

Electronic supplementary Appendix

Pérez-Rodríguez, L., García-de Blas, E., Martínez-Padilla, J., Mougeot, F. and Mateo, R. Carotenoid profile and vitamins in the combs of the red grouse (*Lagopus lagopus scoticus*): implications for the honesty of a sexual signal. J Ornithol DOI 10.1007/s10336-015-1261-y

Table S1. Concentration (in  $\mu\text{mol}/\text{gr}$  of tissue) of the different carotenoids and carotenoid esters detected in red grouse combs.

	<b>Peak nº</b>	<b>mean</b>	<b>SD</b>
Free Papilioerythrinone	1	119	33
Unidentified free carotenoid 1	2	56	9.5
Free Astaxanthin	3	1098	560
Unidentified free carotenoid 2	4	51	8.3
Papilioerythrinone monoester 1	5	27	12.4
Papilioerythrinone monoester 2	6	79	39.9
Papilioerythrinone monoester 3	7	54	40.6
Unidentified carotenoid ester *	8	559	359
Astaxanthin monoester 1	9	499	284
Papilioerythrinone monoester 4	10	214	89
Astaxanthin monoester 2	11	962	600
Astaxanthin monoester 3	12	53	50.1
Papilioerythrinone monoester 5	13	43	19.6
Astaxanthin diester 1	14	133	205
Astaxanthin diester 2	15	409	193
Astaxanthin diester 3	16	122	32
Astaxanthin diester 4	17	213	46.7
Astaxanthin diester 5	18	249	58.8
Astaxanthin diester 6	19	229	53.2
Astaxanthin diester 7	20	319	46.5
Astaxanthin diester 8	21	274	83.4
Astaxanthin diester 9	22	109	16.8
Astaxanthin diester 10	23	212	56.0
Astaxanthin diester 11	24	93	25.0
Astaxanthin diester 12	25	134	60.4
Astaxanthin diester 13	26	114	50.2
Astaxanthin diester 14	27	110	56.2

\*Unidentified compound with a maximum absorption at 470nm. A detailed inspection of its absorbance spectrum suggest that it is the result of the coelution of an astaxanthin and a papilioerythrinone ester.

Figure S1. Absorbance spectra, retention times and absorbance maxima of two unidentified hydroxycarotenoids detected in combs. Numbers correspond to those used in Figure 1a of the main text. The mean  $\pm$  SD concentration of these carotenoids is given in Table 1 and Table A1.

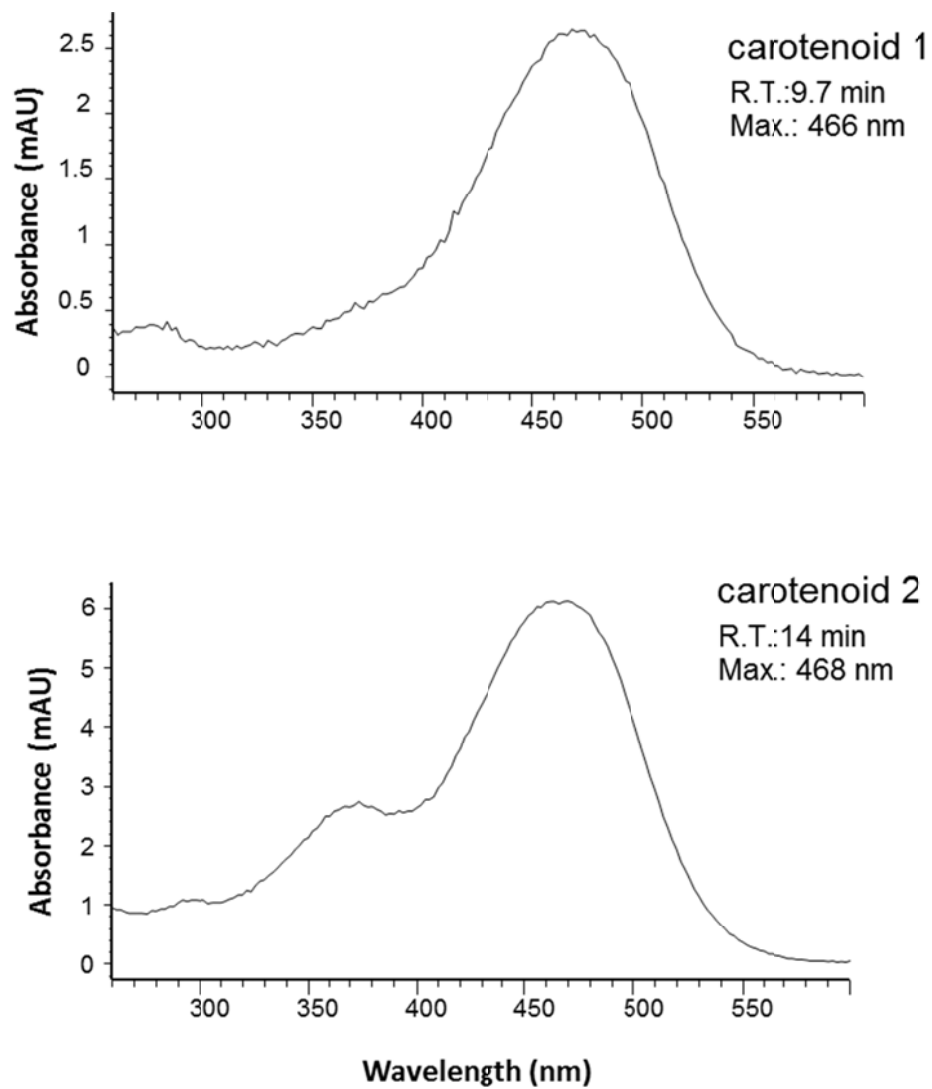


Figure S2. Absorbance spectra, retention times and absorbance maxima of the three unidentified hydroxycarotenoids detected in plasma samples. Letters correspond to those used in Figure 1b of the main text. The mean  $\pm$  SD concentration of these carotenoids is given in Table 1 and Table A1.

