Turtle Dove *Streptopelia turtur*

Raül Escandell

Range

The Turtle Dove breeds in N Africa and most of Europe (apart from Scandinavia and Ireland) and eastwards to central Asia (Cramp, 1985). It is a long-distance migrant that winters in sub-Saharan Africa, from Senegal and Guinea to Sudan and Ethiopia, and as far south as northern Ghana and northern Cameroon (Cramp, 1985). It breeds in very low numbers at some ringing sites, although the vast majority of captures are of migrants.

Migratory route

Many recoveries are of birds ringed on spring passage in the study area and recovered in late summer or autumn either further west (W and SW Iberian Peninsula) or further east (Italy; fig. 1). However, a few northern recoveries (Belgium and Netherlands) and one from sub-Saharan Africa suggest that SW-NE movements are the norm during spring migration and follow a similar axis of movement to autumn (Cramp, 1985; Zwarts et al., 2009), although apparently somewhat more to the east (Telleria et al., 1999; Wernham et al., 2002).

The species is mostly trapped on islands (fig. 2), particularly the smallest and most isolated, indicating some attraction factor, but also indicating that passage across the Mediterranean Sea is common.

Phenology

The first birds pass through the study area in early April and numbers then increase steadily, peaking during early May and decreasing rapidly from mid-May onwards (fig. 3). The overall pattern of passage is similar to that reported in NW Africa and the Mediterranean region (Cramp, 1985; Morgan & Shirihai, 1997; Thévenot et al., 2003; Zwarts et al., 2009). Phenological differences between the main study areas are inappreciable. The median date of passage when analyzing the standard period (16 April-15 May) is identical to that reported in the C Mediterranean (1 May; Rubolini et al., 2004).

Phenological differences between sexes are practically inexistent, although the median date of passage of second-year birds takes place 3-4 days later than in adults (fig. 3). The lack of sexual differences agrees with reports from the C Mediterranean (Rubolini et al., 2004).

Biometry and physical condition

Mean values for wing lengths vary from 171.7 in Catalonia to 174.5 on Els Columbrets (table 1). In general, these values are lower than those reported in the C Mediterranean (mean 177.4; n = 115; Spina et al., 1993), where a greater proportion of larger birds from

more northern areas (Cramp, 1985) seems to occur. Third primary lengths decrease with time in the dry Balearics, but not significantly so on Els Columbrets (fig. 6). This trend may reflect the later passage of second-year birds or the differential migration of birds of different origin. In Italy, birds increase in size as the season progresses (Spina & Volponi, 2008).

Mean body mass varies from 126.2 in the wet Balearics to 132.5 in Catalonia. Mean mass on Els Columbrets/Balearics distinctly higher than in the C Mediterranean (122.6, n = 102; Spina et al., 1993), probably reflecting the larger stretches of sea and desert that have to be crossed by birds trapped in this latter area. Body mass in La Camargue, S France (mean 125.0, n = 48; Cramp, 1985), is slightly lower than in Catalonia and insular sites. Birds tend to be larger and heavier on Els Columbrets than in the dry Balearics, although the average fat is higher in the latter area (figs. 6, 8, 9). Overall, however, body mass does not show any marked differences in the western Mediterranean.

Body mass and fat do not show any clear temporal pattern, but physical condition increases with time and third primary length decreases. In Italy, body mass has been reported to increase seasonally during May (Spina & Volponi, 2008).

Stopover

The frequency of retraps is very low (fig 5), suggesting a large turnover of birds. Using the whole dataset, birds show significant negative fuel deposition rates in the dry Balearics, although a positive but not significant trend is observed when analysing retraps of more than one day (table 2).

Table 1. Mean (± SD), range and sample size of main biometric parameters according to area.

	n	Wing	Third primary	Body mass	Fat score
Catalonia	13	171.7 ± 5.0 (165.0-182.0)	123.1 ± 3.5 (117.0-128.0)	132.5 ± 10.0 (115.0-147.4)	1.0 ± 0.9 (0-2)
Columbrets	315	174.5 ± 4.7 (161.0-183.0)	126.0 ± 3.9 (116.0-137.5)	132.4 ± 16.6 (87.4-182.0)	0.8 ± 0.7 (0-4)
Balearics (dry)	522	173.3 ± 4.8 (157.0-183.0)	125.2 ± 4.0 (115.0-138.0)	128.8 ± 14.3 (85.5-177.0)	1.0 ± 0.8 (0-6)
Balearics (wet)	11	172.7 ± 4.7 (166.0-180.5)	124.7 ± 4.2 (119.0-132.5)	126.2 ± 11.0 (108.9-142.6)	0.8 ± 0.8 (0-2)
Chafarinas	0				
N Morocco	0				
S Morocco	0				

Table 2. Variation in fuel deposition rate (g/day) according to area and type of retraps involved (mean ± 95% CI and sample size are given).

	Catalonia	Columbrets	Balearics (dry)	Balearics (wet)	Chafarinas	N Morocco
All retraps		-2.38 ± 3.91 (6)	-3.46 ± 1.91 (22)			
Retraps >1 day		-0.74 ± 9.72 (2)	0.59 ± 2.36 (6)			

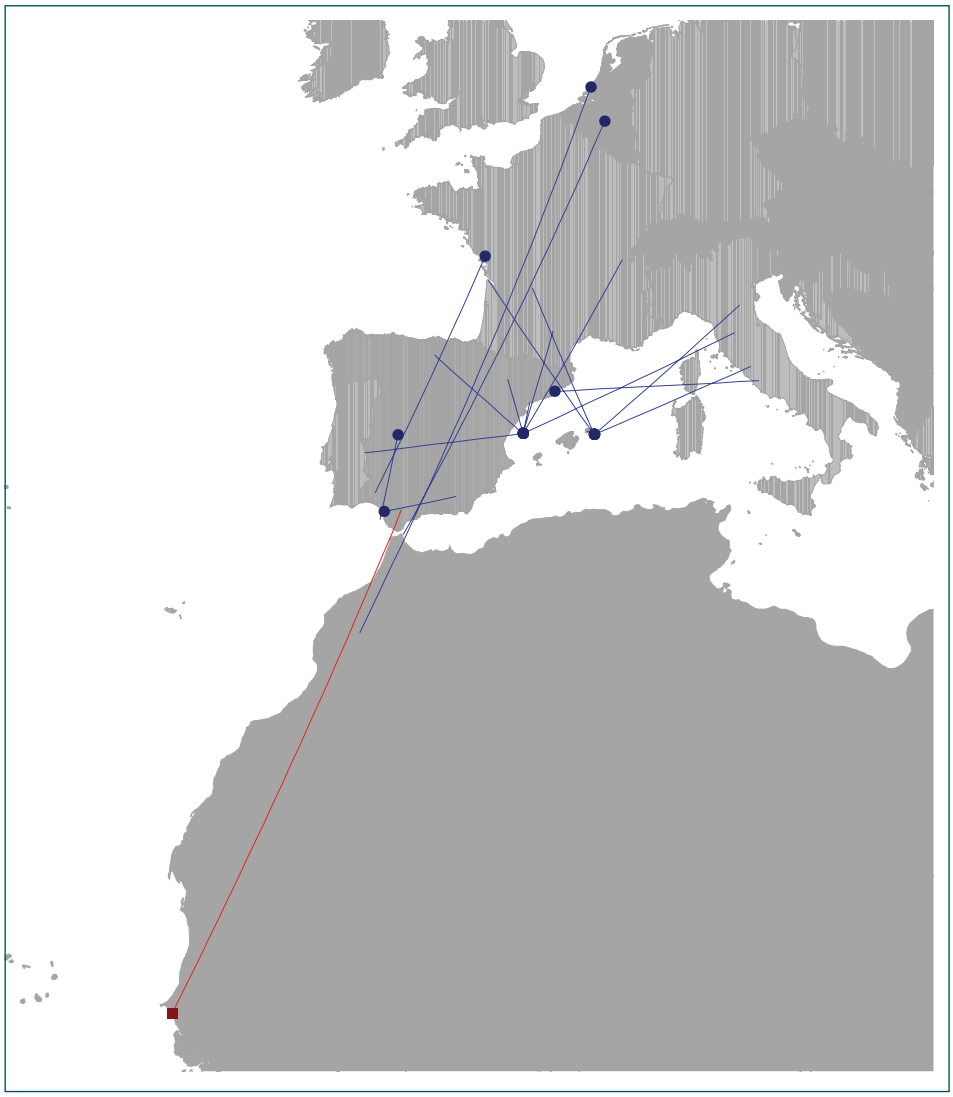

Figure 1. Map of recoveries of birds captured in the study area during the study period (March to May).

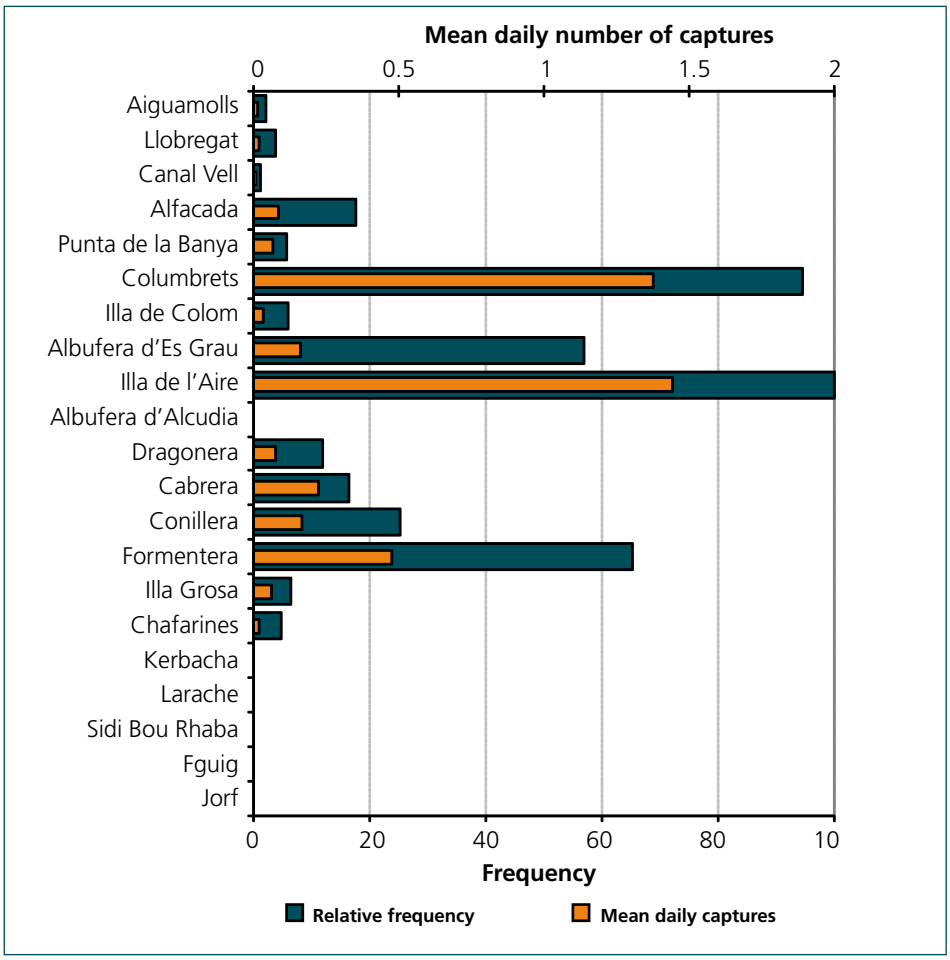

Figure 2. Relative frequency of captures and mean daily numbers according to site during the standard period (16 April to 15 May).

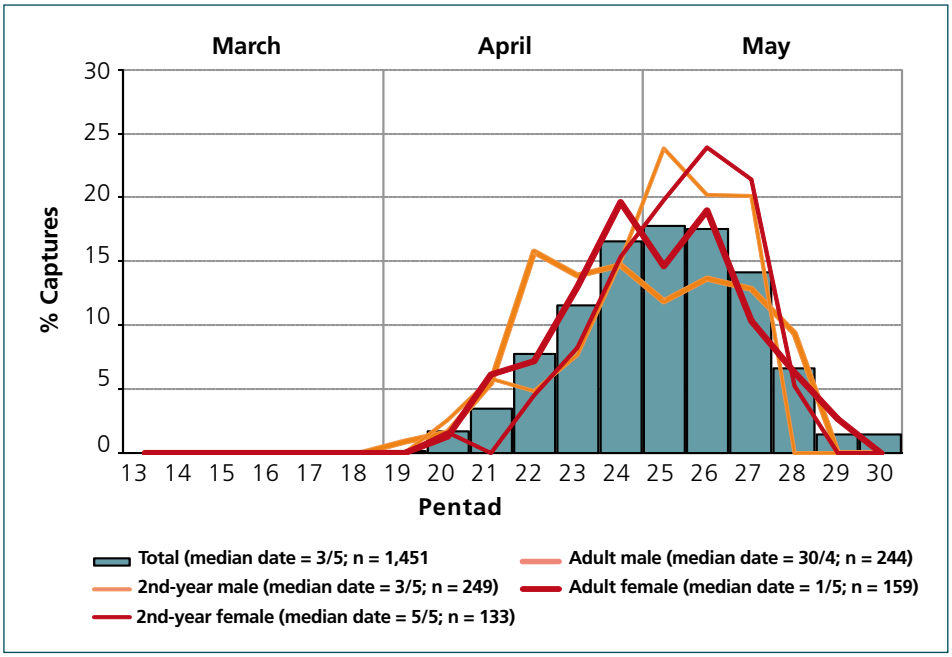

Figure 3. Frequency of captures during the study period.

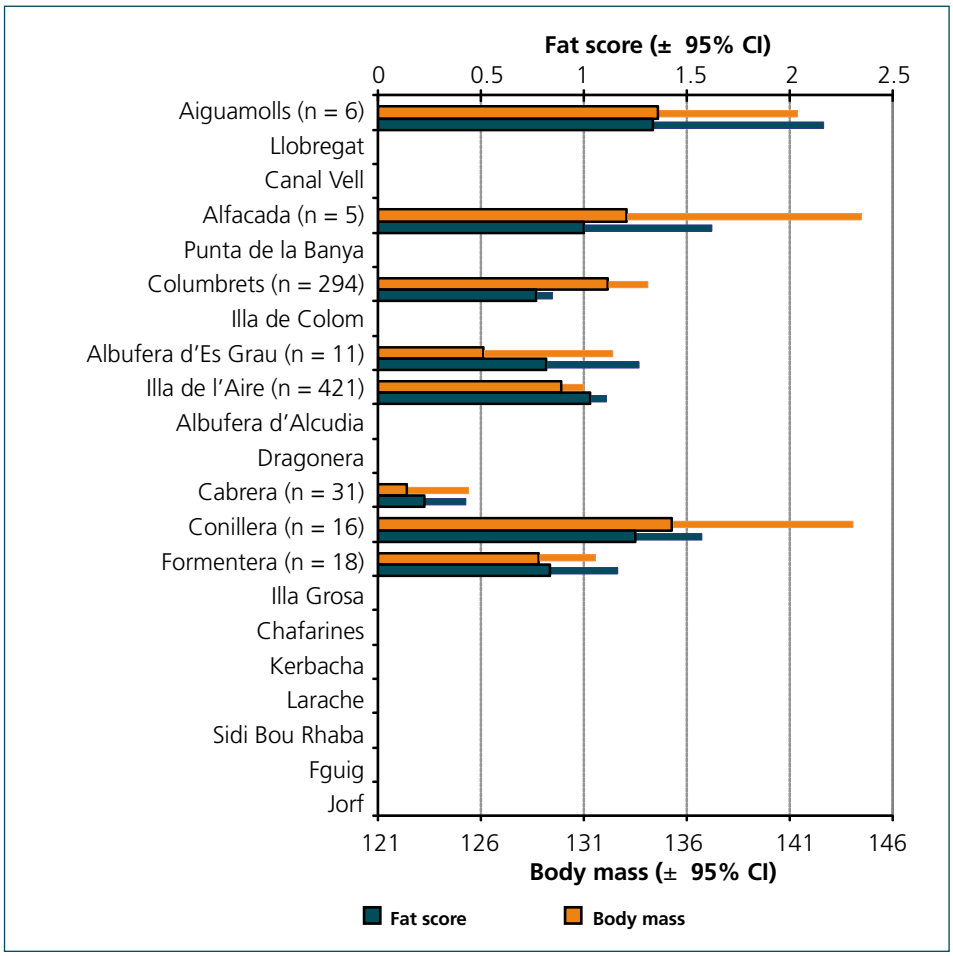

Figure 4. Variation in body mass and fat score according to site during the standard period (16 April to 15 May).

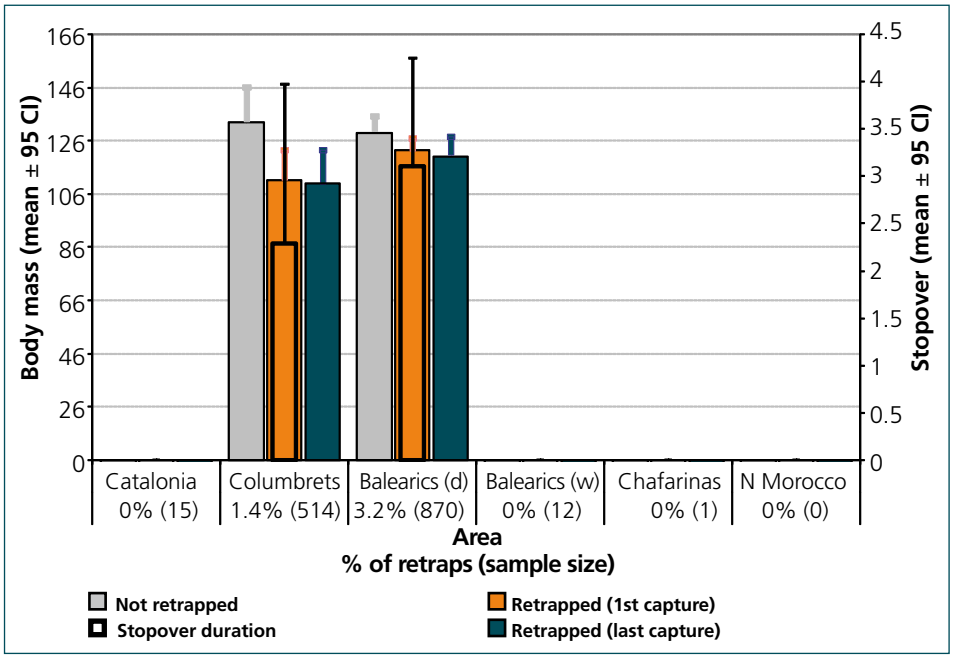

Figure 5. Variation in body mass by trapping status, minimum stopover length and frequency of retraps according to area.

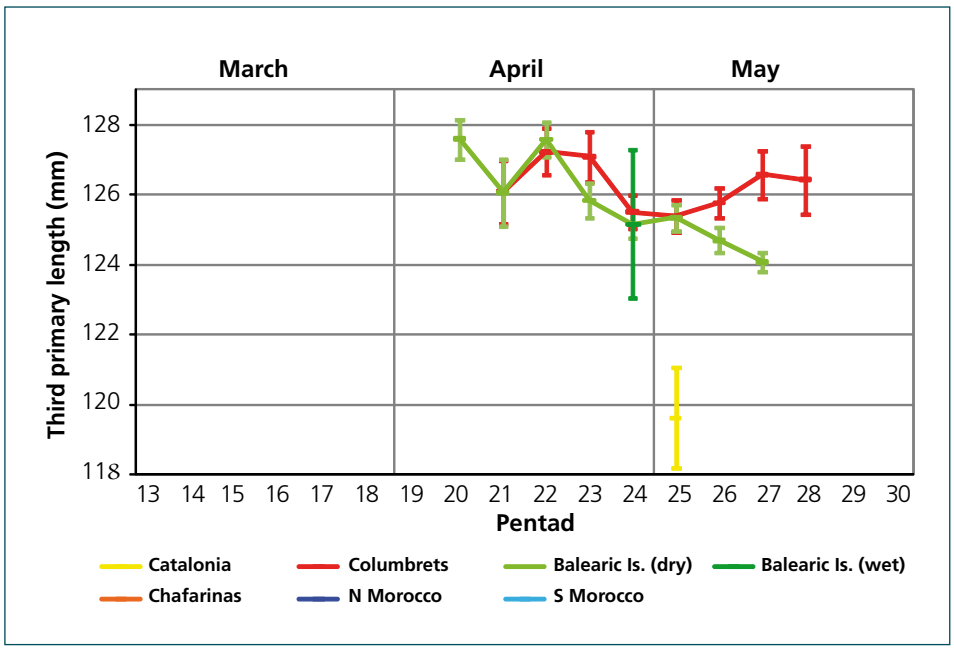

Figure 6. Temporal variation of third primary length according to area.

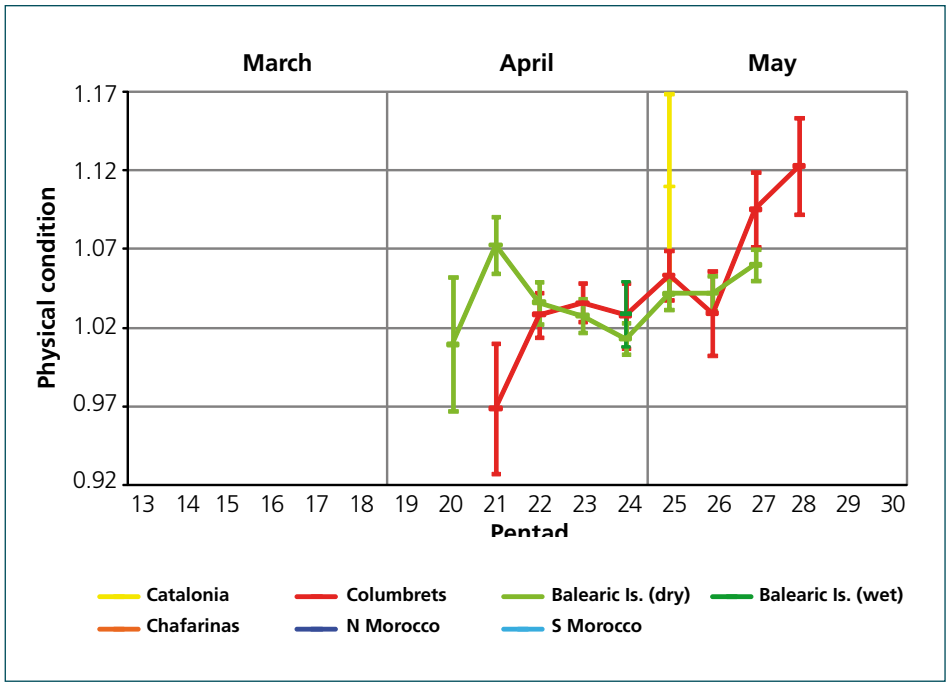

Figure 7. Temporal variation of physical condition according to area.

Figure 8. Temporal variation in body mass according to area.

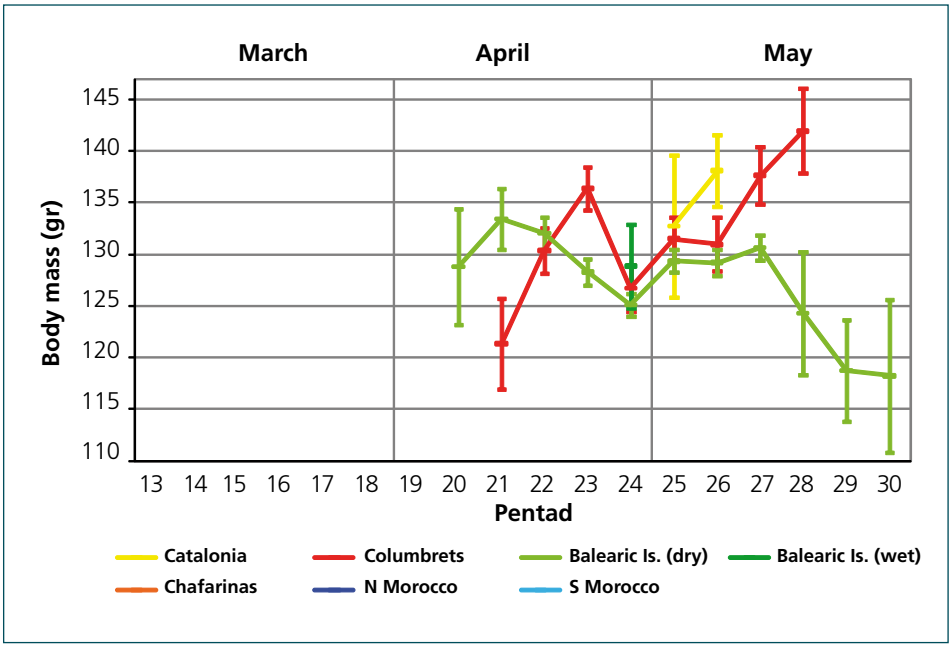

Figure 9. Temporal variation in fat score according to area.