Abandoned 1930s

Bee-eaters 2002



Welcome to Thrislington National Nature Reserve

NATURAL
ENGLAND

About the reserve

Thin soils over the magnesian limestone bedrock support a rare type of grassland dominated by blue moor grass. This is found with other plants such as small scabious and rock-rose, which attract many types of butterflies and other insects.

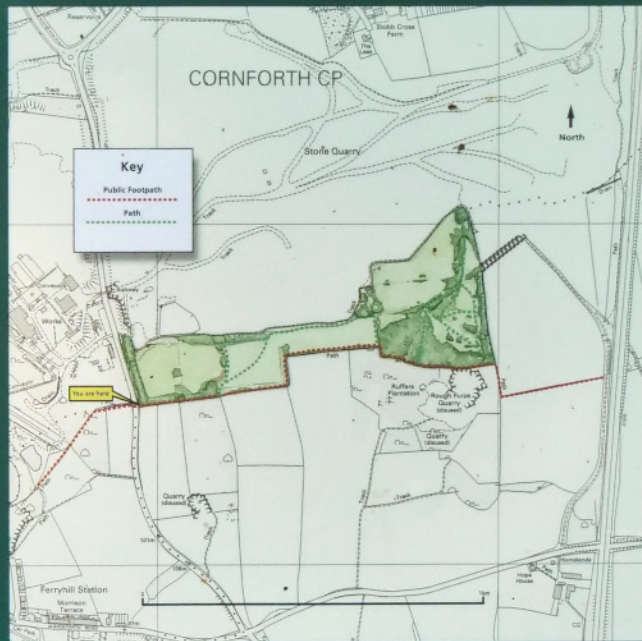
Between 1982-90, fourteen acres of grassland in this area was saved from proposed quarrying by moving enormous turfs from one part of the site and re-laying them in another.

Natural England and Tarmac together manage the reserve to maintain and enhance its wildlife interest.

Please help us to look after the reserve by following the Countryside Code and, in particular, keep dogs under effective control, as livestock may be grazing.

We hope that you enjoy your visit.

Please see the back of this sign for further important information or call Natural England on 01915 860 004.



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Thrislington Plantation NNR

west of A1,
opposite Bishop Middleham



Sunderland

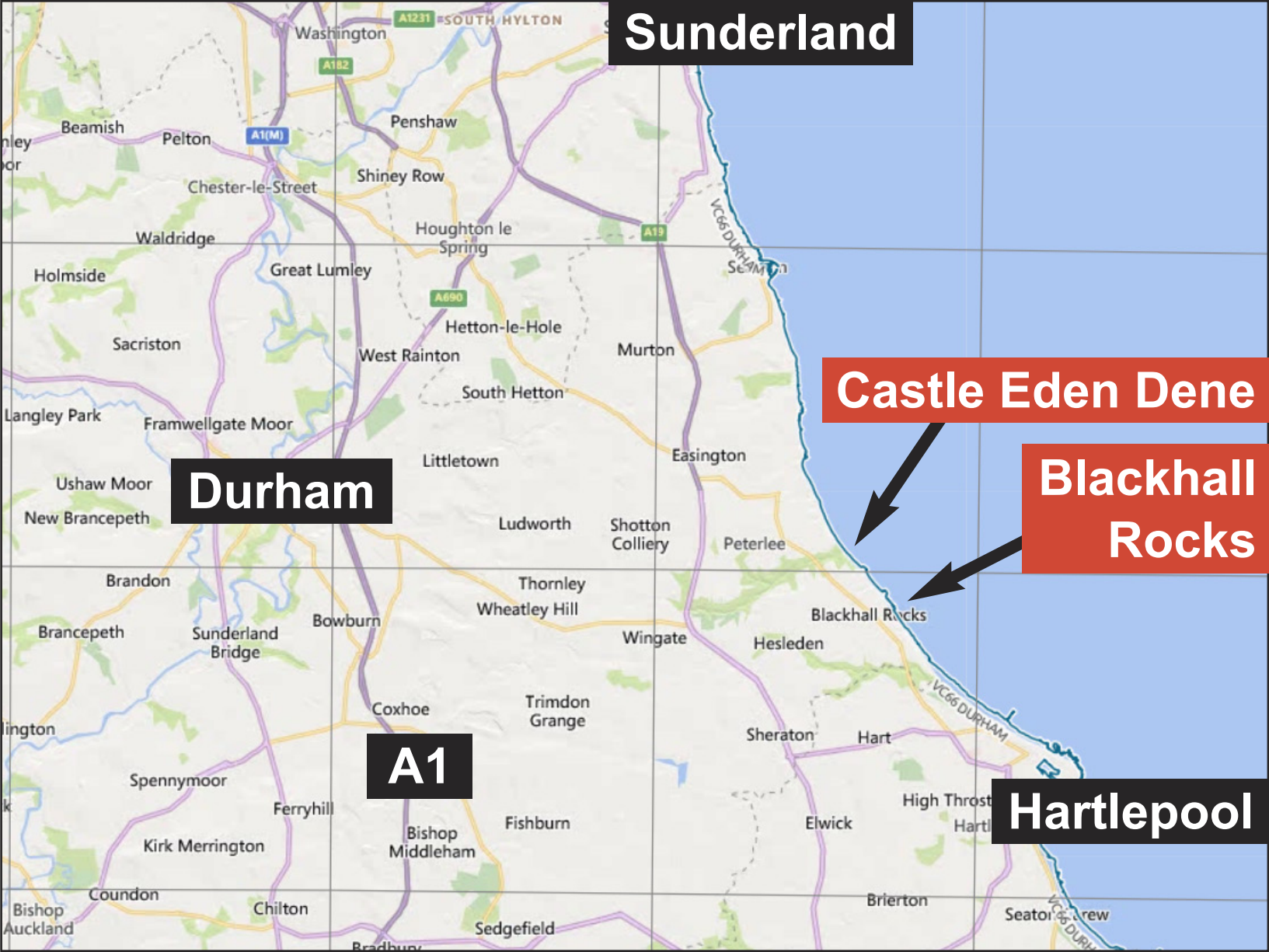
Durham

A1

Castle Eden Dene

**Blackhall
Rocks**

Hartlepool



Welcome to

Castle Eden Dene National Nature Reserve



This mysterious tangled landscape of trees, rocky outcrops and steep cliffs is a survivor of 'the wildwood' that once covered much of Britain. Please respect the site and walk carefully along the paths.

For further information please call the site office on 0191 5860004



Bylaws are in force that prohibit: Motorbikes and Cycles, Camping or Lighting Fires, Any Guns or Firearms, Dog Fouling and Dropping any Litter. These bylaws are strictly enforced. Please report any illegal activities to the site office.

This site has been notified as a Site of Special Scientific Interest under Section 28 of the Wildlife and Countryside Act 1981 (as amended). It is an offence, without reasonable excuse, intentionally or recklessly to destroy or damage any of the flora, fauna, or geological or physiographical features by reason of which the land is of special interest, or intentionally or recklessly to disturb any of those fauna. A person found guilty of any such offence may be prosecuted and liable to a fine not exceeding £20,000.



Dene: *narrow wooded valley*

Durham's most famous feature runs four miles from Castle Eden to the coast at Blackhall Rocks

Castle Eden Dene

reaches the coast



NBA habitat

Denemouth Railway Viaduct



NBA habitat



NBA habitat

BLACKHALL ROCKS
view south from Denemouth towards Hartlepool

NBA habitat



Michael Caine at Blackhall Rocks
Get Carter, 1971



**Evidently not
chasing butterflies**

All together now!

***Not a lot
of people
know that***

NBA id features

become more evident further north,
notably in Scotland

Upper forewing

- White spot more reliable
- Reduced lunulation (orange spots), male

Underside

- Reduced pupilation (black spots)
- Paler



NBA White Spots
male (left)
& female
The best I could find!



**Male upper-forewing:
reduced lunulation**



**ZERO
lunulation**

**Strongly
marked
female**





NBA: reduced pupilation and paler than **BA** (right)



**NBA, reduced pupilation, on
Bloody Cranesbill, county flower of Northumberland**

**NBA male (right)
courts female**





**Another difference: NBA lays on
UPPERSIDE of Rock-rose leaf**



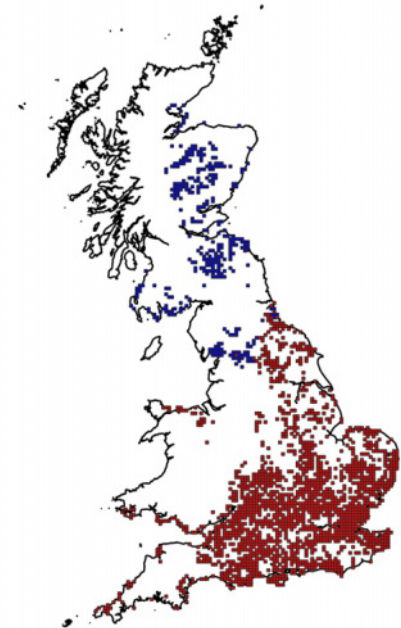
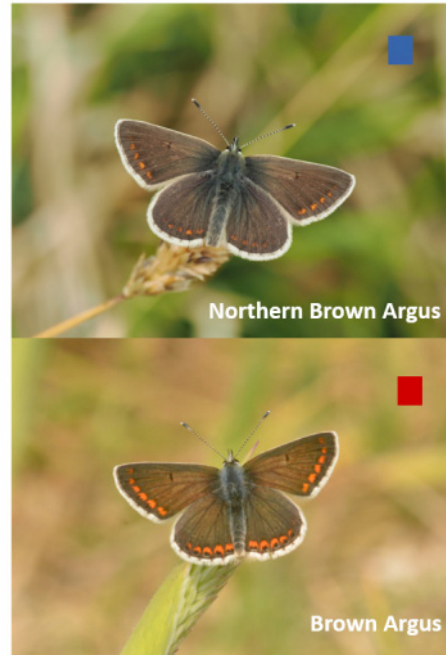
**BA & NBA genetics
now such a hot topic
that York University
are offering a PhD**

PhD

University of York
October 2024

Department of
Biology

Genetic
consequences
of range shifts,
induced by
climate change,
in *Aricia*
butterflies



UNIVERSITY
of York



Butterfly
Conservation

**So my personal
GB tally stalls at
57 varieties,
plus hybrid NBA**

Other Arguses



Brown



Scotch (a Brown)



White



Southern – Canaries



**Finally, a proper Northern Brown Argus
from Scotland – not my photo, obviously**

Next year?

Perhaps a trip to Scotland,
to raise my GB total from
57 & half varieties
to the full 58

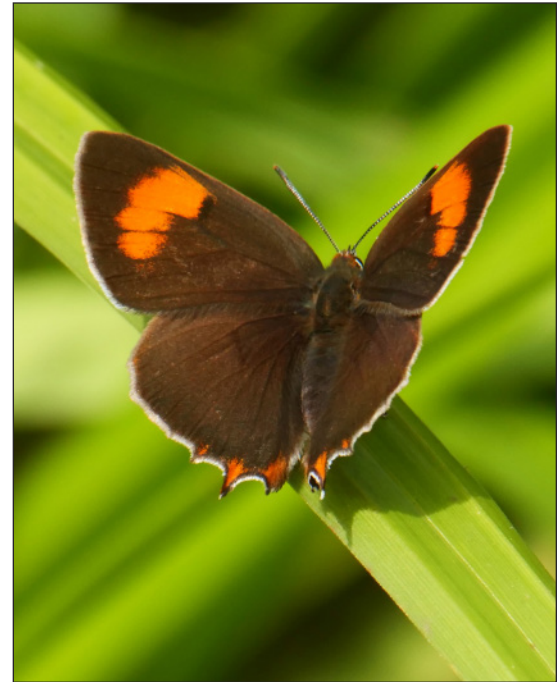
British Isles set of **59** needs
Ireland's **Cryptic Wood White**

**My other
highlights
of 2023**



Black-veined Whites,
Hutchinson's Bank, Jun 2

Brown Hairstreak bonanza



Bookham, Aug 7: fresh female
As reported in Skipper by Marian & Stephen



Brown Hairstreak males:
Willowherb (above) &
Creeping Thistle



Meadow Brown & Wasp Spider

Pewley Meadows

Aug 20



Hairy Hawker

caught in spider's web

Wildwood (derelict) Golf Course,
Alfold, May 25, 2023



HANGING BY A THREAD

**Struggles for
five minutes**



Free at last!