

POSSIBLE BROOD PARASITE OF THE BROWN FIREFINCH FROM JEDIBE, BOTSWANA

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Widowfinches are small viduid finches which brood-parasitise estrildid finches, generally firefinches of the genus *Lagonosticta* (Payne 1996). Although the story is not always as simple as a one-parasite/one-host species relationship, in southern Africa all of the four firefinch species are known to be exclusive hosts of specific widowfinch species, except for the Brown Firefinch *Lagonosticta nitidula* which has no conclusively known parasite (Payne 1994, 1996). Identification of species in the widowfinch group is difficult. However they can be distinguished by their mimetic songs, parasite-host relationships and subtle visual traits (Payne 1996). Females and nonbreeding males of different widowfinch species are extremely similar and do not sing, so may be particularly difficult to differentiate in the field (Harrison *et al.* 1997).

This note describes a female viduid captured and ringed at Jedibe Island, Northern Okavango Delta, Botswana (19°02' S, 22°32' E). Careful examination of the bird's morphological features, which correspond to Nicolai's (1972) description of Violet Widowfinch *Vidua incognita*, and the bird's association with Brown Firefinch, the putative host of the Violet Widowfinch, at Jedibe, points to the possibility of it being the brood parasite of the Brown Firefinch.

The bird was captured on 29/07/1997 at 10:35 a.m. The mistnet in which the bird was caught was erected on the edge of the island on sandy soil, between a clump of Real fan palm *Hyphaene petersiana* on the one side and *Aloe zebrina* and Wild sage *Pechuel-loeschea leubnitziae* on the other. It was an adult bird as it lacked any



Figure 1. Viduid finch tentatively identified as Violet Widowfinch *Vidua incognita/wilsoni*.

indication of a fleshy gape. The bird had a white/light grey bill and pinkish legs (see Fig. 1). It had a dark brown iris, with a white underbelly and vent. Its flanks and upperbelly were buff (see Fig. 1). The primaries and primary coverts were light brown, the secondaries a darker brown and the secondary coverts were brown with light buff edges. Its back was a mottled dark brown. Mensural measurements taken include, mass 11g; full length 110mm; wing chord 63mm; tail 36mm; tarsus 12mm and culmen 9mm.

Widowfinches can generally be distinguished morphologically by beak and leg colouration (Maclean 1993). The bill and leg colouration of this bird seemed to rule out the possibility of it being a Steelblue Widowfinch *Vidua chalybeata* which has a red bill and red legs and parasitises the Redbilled Firefinch (Maclean 1993; Harrison *et al.* 1997). Similarly, these morphological features did not correspond to the Purple Widowfinch *Vidua purpurascens* which has a white bill and white legs and is known to parasitise the Jameson's Firefinch (Maclean 1993, Payne 1994). The Black Widowfinch *Vidua funerea*, although morphologically similar to the bird in terms of bill and leg colour, is known to parasitise the Bluebilled Firefinch (Payne 1994), neither of which occur in the region (Harrison *et al.* 1997).

Therefore, we tentatively concluded that the bird was possibly the Violet Widowfinch *Vidua incognita/wilsoni*, which was originally classified by Nicolai in 1972, but subsequently questioned on both taxonomic and distributional ground (Sinclair *et al.* 1993; Payne 1994, 1996). Based on the local abundance of their putative host, the Brown Firefinch, at Jedibe, widowfinches which were thought to be Violet Widowfinch had been reported on numerous occasions (H. Prinsloo pers. comm.). These were said to have included male birds which matched the description of Nicolai (1972) with respect to their white bill and pink leg colouration.

This hypothesis is supported by the dominance of Brown Firefinch that were captured in the same mistnet in which the widowfinch was captured over a four-week period. Twenty-four Brown Firefinch, including six juveniles were caught

and ringed during this time, indicating that Brown Firefinch were breeding during this time. Two of these juvenile birds and an adult female were recaptured in the same net within several days of capturing the mystery widowfinch. In contrast, only six Redbilled Firefinch, all adult birds were captured during this period, while none of the other Firefinch species were either seen nor captured at Jedibe. Although not conclusive, this evidence does point to a likely association between Brown Firefinch and the widowfinch captured.

Nicolai (1972) originally described the Violet Widowfinch based on two birds that were acquired through the European pet trade. It was accorded specific status on the basis that one of these birds mimicked the song of the Brown Firefinch. However, it was subsequently pointed out that the host of the Wilson's Widowfinch *Vidua wilsoni*, the Barbreasted Firefinch, may be conspecific to the Brown Firefinch for several reasons, such as having an identical song (Payne 1982). Therefore because the exact locality of Nicolai's finches were unknown, definitive evidence of the Violet Widowfinch was subsequently considered weak and inconclusive (Payne 1994). This finding of a possible brood parasite of the Brown Firefinch in an area where Barbreasted Firefinch does not occur, lends support to the existence and recognition of such a species of widowfinch. Following this logic, the Violet Widowfinch cannot be classified as either a subspecies of the Wilson's Widowfinch (Hockey *In Ginn et al.* 1990), or lumped with the Wilson's Widowfinch (Harrison *et al.* 1997) as it is regarded at the moment.

A subspecies of the Steelblue Widowfinch *Vidua chalybeata*, *V.c.okavangoensis*, which is purported to have a white bill and reddish feet, has been recognized by some (Payne 1973, 1980, 1994, 1996). Payne (1994) also contends that occasional *vidua* are reared by an odd host species, rather than by their usual host species. But because these birds are not morphologically different, they are not regarded as distinct species. However, if this were the case, then surely all sympatric *vidua* should be lumped into a single species complex? (*cf.* Paterson 1978).

Alternatively, following the popular idea of a single-host, single-parasite relationship, begs the existence and description of a *vidua* parasite of the Brown Firefinch. The distribution of the purported *V. c. okavangoensis*, coincidentally corresponding with that of the Brown Firefinch, illustrates this point neatly.

Therefore, it is respectfully submitted that beyond rigorous analysis of male widowfinch songs or actually witnessing a female widowfinch in the act of laying her eggs in a Brown Firefinch nest, stronger evidence of such an association is difficult, if not impossible to obtain. However further attempts to obtain data of the mimetic songs of these birds at Jedibe, and compare them with those of Brown Firefinch and *V. c. okavangoensis*, if this taxon exists, could prove quite enlightening.

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