



Several countries across Europe are already home to herds of tauros

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COWS COME HOME

Tauros are the closest thing to the extinct aurochs. And they are coming to the UK.

By JAMES FAIR



The grasslands of Croatia's Lika Plains have been grazed by tauros since 2014



Long horns act as a defence against predatory wolves

IN 2022, A FILM CREW working on the Lika Plains near the Adriatic coast of Croatia picked up some remarkable behaviour. A small herd of aurochs had been released into the area a few years earlier, and thermal-imaging video footage showed the bulls responding to the threat of a pack of wolves by forming a semi-circle and facing outwards with their fearsome horns to the front.

Cows and calves sheltered behind this defensive shield, along with a group of wild horses, including a foal.

Ronald Goderie, a Dutch ecologist who has been closely involved in the European rewilding movement for four decades, says there is historical evidence of aurochs protecting themselves in this way, and of other species taking advantage of it. "That's what we had heard, but it had never been filmed," he adds. "It's a semi-circle with cows and wild horses behind it, and the wolves outside showing a lot of aggression."

The footage demonstrated how the release of the aurochs into this part of Croatia was beginning to recreate interactions between megafauna that have not been seen in Europe for hundreds, if not thousands, of years. It

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showed just how far rewilding has come in the past two or three decades. And it revealed that aurochs - a species whose last surviving individual died in 1627 - were playing their part in creating this new, wilder continent.

THESE SAME ANIMALS COULD BE coming here to the UK - to the Isle of Arran in the Firth of Clyde, to be precise. And while they're not going to be hunted by wolves, it will be intriguing to see how they behave and what impact they have when they arrive.

But first, let's rewind. Because as you might already know, the aurochs - a wild bovid from which all domestic cattle are

descended - went extinct nearly 400 years ago when the last, lonely female died in the Jaktorów Forest in Poland. If that's the case, how can they be bellowing again not just on the Lika Plains, but also in the Iberian Highlands east of Madrid, the former military training area of Milovice in the Czech Republic, and the De Maashorst reserve in the Netherlands?

The answer is that they haven't been cloned - they've been brought back by 'back-breeding' from primitive domestic cattle. Scientists led by Goderie identified six breeds from Italy, Portugal and Spain that they would use in order to produce an animal that was as close in appearance to the original aurochs as possible. Since this is not



A still from footage of tauros responding to the threat of wolves

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in any real sense the actual, original aurochs, they have given it the name ‘tauros’ (*taurus* is both the Greek and Latin word for bull, and *os* is Dutch for cow – similar to our word ox), but most rewilding groups continue to mostly use the term aurochs.

Goderie is part of a movement that believes one way to restore ecosystems in Europe is to bring back low densities of animals that replicate how large grazing herbivores such as aurochs and wild horses called tarpans would have behaved. Until now, these rewilders, who also inspired Charlie Burrell and Isabella Tree at Knepp, have used various cattle breeds such as Highlands, belted Galloways and longhorns.

It is a philosophy markedly different to the more predator-focused rewilding philosophy that emerged from the USA in the 1990s, where wolves and other charismatic carnivores are believed to aid

the recovery of forests by creating corridors of fear and dispersing deer and other herbivores, permitting regeneration.

EUROPEAN REWILDERS BELIEVE that predators have a part to play, but they are not the main focus of their efforts – indeed, Goderie makes the point that on mainland Europe, many predators such as wolves and lynx are returning without human intervention. Across Europe, farmers are abandoning one million hectares every year – marginal land that’s not economically viable to farm any longer. It’s estimated that 30 million hectares – that’s an area nearly the size of Germany – of agricultural land, grasslands and semi-natural habitats will no longer be farmed or occupied by 2030.

In order to maintain and enhance wildlife in this changing landscape, this rewilding

philosophy says it’s important to bring back grazing animals – bovids especially – because they create micro-habitats that increase plant and invertebrate biodiversity, resulting in knock-on impacts for larger species.

An obvious example is how cow dung becomes food for beetles and flies, and the latter in turn become food for bats, birds and badgers, while the way cows feed produces a diverse sward length that encourages invertebrate diversity. More primitive cattle breeds, including the aurochs, do something more – they disturb grasslands by creating so-called ‘bull pits’ in the ground that can then be colonised by pioneer plant species and ground-nesting insects.

According to Goderie, bulls make these pits as “fitness rooms”, building up their neck muscles by ramming their horns into the ground. This behaviour is only likely to take place where you have cattle in natural herds and a number of competitive bulls. Goderie refers to one area of the Netherlands where there was a mixed herd of Heck cattle and the bulls were culled. “You can easily spot and measure the bull pits on Google Earth,” he says, “and after they were culled, they have all disappeared. That’s the role of testosterone in the landscape.”

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A muscular male pounds at the earth, forming a ‘bull pit’

“Grazing animals create micro-habitats that increase plant and invertebrate diversity”

STEP BACK IN TIME

History of the aurochs

● The aurochs (*Bos primigenius*) is the wild ancestor of all domestic cattle (*Bos taurus*). Scientists recognise three subspecies that were originally found in Europe and the Middle East, India and North Africa.

● Males were probably black with a paler dorsal strip, while females were brown. Males and females differed greatly in size and weight, with the largest males tipping the scales at around 1-1.25 (maybe up to 1.5) tonnes – it was one of Europe's heaviest land mammals.

● They were a woodland, woodland edge, grassland and wetland species. Extensive loss of woodlands and overhunting were the two main factors in their demise. By the 13th century, aurochs were only found in Poland, Lithuania and some parts of modern-day Bulgaria and Romania, and by the early 1600s, the last known herd was restricted to the Jaktorów Forest in Poland.

● The famous cave paintings of Lascaux in southern France depict aurochs. One painting, in the Hall of the Bulls, of a bull auroch is the largest cave painting of an animal ever found at more than 5m long.

The Lascaux cave paintings were discovered in 1940



Herds are bred to be well-adapted to their local climate



It's hoped that wild tauros will become self-sustaining



“They are not a very vocal animal, and signs of aggression are likely to be shown in their head position”

Heck cattle are, if you like, the elephant in the room when it comes to resurrecting the aurochs. It's a breed that originated from Germany's Weimar Republic of the 1920s and 30s in an attempt to back-breed aurochs, and is therefore associated with the Nazi philosophy of eugenics. This ethically dubious attempt to recreate the extinct cattle is what motivated Goderie to try again.

DEREK GOW, ONE OF THE MOST influential British rewilders, previously had a small herd of Heck cattle at his farm in Devon, but he got rid of them because they were dangerous. “The big mistake we made was putting them into 120 acres of woodland and pasture and they

just decided they wanted to live their own lives,” Gow says. “Walking there became increasingly hazardous. I was charged by a bull once, and it really meant it.”

Gow still has cattle (and one bull that “spends most of his time sleeping”), but there's much less of the digging and gouging that helps to initiate other natural processes. He maintains that just by producing their dung (as long as the cattle are not treated with anti-parasitic drugs such as ivermectin), they provide a benefit for other species.

It seems that the aurochs, or tauros, do not have such a grumpy streak as the Hecks. The 1,300ha De Maashorst reserve in the Netherlands has a herd, and at weekends the place is populated with members of the public on mountain bikes and e-bikes



De Maashorst reserve must meet the needs of both the recreational visitors and the grazers

and in wheelchairs, and there have been no alarming incidents.

It's important, Goderie says, to have good herd management and to communicate to visitors how to interpret behaviour. They are not a very vocal animal, and signs of aggression are likely to be shown in their head position. “You should keep at least 25-50m away from natural herds and look at what they are doing. If they scrape the ground with their hooves and wiggle their heads, somewhere deep within the primitive part of your brain, it's saying, ‘Okay, this is dangerous, turn back.’”

SO WHERE AND WHEN COULD WE see these prehistoric giants weighing as much as 1,000-1,250kg – equivalent to a medium-sized car – in Britain? The answer lies in the south-west corner of the Isle of Arran, where Cumbrian David Bennett owns the 250ha Drumadoon Estate.

“Drumadoon has been settled for the past 10,000 years since the Loch Lomond ice sheet retreated and it's been farmed for the past 6,000,” Bennett says. “People have left a

mark on the land with monuments and there are sea caves filled with Celtic and Norse inscriptions going back to Neolithic times.”

Part of the Northwoods Rewilding Network, Drumadoon has been largely left to its own devices for the past 30 years. It's a mix of coastline, woodland, heather moorland and scrub, and Bennett believes that what it needs now is a small herd of large herbivores to kick start some more productive ecological processes.

“We know aurochs were in Scotland, there's evidence of them as far north as Orkney until the early Bronze Age [about 3,000 BC],” he says. “We think there's also a possibility they were roaming on Arran alongside the earliest settlers.” It seems likely, indeed, that those aurochs on Orkney were taken there by humans, the first part of a global domestication process that eventually produced an animal that has shaped human civilisation and culture almost more than any other.

David is working with a nature restoration technology company called CreditNature, which is hoping to encourage corporate investment in rewilding by

issuing what it's calling Tauros Impact Tokens. Speaking in Oxford in early June, CreditNature's Sophy Jones explained how these tokens were a “digital asset that represents a fractional stake in the establishment of a tauros herd that delivers measurable ecosystem impacts”.

You may be wondering why company directors would decide to spend a pot of money on helping Bennett acquire a small herd of prehistoric cattle. The answer is that there is growing pressure for companies to account for their impact on nature under rules being developed by the global and government-supported Taskforce for Nature-Related Financial Disclosures. Alongside this, there is an evolving interest in funding nature restoration as a way for companies to demonstrate their commitment to good corporate governance.

Much needs to be done before the aurochs finds its way back to Britain after an absence of some 5,000 years. But if and when it does, then another small – well, a tonne or more of flesh, bone and fearsome horns – piece in the jigsaw of our ancient, natural fauna will have fallen back into place. **TV**