



Flight and flocking places birds at risk of colliding



trees in city centres and other brightly lit areas of human activity – roosting close to artificial light is unusual among British birds.¹ The roosts may comprise thousands of birds.

Nineteen wagtails were collected and four of these, some in first-year plumage, were submitted to the APHA Shrewsbury Veterinary Investigation Centre for examination. Postmortem examination revealed that the birds were in reasonably good body condition with haemorrhage in various tissues, including lungs and air sacs, indicative of blunt trauma. Avian influenza virus was not detected. Histopathological examination of multiple tissues revealed no evidence of other disease.

The building was visited on an evening five weeks after the incident was reported. Approximately 100 pied wagtails were found roosting in two trees at the building entrance with the greatest concentration of birds closest (within 2 m) to the brightest glazed area near the door. A single bird was on the ground. This individual was able to run and evade capture; however, it was unable to fly, suggesting that it was injured. Bird faeces were seen in a compact distribution on one window only, opposite the roost site.

Based on the findings of internal haemorrhage consistent with blunt trauma, exclusion of alternative diagnoses, the scene investigation, and the known attraction of this species to bright lights, we concluded that a flight error was the likely cause of fatal collisions against a window. We suggest that the birds collided in flight because they were seeking a roost site close to the light sources in the foyer but did not see the intervening windows, or they were dazzled by the lights as they flew into the nearest tree by the entrance.

The owners of the building have been advised on ways to try to prevent the losses, principally by using covers over the target windows at critical times of the year, to enable the birds to see the windows as solid structures and avoid them.

Due to their roosting preferences, deaths of pied wagtails around winter roosts are likely to recur. Flight and flocking places birds at risk of colliding, particularly if visual cues are obscured or misinterpreted, for

Species, numbers affected, location	Cause of mass mortality, comments
30 greylag geese (<i>Anser anser</i>), Scotland ²	Stormy weather, lightning and large hailstones
3050 birds of 39 species, Essex ³	Severe hailstone trauma
4 pink-footed geese (<i>Anser brachyrhynchus</i>), Norfolk ³⁻⁵	Intense updraughts associated with flocks flying in storm fronts suspected
12 blackbirds (<i>Turdus merula</i>), Cumbria ⁶	In-flight collisions secondary to intoxication (suspected ethanol toxicity)
88 starlings (<i>Sturnus vulgaris</i>), Cumbria ⁷	Traffic collisions in birds from a roost close (within 2 m) to a busy road
40 starlings, Scotland ⁸	Birds seen to fly directly into car – flight error by lead bird suspected
69 starlings, Somerset ⁹	Fatal flight error, predatory bird attack or mistaking shingle for reed beds often used for roosting
Starlings, 12 incidents over 21 years, mortality 2–80+ ¹⁰	Starlings, usually juveniles in flocks, entering bodies of water and drowning

WILDLIFE

Suspected collision trauma deaths in pied wagtails

THE APHA Diseases of Wildlife Scheme (DoWS) investigates mass deaths of wildlife as a priority and in October 2019 was called to investigate a report from the public of multiple pied wagtails (*Motacilla alba*) found dead or dying on the ground around the entrance (brightly lit from the interior) to a large building in the Midlands.

Outside the breeding season, pied wagtails often communally roost in

example, if the flock is startled, if the weather changes suddenly, or if the lead birds in a flock make fundamental flight errors. APHA DoWS, the Institute of Zoology and others have previously reported on such events (Table 1).

It is important that these incidents are investigated to determine the cause of death and exclude notifiable disease such as avian influenza and, during the mosquito flight season, West Nile virus infection. Establishing the aetiology provides evidence to alleviate public concerns, reduces speculation on theoretical causes and it may, as in this incident, lead to suggestions for reducing the risk of reoccurrence.

J P Duff, chair, APHA Diseases of Wildlife Scheme

APHA Penrith, Cumbria CA11 9RR

email: paul.duff@apha.gov.uk

M Richey, J P Holmes, veterinary investigation officers

APHA Shrewsbury, Kendal Road, Shrewsbury SY1 4HD

C Bianco, pathologist

APHA Lasswade, Bush Loan Road, Penicuik, Midlothian EH26 OPZ

K P Duff, volunteering and community coordinator

Coventry University, Coventry CV1 2TU

B Lawson, senior research fellow

Institute of Zoology, Zoological Society of London, London NW1 4RY

References

- 1 Anon. City roosts for pied wagtails. 2015. www.bbc.co.uk/earth/story/20150115-city-roosts-for-pied-wagtails (accessed 8 June 2020)
- 2 Anon. SAC Veterinary Services, wild birds. *Vet Rec* 2007;160:610
- 3 Duff JP. Suspected wild bird mortality in Britain due to stormy weather and hailstones. *Vet Rec* 2007;160:884
- 4 Elkins N. Weather and Bird Behaviour. 1983. T & AD Poyser, Calton. pp 186–7
- 5 Thrower W. Norfolk Bird Report. 1980, vol 25, pp 102–4
- 6 Duff JP, Holmes JP, Street P. Suspected ethanol toxicity in juvenile blackbirds and redwings. *Vet Rec* 2012;171:453
- 7 Duff JP. Mass mortality of starlings roosting by a roadside. *Vet Rec* 2013;173, 613–4
- 8 Roberts RJ. Mass mortality of starlings. *Vet Rec* 2013;174:101–2
- 9 Barlow A, Sparkes A. Mass mortality of starlings in Somerset. *Vet Rec* 2014;178:202–3
- 10 Lawson B, Duff JP, Beckmann KM, *et al*. Drowning is an apparent and unexpected recurrent cause of mass mortality of common starlings (*Sturnus vulgaris*). *Sci Rep* 2015;5:17020

doi: 10.1136/vr.m2272