

Barn swallow *Hirundo rustica* nest attached to the plastic body of a video surveillance camera

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The Barn swallow *Hirundo rustica* nests in urban and rural areas on buildings (houses, barns, other rural buildings, etc.) and structures (bridges, viaducts, etc.) where it builds the nest in a sheltered position (inside rooms and under roofs, porticoes, cornices, balconies, etc.), sometimes exploiting the presence of projecting architectural elements and various supports (lamps, various types of cables and tubes, hooks, etc.) (von Vietinghoff-Riesch 1955, Møller 1983, Cramp 1988, Rassati *pers. obs.*). Mud and plant fragments are used to build the nest, which is attached to substrates generally assuring strong adhesion due to their rough texture (concrete, stone and brick walls, wooden beams and objects, etc.). The construction of mud nests is an evolutionary innovation that allowed the occupation of habitats lacking cavities or diggable substrates (Winkler & Sheldon 1993). The choice of the nesting site is based on various factors, e.g. availability of mud for nest construction and of food (particular for the chicks), protection from storms and changing weather conditions, low predator accessibility, high substrate adhesion (Denniston Snapp 1976, Møller 1983, Winkler & Sheldon 1993, Gorenzel & Salmon 1994, von Hirschheydt *et al.* 2006).

During the 2011 breeding period, a pair of Barn swallow reared two broods in a nest built on the back of the plastic body of a video surveillance camera of a bank situated in the central square (Piazza XX Settembre) of Tolmezzo (Carnic Alps, Friuli-Venezia Giulia, 323 m a.s.l.; Fig. 1). The nest was not in contact with the nearby masonry substrates; it was 340 cm above the ground, beneath the portico (height: 355 cm) of a historic building at a distance of 5 cm from the ceiling, 15 cm from the external wall and 18 cm from a beam crossing the portico.

Both the nest's position (back of a video surveillance camera) and the substrate to which it was attached appear to be particular, also according to what is reported in the literature (see for example, Gorenzel & Salmon 1994, Bonvicini & Ornaghi 1999, Giacchini *et al.* 1999, Maranini & Parodi 2002). Monitoring of nests under the porticoes in the city centre of Tolmezzo since the 1980s has never revealed breeding on substrates of that type or position (a nest sus-

pending on a smooth surface with high slope) even though there are various plastic and/or metal elements available (signs, light fixtures, video surveillance cameras, etc.).

The breeding site also seems unusual because there is no excessive competition, due both to the population decline (1980s: 3-4 pairs every year vs 2010: 2-3 pairs every year) and to the presence of a good number of suitable architectural elements and "protrusions" on which to build the nest. The porticoes are not used by the other two Hirundinidae species that breed in the Tolmezzo city centre: the Eurasian Crag Martin *Ptyonoprogne rupestris*, which in the Carnic Alps has begun to breed in synanthropic conditions since 2000 (Rassati 2003), and the House Martin *Delichon urbicum*.

House martin breeding in recently found nests located between a metal platform and a metal bar of a video surveillance camera in conditions of poor substrate adhesion was attributed to compensation behaviour (Ferri *et al.* 2016).

In the case reported herein, there is no strong competition for nest sites and the position (beneath a portico) is the same as that of the other nests; hence it does not make the conditions for breeding substantially more favourable. Therefore, it is plausible that a pair of Barn swallows exploited a substrate situated in an excellent position (protected from bad weather and marked temperature changes) and in a favourable area (central zone with porticoes) where one of its main predators, the domestic cat (cf. Møller 1983), is virtually absent. Moreover, the position, at the back of a video surveillance camera that hid the nest from passers-by, combined with the proximity of a beam crossing the portico that protected the nest on three sides, would seem to favour security and reduce human interference.

Therefore, in the case described here, the species exploited strong adherent material to nest in sites that otherwise would not be usable (Winkler & Sheldon 1993).

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Figure 1. Unusual Barn swallow breeding site. (a): position of the video surveillance camera. (b): close-up of the nest.

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