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EDITORIAL

The state of nature-reporting, Scotland 2024

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A significant proportion of this issue of *The Glasgow Naturalist* is occupied by a Supplement of 11 articles based on the proceedings of the GNHS Scottish Herpetological Conference, which was held in the Advanced Science Centre of the University of Glasgow on 3rd June 2023 as part of the Glasgow Science Festival. A theme running through most of these articles is anthropogenic influences on our herpetofauna. These include positive influences, such as the many man-made bodies of water that expand available habitat for amphibians (Downie *et al.*, 2024); negative influences, such as the threatened weakening of wildlife protection laws (Tse-Leon, 2024); and "the jury is out" influences, such as the consequences of beaver (*Castor fiber*) re-introductions (Wilson *et al.*, 2024). Whilst all ten of Scotland's native amphibians and reptiles are allocated to the "Least Concern" category in the IUCN Red List, five species are reported as declining across their global range (IUCN, 2024) and one of these – the natterjack toad (*Epidalea calamita*) – is endangered in Scotland (McInerny & Minting, 2016). There is therefore no cause for complacency.

Members will be aware that the previous issue of the journal also featured a major Supplement based on conference proceedings and, like the present issue, consisted of around 100 pages, which is the target number. Apart from one rejected paper, all non-conference articles received by the submission deadlines for both issues were ultimately accepted for publication. This indicates that the submission rate for normal articles was low over the past two years, and in fact there has been a general decline in the submission rate since the 2019 issue, which contained 25 normal articles. However, as 14 to 20 articles were submitted for each of the 2014-2018 issues, there seems to be no long-term trend.

The 14 non-conference articles in this issue demonstrate the usual taxonomic diversity, ranging from Cyanobacteria (blue-green "algae") through turtles (Testudines) to natural history organisations (Kelvin Biodiversity Network and Glasgow Museums Biological Records Centre). Also as usual, the dominant group represented is the Insecta, the subject of six articles, which is not surprising when *ca.* 14,000 of Scotland's total of *ca.* 24,000 invertebrate species are insects (Buglife, 2024).

It can be taken for granted that scientific articles, such as those published in *The Glasgow Naturalist*, aim to achieve the highest levels of factual accuracy. Unfortunately, this appears not to be the case for media reporting of science in general and natural history in particular. Two recent press articles typify this point. On 4th March of this year, *The Herald* included a full-page article on swifts (*Apus apus*) illustrated with a large photograph of a swallow (*Hirundo rustica*) clearly displaying its unmistakable red forehead and throat (Dick, 2024). Later in the same month, a *Herald* article on Arctic charr (*Salvelinus alpinus*) was illustrated with a mislabelled photograph of a brown trout (*Salmo trutta*). This article also stated that Arctic charr "is currently under threat from invasive species", specifying these as being (amongst others) "non-native vendance" [*sic*] (*Coregonus albula*), "non-native pike" (*Esox lucius*) and "non-native perch" (*Perca fluviatilis*) (Nutt, 2024). This is misleading because vendace are widely accepted as native to the south of Scotland, i.e. they arrived there post-glaciation by natural dispersal, and pike and perch are probably also native to the south of Scotland, though this is more controversial. The current presence of these fish species further north in Loch Earn and other lochs inhabited by Arctic charr is a result of human intervention, and in that sense alone they are not native to these particular lochs (Colin Adams, pers. comm.). The article also failed to note the important points that vendace is Scotland's and the U.K.'s rarest freshwater fish, and that it was deliberately introduced into Loch Earn in an attempt to form a conservation refuge population following the disappearance of the fish from its two historical Scottish locations in Dumfriesshire (Lyle *et al.*, 2019) – hardly the credentials of an invasive species.

Another casualty of media mangling over the past year was the latest *State of Nature Scotland* report (Walton *et al.*, 2023). Newspaper articles have repeatedly misrepresented the findings of this report. For example, according to Micklewright (2023) "One in nine species threatened with extinction is just one of its shocking conclusions." The unqualified mantra that one in nine, or 11%, of Scottish species is threatened with extinction has been widely disseminated by the press and various

organisations (Williams, 2023; Dick, 2024; Ross, 2024; Loch Lomond and the Trossachs National Park, 2024; RSPB, 2024). None of these sources explains that this does not refer to 11% of all Scottish species, which would be truly shocking, but to 11% of the 7,508 Scottish species assessed using IUCN Red List criteria. As Scotland has an estimated total of 60,000 species (excluding microbes) (NatureScot, 2021), the report actually implies that 1.4% of all species are at risk of extinction, not the more sensational 11%.

There is, of course, much good, accurate reporting of natural history subjects – no need to declare a nature-reporting emergency yet – and it is perhaps understandable that journalists (and picture editors) with no background in science and with copy deadlines to meet sometimes get things wrong. They do, however, have as much a duty of care to the truth as naturalists and other scientists, and especially so when they are reaching a much wider readership.

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