

Ever seen an 'ashen-faced' or a 'blushing' Crested Caracara *Caracara cheriway*?

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Rapid changes in dermal coloration of birds have been empirically linked to the presence of haemoglobin in the blood. It is responsible for the red 'flushing' colours in areas of bare skin, especially in some birds of prey⁴. Crested Caracara *Caracara cheriway*, a New World falconiform, is one species in which the colour of its bare facial skin can change from red to yellow^{2,5}. The orange-red facial colour of adult Crested Caracaras is due to the circulation of blood in the highly vascularised bare head skin viewed through a filter of carotene-containing tissue⁴. However, when excited or stressed, caracaras interrupt their blood flow through the bare skin, whereupon the inner layer containing a yellow carotenoid (possibly lutein as in other raptors³) then renders the facial skin colour yellow².

We present here a series of photos taken in French Guiana to illustrate different facial colours in Crested Caracaras.

The normal colour of the bare face of an adult is described as red¹ although it is more of an orange-red. This colour is illustrated by an adult photographed by MGA on 16 January 2010 at the Savane Wayabo (c.05°03'30"N, 52°36'00"W) (Fig. 1).

On 6 January 2010, JT was driving the Route National 2 between Régina and Saint-Georges. Around km 160 (c.04°00'00"N 51°56'30"W), he paused to photograph a Crested Caracara. The caracara was in the low vegetation beside the road and proved to be rather fearless. Although it did not show any external wounds, we presume that the reason for its fearlessness was that it had been hurt by a car and was therefore 'dizzy'. It was photographed at close quarters (once the bird was even touched!) for nearly 30 minutes, after which it hopped away in the forest edge. Clearly, the caracara was unable to fly. The facial skin of this excited and / or stressed caracara was lemon-yellow (Fig. 2); however, during the observation it gradually became orange (Fig. 3).

The bare face of an immature Crested Caracara is described as duller than in adults¹, i.e. dull red. This colour is illustrated by an immature photographed by MGA along road D13 through the Marécages de Matiti, also known as Guatemala (c.05°07'00"N, 52°35'30"W) on 26 August 2010 (Fig. 4). However, the colour can turn blood red, even redder than in adults, as shown by another immature, also photographed by MGA at Guatemala, on 24 November 2009 (Fig. 5). Fig. 6 of an immature and adult Crested Caracara, photographed by MGA at Guatemala on 13 May 2011, clearly shows that in an immature, the underlying yellow carotenoid, which affords the orange tinge to the red face of adults, is not yet present or is at least less pronounced. This figure also shows that, for the same reason, yellow tarsi are a feature only in adults, whereas immatures have bluish-grey tarsi.

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REFERENCES

1. Bierregaard, R. O. (1994) Family Falconidae (falcons and caracaras). In: del Hoyo, J., Elliott, A. & Sargatal, J. (eds.) *Handbook of the birds of the world*, 2. Barcelona: Lynx Edicions.
2. Brown, L. H. & Amadon, D. (1968) *Eagles, hawks and falcons of the world*. Feltham: Country Life Books.
3. Negro, J. J., Bortolotti, G. R., Tella, J. L., Fernie, K. J. & Bird, D. M. (1998) Regulation of integumentary colour and plasma carotenoids in American kestrels consistent with sexual selection theory. *Functional Ecol.* 12: 307–312.
4. Negro, J. J., Sarasola, J. H., Fariñas, E. & Zorrilla, I. (2006) Function and occurrence of facial flushing in birds. *Comp. Biochem. & Physiol., Pt. A* 143: 78–84.
5. Vuilleumier, F. (1970) Generic relations and speciation patterns in the caracaras (Aves: Falconidae). *Breviora* 355: 1–29.

>> PHOTOSPOT CRESTED CARACARA

Counter-clockwise from top:

Figure 1. Adult Crested Caracara *Caracara cheriway* with normal, orange-red facial skin, Savane Wayabo, French Guiana, 16 January 2010 (Michel Giraud-Audine)

Figure 2. 'Ashen-faced' adult Crested Caracara *Caracara cheriway* with lemon-yellow facial skin, Route National 2, km 160, French Guiana, 6 January 2010 (Johann Tascon)

Figure 3. Same adult Crested Caracara *Caracara cheriway* as in Fig. 2, regaining the normal, orange-red colour of its facial skin, Route National 2, km 160, French Guiana, 6 January 2010 (Johann Tascon)

Figure 4. Immature Crested Caracara *Caracara cheriway* with dull red facial skin, Guatemala, French Guiana, 26 August 2010 (Michel Giraud-Audine)





Figure 5 (left). 'Blushing' immature Crested Caracara *Caracara cheriway* with blood red facial skin, Guatemala, French Guiana, 24 November 2009 (Michel Giraud-Audine)

Figure 6 (below). Immature (left) and adult (right) Crested Caracaras *Caracara cheriway*, showing the differences in the colour of the facial skin and tarsi, Guatemala, French Guiana, 13 May 2011 (Michel Giraud-Audine)



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