

Conflict of interests between the sexes, and possible mate fidelity in polygynously mated Lapwings *Vanellus vanellus*

Geir Olav Toft

Polygynous and promiscuous matings are well documented in the Lapwing *Vanellus vanellus* (Glutz, Bauer & Bezzel 1976, Cramp & Simmons 1983), and under certain conditions appear to be alternative strategies to monogamy. However, little is known about the sexual interests and mate fidelity in such cases. I here report two cases of polygynously breeding Lapwings, which inhabited two sites about 3 km apart, at Hafrsfjord (58°55'N, 5°37'E), close to Stavanger, SW Norway. The first locality consists of pastures adjacent to heaths, this area was surveyed by John Inge Johnsen on irregular visits. The second locality consists of tidal flats surrounded by pastures and cultivated fields. This area was surveyed at irregular intervals from blinds.

At the first locality a pair of Lapwings inhabited the area until 1978. From 1978 to 1982 (not visited later) a second female was present and nested. The territory of the second female mainly consisted of land previously occupied by the monogamous pair. The male defended both territories against intruders, and no more than three birds were observed during the egg-laying and incubation periods.

At the second locality a monogamous pair was observed on an islet in the bay at the end of March 1982, the birds copulated frequently. During egg-laying both sexes incubated the eggs for varying periods. However when the female had finished her clutch of 4 eggs, the male ceased incubating and then started to attract other females to the area by upending, shearing and flight display. Any female present in the area was courted. On several occasions on 8 April, the male courted a second female at a distance of 5–10 m from the incubating female. On one occasion, the first female left the eggs and attacked the second female violently, trying to chase her off. The male immediately rushed back (from a distance of about 20 m), attacked the first female, and chased her back to the nest, where she settled on the eggs. The male then left the incubating first female. However, when he had reached a distance of 15–20 m from her, she once more attacked the second female, and once more was attacked and chased back to the nest by the male. During these events the second female never defended herself against the first female, nor did the first female defend herself against the male. When under attack both females displayed a submissive posture and the first female ran back to the nest. The whole series of events lasted for less than two minutes.

On 8 May a female (suspected to be the second female) was observed incubating a clutch of 4 eggs on a nearby islet, about 50 m from the first female's nest. The male was not seen incubating at either nest after the clutch of the first nest was completed. Both nests disappeared during the incubation period, and were presumably robbed by Hooded Crows *Corvus corone cor-nix*.

It is well known that the optimal reproductive strategy for a male is often very different from that for a female (Krebs & Davies 1981). The opposing behaviour of the Lapwing sexes, the male trying to attract a second female, while the first female tried to chase her off, indicates that both sexes try to maximize their fitness at the expense of the other sex. Although the first

female receives less attention from her mate, and has to bear the cost of incubation by herself, she does not desert her eggs, presumably due to the cost of remating and producing a second clutch (Alatalo *et al.* 1981).

Although aggression between the sexes was evident at the second site, it is likely that the mates remained faithful to each other at the first site. Mate fidelity is not common in Lapwings (Cramp & Simmons 1983), but I find it improbable that polygyny may occur for years on a territory initially occupied by a monogamous pair, unless mate fidelity is involved.

Selostus: Sukupuolten väliset konfliktit ja mahdollinen pariuskollisuus moniavioisilla tóyhtóhyppillä

Kirjoituksessa kuvataan bigynisen tóyhtóhyppákoiraan ja sen kahden naaraan välistä käyttäytymistä keväällä 1982 Stavangerin lähellä, Lounais-Norjassa. Koiras osallistui haudontaan muninnan aikana mutta pesyeen tultua täysilukukseksi alkoi houkutella revíirilleen uusia naaraita esittämällä soidinta. 8.4. koiraan kosiskeltua toista naaraista alle 10 m päässä hautomassa ollut ensimmäinen naaras hyökkäsi uuden naaraan kimppuun yrittäen ajaa sitä pois. Tällöin n. 20 m päässä ollut koiras ryntäsi ensimmäisen naaraan kimppuun ja ajoi sen takaisin pesään. Koiraan palattua pesältä n. 15–20 m päähän hautova naaras hyökkäsi uudelleen toista naaraista kohti mutta koiras ajoi sen toistamiseen pesään.

Kirjoittaja tulkitsee havaitsemansa konfliktin osoitukseksi kummankin sukupuolen pyrkimyksestä oman fitnessinsä maksimoimiseen tilanteessa, jossa koiraan ja naaraan optimaalinen lisääntymisstrategia poikkeavat toisistaan. Kirjoittaja epäilee lisäksi toisaalla n. 3 km päässä vuosina 1978–82 pesineen bigynisen tóyhtóhyppákoiraan ja sen kahden naaraan olleen pariuskollisia vuodesta toiseen.

References

- Alatalo, R. V., Carlson, A., Lundberg, A. & Ulfstrand, S. 1981: The conflict between male polygamy and female monogamy: the case of the Pied Flycatcher *Ficedula hypoleuca*. — *Am. Nat.* 117:739–753.
 Cramp, S. & Simmons, K. E. L. 1983: *Handbook of the birds of Europe, the Middle East and North Africa*. Vol. 3. — Oxford University Press, Oxford.
 Glutz von Blotzheim, U. N., Bauer, K. M. & Bezzel, E. 1976: *Handbuch der Vögel Mitteleuropas*, Band 6. — Akademische Verlagsgesellschaft, Wiesbaden.
 Krebs, J. R. & Davies, N. B. 1981. *An introduction to behavioural ecology*. — Blackwell Scientific Publications, Oxford.

Author's address: Department of Animal Ecology, Zoological Museum, University of Bergen, N-5000 Bergen, Norway