

Far from the madding crowd: migration and wintering of Knots in Italy

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Italy is unfortunately not one of the main areas visited by Knots *Calidris canutus*. However, a small wintering population has been recently re-discovered in the Po Delta and spring passage of a few birds is probably regular along the west coast. Analysis of measurements of living birds and museum specimens indicate that wintering birds and spring migrants belong to two morphometrically different populations. Body mass values in spring are compatible with direct flights from African winter quarters.

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INTRODUCTION

The migration of Knot *Calidris canutus* along the East Atlantic Flyway has received much attention over the last few years (e.g. Davidson & Piersma 1992). It thus may be of interest to make information from Italy fully available, despite the fact that the area is obviously marginal with respect to the main migratory routes.

SEASONAL OCCURRENCE AND NUMBERS

The only Knot wintering population in the central Mediterranean is known to occur on the Tunisian coast and amounts to 250-500 inds (van Dijk *et al.* 1986; Spiekman *et al.* 1993). In north-eastern Italy, a small wintering flock has recently been re-discovered by R. Tinarelli and one of us (RR) in the Po delta, just on a spot where tens of Knots had been regularly observed and collected in the winter months during the early fifties (Foschi 1986). Their roost is located on a sand bank off the Goro branch of the Po mouth, in the southern part of the delta. In January 1994, 74 birds were counted at high-tide, while in January 1995 high-tide counts were not performed and only a rough estimate of more than 30 at low tide is available. All other winter records from the rest of the country, obtained from the examination of local literature covering more than a century, seem to involve single birds at most, with no pattern of regularity (e.g. two at the Lagoon of Venice in January 1995). In Sardinia on the other hand, single birds or very small flocks (total of 11 in January 1995, IWC data from Regione Sarda) regularly overwinter in salt-pans and lagoons near Cagliari and Oristano.

Outside the winter, regular occurrence almost everywhere in the country has been assessed checking old and recent literature. Presence in spring (April-June: 47% of a sample of 85 published records) outnumbers autumn data (July-October: 38%). Spring migration seems to be less widespread than the autumn one, being reported

especially from the Tyrrhenian coast. Here, May alone accounts for as many as 42% of local records, out of a sample of 45, and the species is observed every year. The maximum flock size recorded was 40 birds (Caterini 1943). Such spring occurrence fits the situation known from the Camargue, where up to 537 birds were counted in May (Blondel & Isenmann 1981), as well as observations in Greece and Black Sea (commented by Davidson & Piersma 1992).

BIOMETRICS AND ORIGIN OF BIRDS

Only two ring recoveries of Knots are known from Italy. An 'adult' ringed at Alfordshage (55°33'N 12°36'E), Denmark on 16 August 1967, recovered at Levanto (44°10'N 9°38'E), Italy, on 14 May 1970 and a juvenile ringed at Langenwerder (54°2'N 11°30'E), Germany, retrapped at San Rossore (43°43'N 10°19'E), Italy, on 19 May 1995). Because any direct analysis on the origin of birds is impossible with so few recoveries, we tried to obtain some information from biometrics (Table 1).

The analysis of Italian measurements and comparisons with selected samples from staging sites of identified populations (t-tests) revealed that:

- samples A and B do not differ both in wing and bill lengths, *i.e.* birds trapped in the Po Delta (and nearby) during the post-breeding migration and winter belong to the same population, if not to the same flock;
- both samples do not differ in bill length from a small sample of Knots measured in Tunisia (wintering locally or not far away) and attributed to *islandica* (Spiekman *et al.* 1993), while wing is different ($p < 0.001$) probably due to adult age of Tunisian birds (cf. Cramp & Simmons 1983);
- bill lengths of A and B are even lower than that of E, real *islandica* birds;

Table 1. Selected Knot biometrics.

Group	Location and status	Season	Wing (mm)	Bill length (mm)
A	living juveniles, Po Delta	November to March	164.7 ± 5.4 (158-177; n= 23)	32.0 ± 1.2 (28.9-34.2; n= 23)
B	living juveniles, Po Delta and Venice	August to October	164.6 ± 3.3 (158-169; n= 20)	32.7 ± 1.7 (29.0-36.1; n= 20)
C	skins, adult males, Tyrrhenian localities	April to June	165.6 ± 3.3 (161-173; n= 12)	34.7 ± 1.7 (31.9-38.0; n= 12)
D	living adults, Tunisia: <i>islandica</i> (Spiekman <i>et al.</i> 1993)	April	172.3 ± 4.4 (169-181; n= 8)	33.0 ± 2.1 (30.5-36.6; n= 8)
E	adults, north Norway: <i>islandica</i> (Davidson <i>et al.</i> 1986)	May	-	33.0 (28.0-38.0; n= 96)
F	skins, adult males, The Netherlands: <i>canutus</i> (Cramp & Simmons 1983)	May	167.0 ± 2.9 (161-173; n= 47)	34.7 ± 1.4 (32.8-37.2; n= 48)
G	skins, adult males, The Netherlands: <i>islandica</i> (Cramp & Simmons 1983)	August to April	169.0 ± 3.2 (162-173; n= 25)	32.6 ± 1.1 (30.5-34.4; n= 26)
H	skins (wing not stretched), adult males, Taymyr breeders, ssp? (Tomkovich 1992)	summer	162.3 ± 2.2 (158-166; n= 18)	32.5 ± 1.8 (29.0-35.2; n= 15)

- late spring Italian migrants (C) do not differ from late spring Dutch *canutus* migrants (F), both in wing and bill length, whereas they do from Dutch *islandica* (G), $p < 0.01$ for bill length only;
- A and B are significantly shorter-billed than C, despite the latter group was composed by long preserved skins of males ($p < 0.001$ and $p < 0.003$, respectively).

It seems clear, therefore, that like on west European coasts, Italian Knots belong to two morphometrically different groups, with long-billed, *canutus*-like birds occurring in late spring, and short-billed ones (Nearctic *islandica* or Taymyr breeders) occurring in winter and during post-breeding migration.

BODY MASS

Only six birds were weighed in April and May, at a small wetland on the west coast of Italy (San Rossore, near Pisa). These birds had most probably landed only few days before trapping, after a long non-stop flight, as indicated by a very low mean body mass value: 100.1 ± 11.5 (range: 88-116.5 g). The leanest bird had increased to 95.7 g when recaptured after 2.5 days (*i.e.* 3.1 g/day, as *canutus* Knots once they reach the German Wadden Sea: Piersma *et al.* 1992). Average length of stay of Knot in the area is not exactly known, but available observations seem to indicate that it does not probably exceed a week. Knot weighed in the Po Delta averaged higher values: 125.2 ± 14.0 (92-142 g; $n = 16$) in August-October, and 137.4 ± 18.3 (110-172 g; $n = 18$) in March, prior to spring departure. Our presumed *islandica*, therefore, in the late summer weighed similarly to birds which arrive in Britain at the same time (120-130 g) while only highest values in March approached British pre-migratory average values (185-195 g; Davidson & Wilson 1992). Our *canutus*, instead, seem to weigh less than the

lowest mean values experienced by adults during their annual cycle (Piersma *et al.* 1992).

REFERENCES

- Blondel, J. & Isenmann, P. 1981. *Guide des oiseaux de Camargue*. Delachaux & Niestlé, Neuchatel.
- Caterini, F. 1943. Gli uccelli del Pisano. *Riv. ital. Orn.* 13: 40-50.
- Cramp, S. & Simmons, K.E.L. 1983. *The Birds of the Western Palearctic*. Vol. 3. Oxford Univ. Press
- Davidson, N.C. *et al.* 1986. The origins of Knots *Calidris canutus* in arctic Norway in spring. *Orn. Scand.* 17: 175-179.
- Davidson, N.C. & Piersma, T. 1992. The migration and annual cycles of five subspecies of Knots in perspective. *Wader Study Group Bull.* 64, Suppl.: 187-197.
- Davidson, N.C. & Wilson, J.R. 1992. The migration system of European-wintering Knots *Calidris canutus islandica*. *Wader Study Group Bull.* 64, Suppl.: 39-51.
- Dijk, A.J. van, Dijk, K. van, Dijkse, L., Spanie, T. van & Wymenga, E. 1986. *Wintering waders and waterfowl in the Gulf of Gabes, Tunisia, January-March 1984*. WIWO-report 11, Zeist, The Netherlands.
- Foschi, F. 1986. *Uccelli di Romagna*. Maggioli Editore, Rimini.
- Piersma, T. & Davidson, N.C. 1992. The migration of Knots. *Wader Study Group Bull.* 64, Suppl.
- Piersma, T., Prokosch, P. & Bredin, D. 1992. The migration system of Afro-Siberian Knots *Calidris canutus canutus*. *Wader Study Group Bull.* 64, Suppl.: 52-63.
- Spiekman, H.W., Kejl, G.O. & Ruiters, P.S. 1993. *Waterbirds in the Kneiss area and other wetlands, Tunisia*. WIWO-report 38, Zeist, The Netherlands.
- Tomkovich, P.S. 1992. An analysis of the geographical variability in Knots *Calidris canutus* based on museum skins. *Wader Study Group Bull.* 64, Suppl.: 17-23.