

Notes on the feeding activity and diet of the Blue-fronted Parrotlet (*Touit dilectissima*) in north-west Ecuador

NOTAS SOBRE EL COMPORTAMIENTO Y LA DIETA DEL PERIQUITO FRENTIAZUL (*TOUIT DILECTISSIMA*) EN EL NOROESTE DE ECUADOR

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Abstract

The ecology and specific feeding habits of wild parrots are poorly known. In this note we report on feeding activity and previously unrecorded behaviour of Blue-fronted Parrotlets, *Touit dilectissima*, from two observations made at Reserva Las Galarias, Pichincha Province, Ecuador. Feeding behaviour was observed on trees within the plant family Clusiaceae, an important family in montane forests, and notes are made on the conservation implications of these observations.

Keywords: behaviour, conservation, diet, parrotlet.

Resumen

La ecología y los hábitos alimenticios específicos de los loros, son poco conocidos. En esta nota, reportamos la actividad de forrajeo y los comportamientos alimenticios del Periquito Frenteazul, *Touit dilectissima*, durante dos observaciones realizadas en la Reserva Las Galarias, Provincia de Pichincha, Ecuador. El comportamiento de forrajeo fue observado en árboles de la familia Clusiaceae, una familia de plantas importantes en el bosque montano. Nuestras notas discuten las implicaciones de conservación de estas observaciones.

Palabras clave: comportamiento, conservación, dieta, periquito.

Members of the family Psittacidae are reported to feed mainly on seeds, fruits, and flowers (Hilty 1994, 2003, Renton 2001), with more information available on the diets of parrots kept in captivity (Collar 2000). For some species, specific dietary items consumed in the wild are well known, such as the Scarlet Macaw, *Ara macao* (Vaughan *et al.* 2006), Yellow-faced Parrot, *Alipiopsitta xanthops* (Barros de Araújo & Marcondes-Machado 2011) and Lilac-crowned Parrot, *Amazona finschi* (Renton 2001). For other species, data on diet and feeding behaviour is deficient, possibly due to the difficulties of studying them in the wild (Galetti 1993). For the eight species of *Touit*, all of which occur in South and Central America, limited feeding records are available due to few studies being conducted. Four species have been reported to feed on the fruits of *Clusia* spp., including the Red-fronted Parrotlet, *Touit costaricensis*, Sapphire-rumped Parrotlet, *Touit purpurata*, Spot-winged Parrotlet, *Touit stictopectera*, and Lilac-tailed Parakeet, *Touit batavica* (Collar 1997, Troncoso *et al.* 1995), with further specific dietary

information known for these and two other species; the Brown-backed Parrotlet, *Touit melanonota*, and Golden-tailed Parrotlet, *Touit surdus* (Collar 1997, IUCN 2012). However, for the Blue-fronted Parrotlet, *Touit dilectissima*, and the Scarlet-shouldered Parrotlet, *Touit huetii*, no specific feeding information has previously been reported. In order to assist poorly known and uncommon species in increasing their populations, information about their natural food resources should be known. Here we provide novel and worthy records for the Blue-fronted Parrotlet Sclater & Salvin 1871.

The Blue-fronted Parrotlet is a small parrotlet (17–18 cm, 59–71 g [Collar 1997]) that ranges from E Panama to SW Ecuador, and from NW Venezuela to NE Colombia (Ridgely & Greenfield 2001b). Known to occur in cloud forest and tall second-growth forests in the foothills and lower highlands (Collar 1997, Hilty 2003), the elevational range of this species appears unclear. Most commonly reported between 500 and 1400 m.a.s.l (Collar 1997, Ridgely & Greenfield 2001b),

extreme records report occurrences as low as 50 m.a.s.l (Ridgely & Greenfield 2001b) and as high as 3000 m.a.s.l (Collar 1997). Although not listed as globally threatened, in recent decades it is suspected that numbers may have declined markedly due to deforestation (IUCN 2011). It is considered scarce and local in Ecuador (Ridgely & Greenfield 2001a), and both the Red Book of

the birds of Ecuador (Ribadeneira 2002), and Ridgely and Greenfield (2001b), list this species as Near Threatened in the country. The Blue-fronted Parrotlet is sometimes considered conspecific with the Red-fronted Parrotlet of Costa Rica and western Panama, where the two are then called the Red-winged Parrotlet (Hilty 2003).



Figure 1. Isolated *Clusia* cf. *alata* (Clusiaceae) in regenerating pasture habitat at Reserva Las Galarias, Pichincha Province, Ecuador, on which Blue-fronted Parrotlets, *Touit dilectissima*, were observed feeding on 07 May 2012 (Photo: VL).

Neotropical parrots are often considered ‘seed-predators’ of certain plant species (Galetti 1997), i.e. parrots that are capable of consuming and destroying seeds but do not have any seed-dispersal qualities (Hilty 1994). Smaller species are associated with feeding on fruit pulp, whereas larger species more frequently feed on seeds (Ragusa-Netto & Fecchio 2006). Although small fruits have previously been found in the stomachs of the Blue-fronted Parrotlet (Collar 1997), it is not clear whether the seeds were being targeted or the fruit pulp. In addition, previous behavioural records report pairs or small flocks to perch or move quietly through forest canopy or mid-story branches further inside the forest (Hilty 2003, Hilty & Brown 1986), with the Blue-fronted Parrotlet seen more frequently at the forest edge than other *Touit* species (Ridgely & Greenfield 2001a). In

particular, it is not commonly found in open or isolated trees in clearings (Hilty 2003, Hilty & Brown 1986).

On 19 June 2010 at 12:30 h of an overcast day, VL photographed a small group of at least five individuals of Blue-fronted Parrotlets, feeding at an elevation of 2062 m at Reserva Las Galarias (00° 00’40’’ S, 78° 43’51’’ W) in Pichincha Province, Ecuador. The group was composed of different plumaged individuals, probably adult males and females; males were distinguished from females by having more red on the upper wing coverts and shoulders (Hilty 2003). Five of the individuals were feeding amongst the lower branches (<3 m from the ground) of a mature *Clusia* cf. *alata* (Clusiaceae; 6 m high, 8 m at widest, 34 cm DBH) in pasture habitat that has been regenerating since 2003 (Fig. 1). Clusiaceae

trees have dehiscent fleshy fruits containing numerous small arillate seeds (Gentry 1993). It appeared that the seeds were the targets of consumption of the parrotlets; much of the fruit pulp was left intact once the parrotlets had reached the seeds. The next closest tree was a *Croton* sp. (Euphorbiaceae, 84 cm DBH) being 4.59 m away, suggesting that the Blue-fronted Parrotlet is not restricted to foraging in the forest canopy or mid-story. Blue-fronted Parrotlets have also previously been reported to be virtually silent whilst at rest or during

foraging (Hilty 2003, Hilty & Brown 1986); however, intermittent vocalisations were heard throughout the 10 min of observation of this group. Whilst feeding, birds would hold onto the tree branches with both feet and peck at the easily accessible fruit clusters attached to the ends of the branches, hanging upside down in order to reach below (Fig. 2). Only one bird would be feeding on any one fruit cluster at one time, and individuals would both fly and walk through the tree branches to reach other fruits or to perch.



Figure 2. Blue-fronted Parrotlet, *Touit dilectissima*, feeding on the fruit of *Clusia* cf. *alata* (Clusiaceae) on 19 June 2010 (Photo: VL).



Figure 3. Blue-fronted Parrotlet, *Touit dilectissima*, feeding on fruit clusters of *Chrysochlamys macrophylla* (Clusiaceae) on 06 August 2012 (Photo: VL).

In a second observation VL and Max Levy witnessed and photographed another group of at least five individuals of Blue-fronted Parrotlet feeding on *Chrysochlamys macrophylla* (Clusiaceae), on 06 August 2012 at an elevation of 2036 m at Reserva Las Gralarias (00°00'37" S, 78°44'03" W). The group was found feeding on the fruits at 08:12 h and moved through several trees in the area to forage on the fruit clusters, which hung down from the main tree branches. Several trees of this species were present in an area of approximately 30 m² on a ridge top in forest habitat. Individuals would hold onto the stem of the fruit clusters with both feet and would reach down to peck at the fruits (Fig. 3). Many of the trees were less than 8 m in height, and the parrotlets could be seen foraging from 4 m to 8 m high in the forest mid-storey to sub-canopy. It could not be seen whether they were consuming the fruit pulp or the seeds. This observation lasted approximately 30 min until the group left noisily when an unidentified hawk flew nearby. Again constant chattering noises were heard throughout the observation period, adding further evidence that this species is not always silent when foraging.

These observations provide additional records for a species of *Touit* feeding on species of Clusiaceae. Knowing that this potentially declining parrot species and others within the genera readily feed on fruits and seeds of these trees could be a useful tool in restoring

and regenerating suitable habitat for this and perhaps other species. For example, Clusiaceae flowers are also attractive to hummingbirds, including the Booted Racket-tail, *Ocreatus underwoodii*, and Buff-tailed Coronet, *Boissonneaua flavescens* (T. Kell pers. com.), as well as bats (Mello *et al.* 2005) and insects (Kaminski & Absy 2006, Paarman *et al.* 2003, Vlasáková *et al.* 2008). At Reserva Las Gralarias, trees in the Clusiaceae family are common members of the forest between 1790 m and 2400 m (V. Liu pers. obs.) and they readily self-propagate at the forest edge and in open areas. This tree species could therefore be a valuable asset in active reforestation and in maintaining or re-establishing declining populations of species associated with them.

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