Rapid Communication

The Red-vented Bulbul *Pycnonotus cafer* (Linnaeus, 1766) – a new invasive bird species breeding in Europe

Jacek J. Nowakowski* and Beata Dulisz

Department of Ecology and Environmental Protection, University of Warmia and Mazury in Olsztyn, Olsztyn 10-727, Plac Łodzki 3, Poland

*Corresponding author

E-mail: jacek.nowakowski@uwm.edu.pl

Abstract

The Red-vented Bulbul *Pycnonotus cafer* (Linnaeus, 1766) is an Asian bird species classified as one of the hundred most invasive species in the world. The breeding of the species (adults feeding the fledglings) was observed in 2018 in Costa Calma (Fuerteventura, Canary Islands, Macaronesia). This is the first breeding record for Europe of this species. The first observation of the species was made in Corralejo (Fuerteventura) in 2003. In the period 2013–2018, an important range expansion of the species was recorded in Fuerteventura. In 2018, the species was also recorded in Valencia (Spain) for the first time.

Key words: alien birds, animal invasion, introduced species, introduced birds, global invasive species, Canary Islands avifauna

Introduction

The occurrence of bird species outside their natural range may be an accidental natural occurrence, resulting from widening their geographical range and adaptation to new environments, or it may be the result of escape from breeding places (zoological and botanic gardens, wildfowl collection, pets in captivity) or an intentional introduction (Shieh et al. 2006; Brochier et al. 2010; Fàbregas et al. 2010; Cassey and Hogg 2015; Canning-Clode 2015). Accidental escapees and single individuals usually survive in the environment quite briefly, and they are not likely to breed in the wild. Local populations, fairly persistent and increasing in number, may be formed in the case of pairs or groups of birds, in favorable circumstances that allow nesting and feeding young to reproductive age. Sol et al. (2002) indicated that the urban environment is conducive to the success of introduced species, and the features of this species often include larger brains. Innovation and plasticity of behavior allows species to adapt to new environmental conditions, develop new food-acquiring techniques and use various food resources. In European cities and natural habitats of Europe, there are more than a dozen introduced species that have developed breeding populations, e.g. waterfowl (Canada Goose *Branta canadensis*).
The Red-vented Bulbul *Pycnonotus cafer* breeding in Europe


Recent introductions of exotic species to Europe, and particularly to the Mediterranean area, have resulted in rapid population increase and range expansion, leading to conflicts with native species and human settlements. This paper describes the establishment and breeding of a Red-vented Bulbul, *Pycnonotus cafer*, in Western Spain, with potential implications for the conservation of native avian species and human settlements.

**Materials and methods**

The Red-vented Bulbul is a non-native species of the Pycnonotidae family, originating from South Asia. It is an adaptable species that can colonize a variety of habitats, from urban areas to natural woodlands. The species is known for its rapid expansion and has been introduced to various regions around the world, including Europe.

**Results**

On 27.07.–2.08.2018, we watched a pair of Red-vented Bulbul *Pycnonotus cafer* (Linnaeus, 1766) adult birds with three fledglings in the Costa Calma area of Tenerife, Spain. The birds were observed to be actively feeding their young, indicating that they were successfully breeding. The presence of the Red-vented Bulbul in this region highlights the potential for further population growth and has implications for local biodiversity and human-wildlife interactions.
The Red-vented Bulbul *Pycnonotus cafer* breeding in Europe


Figure 1. *Pycnonotus cafer* – A, B – male, C – a pair, D – a family. Photos by B. Dulisz.

town (Fuerteventura, Canary Islands, Macaronesia) in the gardens of SBH Monica Beach Resort and SBH Costa Calma Palace (28°09′41.7N; 14°13′33.7W). The male often sang, making a characteristic sound with repeated phrases. Adult birds regularly fed the fledglings. The coloration of the birds was typical of the subspecies ssp. *cafer / haemorrhousus* (del Hoyo et al. 2005; Shirihai and Svensson 2018), with a distinctly cut-out black hood on the head, red undertail-coverts and whitish upperside-coverts; a characteristic plumage of the breast and sides of the neck, where the feathers had distinct narrow, bright edges and wide, white ends of the bottom parts of the rectrices (Figure 1A–D). The birds were observed in the treestands (gardens) of a holiday resort composed of various trees: palm trees, fig trees, oleanders, yuccas, acacias and shrubs, and often visited the dry shrubs, typical for semi-arid vegetation of the open landscape of the island, located outside the resort’s gardens.

Discussion

This is the first report of this species breeding in the Palearctic west of the Persian Gulf. The first record of the Red-vented Bulbul from Fuerteventura, Canary Islands was on 28.11.2003 in Corralejo, the next observations took place on 29.07.2006 in the same region of the island (https://avibase.bsc-eoc.org). There were 48 observations of 1 to 5 birds between 2013 and 2019 from Fuerteventura (https://avibase.bsc-eoc.org), but the species has not thus far been recorded as breeding – there are no records on the list of observations in the database. In 2013, it was recorded in Fuerteventura only in one region (La Lajita), in 2014, in two (La Lajita, Costa Calma). In
The Red-vented Bulbul *Pycnonotus cafer* breeding in Europe


Figure 2. The distribution of the Red-vented Bulbul on Fuerteventura and Spain; years – information of first observations.

2015, one bird was observed in Embals a de los Molinos, in 2016, the birds inhabited also Tarajelejo, and in 2017, the next regions – La Pared and Pajara. In 2018, it was also observed south from Costa Calma in Playa Sotavento (Figure 2). On 25.03.2018, the Red-vented Bulbul were observed also in Valencia (Spain): one and four individuals in two separate observations (https://avibase.bsc-eoc.org) – Figure 2.

Probably, the first birds on Fuerteventura are escapees from captivity or introduced birds. Bulbuls are popular birds kept in captivity, e.g. the Red whiskered Bulbul *Pycnonotus jocosus* (Linnaeus, 1758) is a common pet bird in Thailand (Mongkolphan et al. 2017). Shieh et al. (2006) reported that the Pycnonotidae, Sturnidae, Timaliidae and Cacatuidae families has significantly high probabilities of escaping from captivity in Asia, in comparison to other birds families. Escape from captivity, especially from zoos is one of the most common ways of spreading alien species of birds (Fàbregas et al. 2010; Cassey and Hogg 2015). One of the first documented information on Red-vented Bulbuls in Fuerteventura in wild is the observation of birds in Corralejo (2003) and in the zoological garden of La Lajita (2013). It seems likely that they started to create a breeding population around 2014–2015, when 4–5 individuals were observed in La Lajita. In the following years, they began to settle in other available areas. The species is classified as a sedentary species, showing possible movements depending on environmental conditions (del Hoyo et al. 2005). Thibault et al. (2019) reported that in New Caledonia, tropical archipelago of the South Pacific Ocean, the Red-vented Bulbul, which was introduced in 1983, expanded its range mainly in urban and suburban areas.
In Fuerteventura, which is a semi-arid island, there are not many habitats available for this species; they are limited only to cities and holiday resorts with gardens and parks, but also may inhabit agricultural plantation.

The situation may be different in the continent (Spain), where the species may spread in more typical, dry deciduous woodlands or in urban tree stands. In Spain in Tarifa (Cadiz) another representative of Pycnonotidae family was noted as breeding, the Common Bulbul *Pycnonotus barbatus* (Desfontaines, 1789), first reported in 2013 (Van der Berg and Haas 2013). The Red-vented Bulbul is classified as the world’s worst invasive species in the IUCN-ISSG list (Thibault et al. 2018). Invasive species are considered to be one of the major threats to native biodiversity, and the impact of invasive alien species is a key component of global change of biodiversity (Sala et al. 2000; Simberloff et al. 2013). The Red-vented Bulbul often hybridizes with White-eared Bulbul *Pycnonotus leucotis* (Gould, 1836) and other species of the genus (Roberts 1992; Grimmett et al. 1998) and is competitive in relation to other species (Thibault et al. 2019). Similar to the Common Myna, the Red-vented Bulbul is aggressive and may outcompete native species (Navjot et al. 2011). These bulbuls can affect the reduction of reproductive success of critically endangered Tahiti Flycatchers *Pomarea nigra* (Sparrman, 1786) (Blanvillain et al. 2003).

It is a generalist and opportunistic species; its diet includes fruits, nectar, buds, invertebrates and occasionally vertebrates. In Asia, this bird often comes into conflict with humans, as a species that damages fruit orchards (e.g. bananas and other soft fruits), flowers, beans, tomatoes and pea crops (Bhatt and Kumar 2001). They may also help in the spread of seeds of other invasive plant species (Brochier et al. 2010).

In an analysis of alien bird species impacts (Shirley and Kark 2009), species in the family Pycnonotidae were found to have moderately negative economic and biodiversity impacts. Generalist species from an Indo-Malayan native range such as the Red-vented Bulbul, particularly those forming flocks, were associated with higher impacts.

**Acknowledgements**

We would like to thank the Liviu G. Pârâu, Piotr Tryjanowski and two anonymous reviewers for their insightful comments and suggestions which led to a significant improvement of the paper.

**References**


