

## Korta rapporter *Short communications*

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### Barn Swallows *Hirundo rustica* using European Starlings *Sturnus vulgaris* as beaters

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Barn Swallows *Hirundo rustica* are known to use mammals, but also farm machinery, as “beaters” (Glutz & Bauer 1985, Turner 1989). There are also a few reports of swallows using flocks of European Starlings *Sturnus vulgaris* and other ground-foraging birds in the same way (Taylor 1964, Wolinski 1985, James 1991). In this note I describe some ten observations I have done of this behaviour and analyse in what weather situations it occurs. All observations refer to the Revinge area c. 15 km to the east of Lund, southernmost Sweden. Revinge is a military training area dominated by permanent semi-natural grass grazed by large herds of beef cattle, each numbering several hundreds of animals, which are allowed to roam freely over vast areas. Below I first describe the behaviour of the birds and give a brief characterization of the weather situation on each of the observation days. I then compare this commensal association with that between swallows and cattle. Finally, I try to put the observations into perspective by relating how frequently I have observed the association of swallows with starlings to the intensity of my field work in the Revinge area.

*21 August 1981:* Rainy weather, wet vegetation. A flock of 180 starlings forages hectically in the grass below a free-standing maple *Acer* spp. A flock of 50 Barn Swallows flies close above them, catching insects just above the grass and also picking at the grass. The starlings fly up a couple of times but only to settle again nearby. Each time the starlings start foraging again, swallows assemble above them. When the starlings become passive, the swallows

leave them gradually. Shortly after the starlings have left for a large herd of cattle that is grazing a few hundred metres away not a single swallow remains where the starlings had been feeding. Later a large flock of starlings returns and is immediately joined by 5–10 swallows that fly up and down low above the foraging starlings.

*23 June 1982:* Very windy but no rain. 300 starlings forage in a dense flock by running and “wheeling” across the pasture. After a while a single Barn Swallow arrives and starts flying up and down just above the flock. The starlings fly to a new site and are immediately followed by the swallow, which flies in zig-zag against the wind until it reaches the edge of the flock, then lets itself be carried 5–6 m downwind from the flock only to repeat the procedure over and over again. After 75 s two more swallows arrive and start foraging in the same manner. A few times the starlings fly farther out in the grass and each time the three swallows immediately follow.

*20 August 1982:* Very strong wind in the evening. Barn Swallows fly low exactly over the part of a pasture where a flock of starlings forages. Later, another large flock of starlings arrive and settle farther out in the same pasture. A couple of Barn Swallows start flying low above it, following the flock as it “wheels” away from me. The starlings take off several times but each time they settle they are joined by swallows. Poor light conditions make it impossible to count the number of swallows attracted to the starlings.

*21 August 1982:* Heavy showers by noon. A large flock of starlings forages with 4–5 Barn Swallows low above it. The swallows work their way against the wind until they reach the edge of the flock, then drift downwind to the rear end of the flock, etc. After a while the starlings fly into a nearby large herd of cattle and the swallows follow. However, it then becomes impossible to determine whether the swallows exploit the starlings or the cattle, or both.

23 August 1982: Low clouds, rain. A dense flock of starlings forages in a pasture. Five Barn Swallows associate with them, flying low up and down just above the starlings, and are later joined by another 3–4 swallows. Another foraging flock of starlings attracts swallows which flutter so low that they nearly settle in the grass. There are 15–20 swallows where the starlings forage, none over the rest of the pasture. A Kestrel *Falco tinnunculus* puts the starlings on the wing. Somewhat later I discover a concentration of 20 Barn Swallows over a distant part of the pasture – when checked, they turn out to be flying low over a flock of starlings. Later starlings have associated with cattle, with a few Barn Swallows exploiting them; at least three swallows fly back and forth over the front of the starling flock.

17 May 1983: Overcast, windy. Some 20 starlings among grazing cattle. Three to four Barn Swallows are apparently attracted to the starlings and fly up and down over the flock for a while.

5 September 1983: Strong south-westerly or westerly winds, scattered showers. At 13.00 hours a flock of 350–400 starlings in a hayfield, with 25 associated Barn Swallows that fly very low above them. When the starling flock moves, most of the swallows follow. At 18.15 hours, large numbers of swallows are associated with a large herd of cattle, but none with a flock of 400 starlings in the vicinity. Further northwest, there are some 15–20 grazing cattle with an associated flock of starlings and c. 30 Barn Swallows. The swallows may be exploiting the starlings but the situation is difficult to assess.

6 September 1983: Rain and strong winds during the night, followed by showers during the day. A small flock of starlings that forages in a former hayfield has 2–3 Barn Swallows flying low above it. Others are attracted and up to 9 swallows flutter extremely low over the grass against the wind, sometimes almost perching on the grass. The starlings join a large flock farther into the field where 30 Barn Swallows hunt low above them. No swallows anywhere over the rest of the field.

6 September 1986: A bit windy, showers. A flock of starlings settles in a pasture and immediately recruits 10–20 Barn Swallows which fly just above the grass, almost settling, exactly within the area occupied by the starlings. When a heavy shower starts, the swallows disappear. Later in the afternoon I find another flock of starlings in the pasture. A light rain is falling all the time. Barn Swallows flutter 20 cm over the ground, just above the starlings, with no swallows over the rest of the pasture. When the starlings move, the swallows follow them.

21 August 1992: Showers before noon, later heavy rain. Both Barn Swallows and large numbers of starlings forage in a large herd of cattle. Impossible to judge to what extent the swallows use the starlings. When the rain ceases, the swallows start foraging over the pastures without associating with the starlings despite these being very actively foraging.

As seen from the above descriptions, Barn Swallows seem to use starlings as beaters in two conditions: in connection with rain and in strong winds. Such conditions prevailed in the two situations described by Wolinski (1985), one involving Barn Swallows, the other Tree Swallows *Tachycyneta bicolor*; during Taylor's (1964) observation of Barn Swallows feeding on chironomids disturbed from the vegetation by Ruffs *Philomachus pugnax*; and the two instances of Barn Swallows associating with starlings described by James (1991). In both conditions, i.e. strong wind and rainy weather, the density of airborne insects is likely to be low, especially if the temperature is also relatively low, which is mostly the case during rain.

The conditions in which swallows associated with starlings at Revinge were roughly the same as those in which they closely associated with cattle. Thus, from 1976 to 1990 I recorded Barn Swallows using cattle as beaters nine times each in strong winds (without precipitation) and in rainy weather, and twice when it was both rainy and very windy. The single note I have of Barn Swallows using farm machinery was likewise on a very windy day when 20 swallows were flying on the lee side of a plough turning over cereal stubble. When feeding in association with cattle, the swallows tended to concentrate around those animals that moved, or moved faster than the others. In the same way as when using starlings as beaters, they turned when they reached the edge of the herd. However, they normally flew somewhat higher, perhaps because cattle disturb insects more effectively than do starlings. Especially when a large herd moved, either voluntarily or was driven, through tall grass, large numbers of swallows (up to 300) sometimes concentrated among and just above the animals. In strong winds, the swallows often fed on the lee side. A few times, both in strong winds and in calm weather with rain or drizzle, however, they were seen fluttering close to the heads of the cattle at the front of the herd.

Both when associated with starlings and when associated with cattle in rainy weather, the swallows quickly left their beaters and dispersed over the pastures if the rain ceased, indicating that both kinds

of commensal association provide less net energy than normal foraging. Also, a few times in wet weather, when there were both foraging starlings and Barn Swallows around and I had expected the swallows to use the starlings, they did not associate with them. It seems, therefore, that using starlings as beaters is only profitable for Barn Swallows in very specific conditions. This likely explains why I have observed the behaviour rather infrequently. Thus, I estimate that during 1976–1990 I spent some 200 days in the pastures at Revinge during the period that Barn Swallows are present, mostly studying the association between starlings and cattle and so with good opportunities to observe any association between swallows and starlings. Still I recorded the behaviour on less than 10 occasions.

## References

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## Sammanfattning

*Ladusvalor* *Hirundo rustica* utnyttjar starar *Sturnus vulgaris* för att skrämma upp föda.

Det är känt att ladusvalor *Hirundo rustica* utnyttjar insekter, som skräms upp av större däggdjur eller t.o.m. jordbruksredskap. Det föreligger också ett fåtal korta rapporter om att de på samma sätt utnyttjat flockar av stare *Sturnus vulgaris* respektive brusbanar *Philomachus pugnax*.

Revingefältet, c. 15 km öster om Lund, är ett militärt övningsfält karakteriserat av stora områden mer eller mindre naturlig gräsmark över vilka flera stora kreaturshjordar tillåts beta. Under åren 1976–90 beräknar jag att jag befann mig på Revingefältet minst 200 dagar under den tid då ladusvalor fanns i området. Den mesta tiden studerade jag starars associering till kreaturen och hade därför goda möjligheter att notera såväl ladusvalors associering med starar som deras associering med kreatur. I denna notis ger jag detaljer rörande såväl väderförhållandena som om svalornas beteende när de utnyttjade starflockar.

Under dessa år sågs ladusvalor nära associera sig med starflockar blott c. 10 gånger, samtliga antingen i hård vind eller i blött väder, eller bådadera. Det typiska mönstret var att svalorna flög mycket lågt över svalflocken, ibland (i blött väder) fladdrande så lågt över vegetationen att de nästan satte sig. Svalorna, vilkas antal varierade vid de olika tillfällena mellan några enstaka och upp till ett 50-tal, var hårt koncentrerade till starflocken; oftast kunde ingen enda svala ses över resten av den överblickbara betesmarken. När svalorna nådde starflockens kant, vände de. I hård vind flög de mot vinden tills de nådde starflockens front, varpå de lät sig drivas med vinden till flockens bakkant, varpå de på nytt arbetade sig fram över flocken. När en starflock lyfte och fällde i en annan del av gräsmarken följde svalorna med. Om associeringen till starar skedde i samband med regn, och detta upphörde, lämnade svalorna snabbt stararna och spred ut sig över betesmarkerna. Denna associering av ladusvalor till starflockar iaktogs alltså enbart under för svalorna dåliga väderförhållanden och samma sak gällde associering till kreaturen, som iaktogs ett 20-tal gånger under samma år. I båda fallen var det uppenbart att svalorna utnyttjade insekter som störts av stararnas respektive kreaturens rörelse genom gräset. Möjligen var kreaturen effektivare i det avseendet; ett par gånger när en hjord rörde sig snabbt genom högt gräs drog den på sig stora svalmängder (vid ett tillfälle 300 ladusvalor). Det faktum att varken starar eller kreatur utnyttjades i vackert väder, och att starflockarna omedelbart övergavs när det slutade regna, visar att normalt födosök ger bättre utbyte utom under mycket speciella betingelser.

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## Hooded Crow *Corvus cornix* takes a Common Toad *Bufo bufo bufo*

MILAN VOGRIN & NUSA VOGRIN

Crows are known to be highly adaptable especially in their choice of food. According to Cramp & Perrins (1994), the Hooded Crow *Corvus cornix* is