
Feeding observations of the western Yellow-breasted Chat in the south Okanagan valley British Columbia, Canada during a seven-year study period.

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Abstract: We observed a breeding female Yellow-breasted Chat (*Icteria virens auricollis*) eating rose petals, in the south Okanagan valley of British Columbia, Canada. We also observed nestlings and fledglings being fed Saskatoon berries. These foods could be appropriate sources of required nutrients, particularly calcium, carbohydrates and iron as well as antioxidants. The observations were made during a research program in 2001 – 2007, on the breeding success and habitat needs of the western population of the species, which is endangered in Canada.

Key words: Yellow-breasted Chat, *Icteria virens auricollis*, rose petals, Saskatoon berries

During the summer, adult Yellow-breasted Chats (*Icteria virens auricollis*) feed mainly on small invertebrates as well as fruits and berries when they are available (Ehrlich *et al.* 1988; Stokes and Stokes 1996). The stomach contents of chats analyzed at different times of the year contained a variety of insects, fruit, berries and multiflora rose (*Rosa multiflora*)

seeds (Howell 1932; Gruber *et al.* 1983; Rosenberg *et al.* 1991; Hess *et al.* 2000). In the south Okanagan valley, British Columbia, Canada, on 2002 June 10, a female chat was observed consuming wild rose (*Rosa spp.*) petals. She moved through the wild rose patch, picking and consuming one petal at a time for about two minutes before she disappeared into the

thick rose patch. This behaviour was observed two days before the female started laying eggs.

There are not many reports of birds consuming petals or of the nutritional value of rose petals. A flock of Alpine choughs was observed plucking pistils and petals of *Crocus albiflorus* (Glutz von Boltzheim *et al.* 2000). There seemed to be no extra nutritional value in consuming pistils but the benefit might have been in the relatively high content of carotenoids (Glutz von Boltzheim *et al.* 2000). Rose petals are rich in antioxidants (Schieber *et al.* 2005; Vinokur *et al.* 2006) and antioxidants are important for their health benefits (Halliwell *et al.* 1995; Tsao 2006). Rose petals also contain calcium (Bass *et al.* 2003) and carbohydrates (Ichimura *et al.* 1999) and rose petals may therefore contain important nutritional value for the egg-laying female.

In another case of plant consumption, during 2006, while banding a chat nestling, a purplish stain was noticed on its bill. This stain was the same as the stains observed in adults when eating Saskatoon berries (*Amelanchier alnifolia*). Although an adult was not observed during that time feeding a Saskatoon berry to the nestling, the distinct purple stain on the nestling's bill suggests that the diet of the nestlings may include occasional berries. This was confirmed on two occasions during 2007. On July 02 a male was observed feeding berries to a fledgling and on July 17 another male was observed carrying berries to his nest which contained four, nine-day-old chicks. Saskatoon berries have good nutritional value (Mazza 2004). They contain a variety of vitamins and minerals including zinc, manganese, calcium, magnesium, copper and vitamin A, B, C and E and are especially an excellent source of iron (Mazza 2004). Saskatoon berries also contain protein, fat and fibre and are a rich source of flavonoids (Mazza 2004). Saskatoon berries are available in June (Turner 1997) and are therefore available to chats mainly during the nestling stage or for the egg-laying female during second broods or re-nests.

Chat nestlings are mainly fed adult and larval insects (Ehrlich *et al.* 1988; Schadd 1995). Birds need calcium more than any other mineral during egg-laying and skeleton growth (Klasing 1998). However, arthropods in general are not an exceptionally high source of calcium (Graveland and van Gijzen 1994; Taliaferro *et al.* 2001). Saskatoon berries, being a source of calcium (Mazza 2004), might contribute to the calcium needs of the egg-laying female later in the breeding season and can also add important nutritional value to the diet of the growing nestling.

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