

APPENDIX

1 | Threatened Woodland Plant Species in the ACT (listed under the *Nature Conservation Act 1980* (ACT))

Appendix 1.1

Tarengo Leek Orchid (*Prasophyllum petilum*)



In accordance with section 21 of the *Nature Conservation Act 1980*, a **leek orchid (Tarengo Leek Orchid) (*Prasophyllum petilum*)** was declared an **endangered** species on 15 April 1996 (formerly Determination No. 29 of 1996 and currently Determination No. 89 of 1997). Section 23 of the Act requires the Conservator of Flora and Fauna to prepare an Action Plan in response to each declaration. The Action Plan requirements are incorporated into this *Lowland Woodland Conservation Strategy*.

Conservation Status (ACT): Endangered

Criteria satisfied (ACT Flora and Fauna Committee 1995)

The species is known or suspected to occur in the ACT region and is already recognised as endangered in an authoritative international or national listing.

The species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the medium-term future, as demonstrated by the following:

- Current severe decline in population or distribution, from evidence based on:
 - severe decline in quality or quantity of habitat.
- Immediate risk of severe decline in population or distribution from evidence based on:
 - very high actual or potential levels of exploitation or persecution.
- Continuing decline or unnaturally extreme fluctuations in population or distribution for a species currently occurring over a small range or having a small area of occupancy within its range.
- Continuing decline or severe fragmentation in population, for species with a small current population.

INTRODUCTION

Tarengo Leek Orchid (*Prasophyllum petilum*) is a rare orchid of grasslands and grassy woodlands of the Southern Tablelands of New South Wales and the Australian Capital Territory. The species was first collected from the Hall Cemetery (ACT) in 1965 but was not formally described as a new species until 1991. It has subsequently been found in two sites in New South Wales (NSW NPWS 2003).

DESCRIPTION

Tarengo Leek Orchid is a slender ground orchid, 150–300 mm in height with one or two dark green leaves to 250 mm. Its flowers are pink–mauve with greenish tinges, about 5–7 mm across in a spike of 40–80 mm long. Growing among taller grasses, it is inconspicuous even when in flower.

DISTRIBUTION AND ABUNDANCE

Tarengo Leek Orchid is known from only one site in the ACT (Hall Cemetery) and two sites in NSW (Captains Flat Cemetery and the Tarengo Travelling Stock Reserve (TSR) near Boorowa). In Spring 2000, the NSW National Parks and Wildlife Service surveyed 47 potentially suitable sites between Binalong and Braidwood without finding further populations of the orchid (NSW NPWS 2003).

The Tarengo TSR population is the largest of the three, with an estimated 100 000 plants flowering in favourable years over an area of about 5 ha (NSW NPWS 2003). The Hall Cemetery population may be in decline. Ninety plants were recorded in 1995 but these numbers have not been recorded since. Even in the good season of 1998 there were 40% fewer plants (total 54). Forty-three plants were recorded in 2000, 47 in 2001 and 29 in 2002. However 63 plants were recorded in 2003. Of these, 9 were tagged in 2001 and 9 others tagged in 2002. Forty plants have been recorded at the Captains Flat cemetery (NSW NPWS 2003).

HABITAT

The genus *Prasophyllum* favours moist depressions and swamps (Jones 1988). Tarengo Leek Orchid occurs on relatively fertile soil in grassy woodland or natural grassland. At Hall and Captains Flat cemeteries, the orchid occurs in moist areas. There is a high water table at the Hall Cemetery (ACT Government 1997b).

At Hall, the habitat is a small remnant Yellow Box–Red Gum grassy woodland (less than one hectare). In the

central area of the cemetery, there are only a few trees, the area being occupied mainly by native and introduced grasses. The diversity of herbs and native grasses is considerable, with the native grasses, Kangaroo Grass (*Themeda triandra*) and wallaby grasses (*Austrodanthonia* spp.) dominant. Exotic grasses present include Phalaris (*Phalaris aquatica*), Cocksfoot (*Dactylis glomerata*), Yorkshire Fog (*Holcus lanatus*), Sweet Vernal Grass (*Anthoxanthum odoratum*), Tall Fescue (*Festuca elatior*) and various clovers. Invasion by these exotic grasses, especially the last three, poses one of the most serious threats to Tarengo Leek Orchid at Hall Cemetery.

ECOLOGY

Prasophyllum is an unusual and poorly known group of orchids. *P. petilum* plants sprout from a tuber, emerging in late autumn or winter. Flowering is mainly in October and November, but not all individuals flower each year, resulting in high annual fluctuation in flowering population numbers, and difficulty in interpreting whether the species is in decline.

The monitoring program at Hall Cemetery has mapped individual plants, and the data provide general insights into the life history of *P. petilum* and its dynamics at the site. The monitoring shows that most *P. petilum* plants have not flowered in consecutive years at the Hall Cemetery, and tuber dormancy has been observed for up to three years. Of the large number of plants that flowered only once, some may have been lost to disturbance by grave digging and related activities. The status of the remainder is not clear (NSW NPWS 2003).

Prasophyllum species are generally pollinated by bees, wasps and other insects attracted by scents and nectar (Jones 1988). Factors affecting fruit set and seed viability in *P. petilum* have not been studied. *Prasophyllum* species reproduce mostly from seed, although plants occasionally produce daughter tubers close to the parent plant (Jones 1988). Successful germination of *Prasophyllum* species requires the presence of a fungal symbiont but the particular mycorrhizal fungi associated with *P. petilum* is unknown (NSW NPWS 2003).

Appendix 1.2

Small Purple Pea (*Swainsona recta*)

In accordance with section 21 of the *Nature Conservation Act 1980*, the **Small Purple Pea (*Swainsona recta*)** was declared an **endangered** species on 15 April 1996 (formerly Determination No. 29 of 1996 and currently Determination No. 7 of 1998). Section 23 of the Act requires the Conservator of Flora and Fauna to prepare an Action Plan in response to each declaration. The Action Plan requirements are incorporated into this *Lowland Woodland Conservation Strategy*.



DESCRIPTION

The Small Purple Pea (*Swainsona recta*) is a slender, erect perennial plant producing several rigid stems 20–30 cm high and with a woody root. The leaves are pinnate, 5–7 cm long with 7–11 narrow leaflets. The purple or bluish flowers are 5–6 mm long, borne in racemes (spikes) of 10 to 21 that are 10–27 cm long.

The pods are rounded-oblong, 7–11 mm long and 4–6 mm wide, hairless except along the suture and base.

DISTRIBUTION AND ABUNDANCE

In the past, the Small Purple Pea was relatively widespread, having been recorded in north-eastern Victoria and the south and central western slopes and tablelands of NSW. Over the past 60 years its known range has been drastically reduced, and fragmented into two clusters of populations, one in central eastern

Conservation status (ACT) Endangered

Criteria satisfied (ACT Flora and Fauna Committee 1995)

- 1.1 The species is known or suspected to occur in the ACT region and is already recognised as endangered in an authoritative international or national listing.
- 1.2 The species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the medium-term future, as demonstrated by the following:
 - 1.2.1 Current severe decline in population or distribution, from evidence based on:
 - 1.2.1.1 Direct observation, including comparison of historical and current records.
 - 1.2.4 Severely fragmented distribution for a species currently occurring over a small range or having a small area of occupancy within its range.

NSW (between Wellington and Mudgee) and the other in the Canberra – Williamsdale district. A single plant was found near Glenrowan, Victoria in 1996. Fewer than 4000 plants now survive (ACT Government 1997b). The largest known population has about 3400 plants and is scattered along 22 km of railway easement in NSW from Tralee to Williamsdale along the ACT/NSW border.

The largest ACT population is on Mount Taylor. In 1996, 94 plants were recorded over an area of 0.03 ha and were tagged. However, in 2001 the tags were removed by persons unknown, so it has not been possible to determine the status of those 94 plants. In October 2001, 67 plants were tagged, and all but 15 of these plants flowered in 2002. A further 49 plants also flowered, giving a total of 101 plants that flowered on Mt Taylor in 2002. In 2003 169 plants flowered. Of these, 85 had been tagged in 2001 and/or 2002, and 84 were newly located and tagged.

A second population of 12 plants is located in suburban Kambah. After burning the plot in 2001, ten of the original tagged plants were recorded. In 2003 seven of the plants were flowering. A single plant has been recorded on the verge of Long Gully Road (Isaacs Ridge) but recent surveys have failed to find it.

In October 2003 a fourth population (several plants) was found in south-east Belconnen in Yellow Box–Red Gum grassy woodland near William Hovell Drive.

HABITAT

The Small Purple Pea is found in open woodland with a native grassy understorey dominated by Kangaroo Grass (*Themeda triandra*), Poa Tussock (*Poa sieberiana* var. *sieberiana*) or speargrasses

In the ACT region, soils are grey sandy or stony loams on undulating terrain and all aspects (Briggs and Leigh 1990).

ECOLOGY

Plants resprout each autumn and winter from a woody root and flower in spring, over 2–3 weeks in October. Seed ripens in late December to early January, and shoots die, leaving only the perennial rootstock to survive the summer. Plants are thought to live for 20 years or more. *S. recta* persists as dormant rootstock,

perhaps over several years. Therefore mortality and recruitment rates are difficult to determine (Briggs and Mueller 1999).

Seed germination is enhanced by fire which breaks the hard seed-coat and thereby enhances germination and also reduces the amount of litter associated with other species, especially Kangaroo Grass. A study of the response of the species to autumn and spring burns indicates that burning is beneficial to the persistence of *S. recta*, although the optimal burning regime still requires further research and monitoring (Briggs and Mueller 1999). The *S. recta* site on Mt Taylor was burnt in the bushfire of January 2003. Two months later some plants were re-shooting. Further follow up monitoring is required to measure the persistence of those plants in subsequent years.

APPENDIX

2 | Threatened Bird species in the ACT (listed under the *Nature Conservation Act 1980* (ACT))

Appendix 2.1

Hooded Robin (*Melanodryas cucullata*)

Conservation Status (ACT): Vulnerable

Criteria satisfied (ACT Flora and Fauna Committee 1995)

The species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the medium-term future, as demonstrated by:

- Current serious decline in population or distribution from evidence based on:
 - direct observation, including comparison of historical and current records; and
 - serious decline in quality or quantity of habitat.
- Continuing decline or serious fragmentation in population, for species with a moderately small current population.



Figure 1: Male Hooded Robin (*Melanodryas cucullata*).

DESCRIPTION

The Hooded Robin reaches up to 170 mm in length. The adult male is a strikingly marked black and white bird. The female is duller with light brownish-grey upper parts. Immature birds have mottled plumage and look like shadowy adults (Schodde and Tidemann 1986; Pizzey and Knight 1998).

DISTRIBUTION AND ABUNDANCE

Four infraspecific taxa of *M. cucullata* are recognised with a distribution across Australia: *melvillensis* (Tiwi Is., NT); *westralensis* (southwestern arid zone); *picata* (northern inland); *cucullata* (southeast) (Schodde and Mason 1999; Garnett and Crowley 2000).

The southeastern sub-species occurs from about Mundubbera, Qld, to Spencer Gulf intergrading with

the other subspecies through the northern Murray–Darling basin. This sub-species is now sparsely distributed, reported as declining throughout its range, and has disappeared from some areas (Garnett and Crowley 2000). In the ACT, small groups have been observed in grassy woodlands in the north and open areas in valleys in the south (ACT Government 1999b). Local disappearances have been documented at a number of sites including Black Mountain, Campbell Park, Mt Ainslie and Tuggeranong Homestead.

Data analysis of Canberra Ornithologists Group's woodland surveys since 1995 at eleven key woodland sites indicates a decline in abundance of the Hooded Robin. There has been a decline at Mulligans Flat Nature Reserve, though there are still likely to be territories on the eastern side of the reserve and at the

adjacent Gooroo woodlands. The species is recorded from the Newline quarry, the southern part of Majura Field firing range and north of Tharwa (Cunningham 2003).

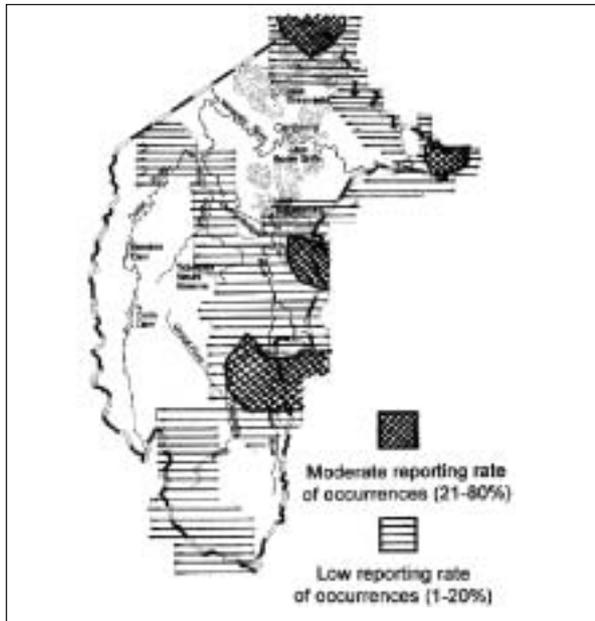


Figure 2: Distribution of *M. cucullata* in the ACT. Redrawn from Taylor and COG (1992).

HABITAT

M. cucullata occupies drier eucalypt forest, woodland and scrub, grasses and low shrubs, as well as cleared paddocks with regrowth or stumps. It avoids dense forests and urban areas. Yellow Box–Red Gum grassy woodland with an understorey of long grass, low shrubs or fallen logs is important habitat.

BEHAVIOUR AND BIOLOGY

M. cucullata is a quiet, shy and largely sedentary bird. It does not flock and is frequently observed in pairs or small groups. It hunts for invertebrates by 'perch and pounce' in grassy clearings where rocks and fallen timber litter the ground (Sullivan 1993).

M. cucullata occupies territories of between 5 and 50 hectares. Small territories are defended in the breeding season (August to December) with the birds occupying larger home ranges in the non-breeding season (Bell 1984; Blakers *et al.* 1984; Schodde and Tidemann 1986; Fitri 1993; Graham 1995). The species builds its nest from bark strips, grass and spiders' web often placed on stumps, in a cavity in a broken trunk or horizontal fork or branch 1–6 m above ground (Pizzey and Knight 1998).

CONSERVATION STATUS

See Table 4.1.

Appendix 2.2

Brown Treecreeper (*Climacteris picumnus*)

Conservation Status (ACT): Vulnerable

Criteria satisfied (ACT Flora and Fauna Committee 1995)

The species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the medium-term future, as demonstrated by:

- Current serious decline in population or distribution from evidence based on:
 - direct observation, including comparison of historical and current records; and
 - serious decline in quality or quantity of habitat.

DESCRIPTION

The Brown Treecreeper (*Climacteris picumnus*) is grey-brown in colour, 160-180 mm in length, with a grey-brown crown, short buff eyebrow and a slight dark line through the eye. The throat and upper breast is plain mouse-grey, cut off by black-edged, pale buff streaks on underparts. The tail is brown with a broad dark sub-terminal band. The undertail coverts are chequered black and white. A distinctive buff wingbar is visible in flight (Pizzey and Knight 1998).

DISTRIBUTION AND ABUNDANCE

Three infraspecific taxa of *Climacteris picumnus* are recognised: *melanotus* (Cape York Peninsula, Qld), *picumnus* (inland eastern Australia, eastern Queensland), *victoriae* (southeastern Australia) (Schodde and Mason 1999; Garnett and Crowley 2000).

C. picumnus is found in sub-coastal environments and the inland slopes of the Great Dividing Range from the Grampians in western Victoria, through central New South Wales (Wagga Wagga, Temora, Forbes, Dubbo, Inverell) to the Queensland border and north to the Bunya Mountains (Schodde and Mason 1999). Within its range the species is described as a common resident, provided the habitat is suitable. Blakers *et al.* (1984) gave recorded densities of 0.04–0.50 birds/ha, however, large reductions in density have been reported over most parts of its range. Between 1990 and 2000, a decline of 70% was recorded in central New South Wales (Traill and Duncan 2000). Walters *et al.* (1999) report that *P. picumnus* has declined or disappeared from most remaining habitat fragments



Figure 1: Brown Treecreeper (*Climacteris picumnus*).

that are under 300 ha, at least partly because females disperse from these areas or die preferentially and are not replaced.

In the ACT, *C. picumnus* is found in dry woodlands and open forest below 1000 metres. Taylor and COG (1992) reported it as relatively common in the Clear Range and along the Lower Naas River. Otherwith other populations occurring at Campbell Park, Burbong, former quarries south of the airport, and Castle Hill, north of Tharwa (Taylor and COG 1992). Local extinction (Caswell Drive area on the western slopes of Black Mountain) (Marchant 1973) and decline (Murrumbidgee River corridor) (Taylor 1987) have been documented. Surveys by the NSW NPWS in the late 1990s recorded the species at several remnant woodland and dry forest sites between Boorowa, Gunning and the ACT and at one site between Crookwell, Taralga, Collector and Tarago (ACT Government 1999e).

The species has continued to decline over the past decade, and this is particularly apparent in woodlands on the urban fringe. Decline in frequency of observations in the ACT is recorded in the COG database for the period 1986–2002. It has not been sighted at Mulligans Flat Nature Reserve since 1999, where it was once common. Local extinction (Caswell Drive area on the western slopes of Black Mountain) (Marchant 1973) and decline (Murrumbidgee River corridor) (Taylor 1987) have been documented. The species is found in small numbers at Gooroo, Majura Field Firing Range and Newline quarry (Cunningham 2003).

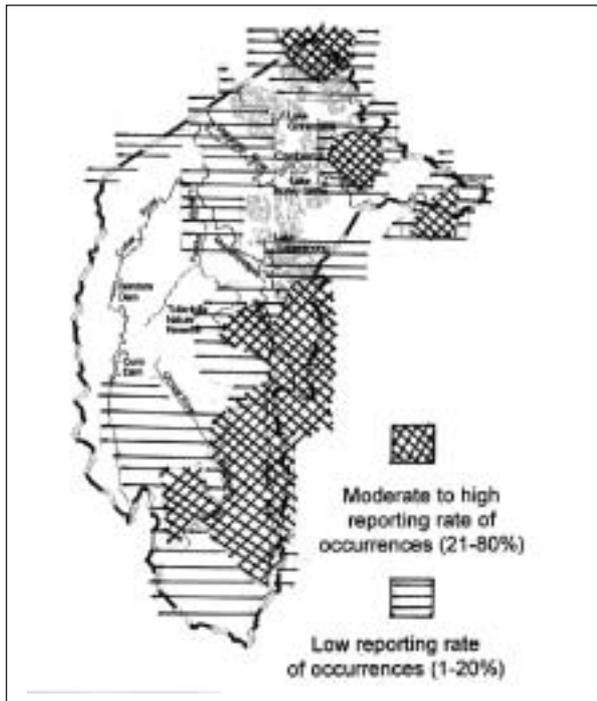


Figure 2: Map showing occurrences of *C. picumnus* in the ACT. Redrawn from Taylor and COG (1992).

HABITAT

C. picumnus frequents drier forests and woodlands as well as paddocks and grasslands where there are sufficient logs, stumps and dead trees nearby. It is not found in areas with a dense woody shrub layer (Higgins *et al.* 2001). In southern NSW, it occurs in various woodland types from sub-alpine woodlands to the box-ironbark woodlands on the drier western slopes. In the ACT *C. picumnus* is found in relatively undisturbed woodland and dry open forest where the native understorey, especially grasses, has been preserved. It is rarely seen in urban areas.

BEHAVIOUR AND BIOLOGY

C. picumnus is a sedentary species, usually seen in pairs or family groups of up to five individuals (Blakers *et al.* 1984). It lives in permanent territories, which change little in size from year to year, regardless of the number of inhabitants (Noske 1982).

C. picumnus spends roughly equal proportions of time foraging in trees and on the ground. It spirals up live and dead trees foraging among crevices, holes and bark on trunks and large limbs for ants and flying insects. On the ground, *C. picumnus* forages on tops of fallen logs, under bark, at bases of grass tussocks, turning over leaves and litter, feeding on invertebrate larvae and insects, particularly beetles and ants (Howe 1921; Noske 1979; Higgins *et al.* 2001).

Typically, the species breeds cooperatively between May and December (Dow 1980; Noske 1980). The breeding group consists of a breeding pair and a few subordinate males, some of which may also help at other nests (Schodde and Tidemann 1986). Groups rarely contain more than one female (Noske 1982). The clutch size is two to three. Young birds remain with the parents for two years or more (Noske 1982).

Nests comprise cups of grass and bark lined with fur and feathers, built in a hollow limb or trunk, at least 3-10 m high. In partly cleared woodlands, they may be built in tree stumps or hollow fence posts near the ground (Noske 1982; Pizzey and Knight 1998).

CONSERVATION STATUS

See Table 4.1.

Appendix 2.3

White-winged Triller (*Lalage sueurii*)

Conservation Status (ACT): Vulnerable

Criteria satisfied (ACT Flora and Fauna Committee 1995)

The species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the medium-term future, as demonstrated by:

- Current serious decline in population or distribution from evidence based on:
 - direct observation, including comparison of historical and current records.

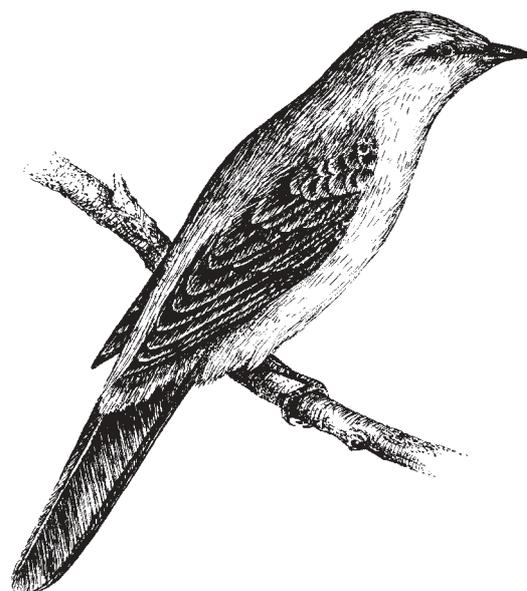


Figure 1: White-winged Triller (*Lalage sueurii*).

DESCRIPTION

The White-winged Triller is a medium sized songbird, 160 to 185 mm in length. The males are glossy black on the cap to below the eye, black on the back, shoulders and wings. Plumage is white underneath, with white edges to wing-coverts forming a netted pattern on the wings. Overall, females are brownish in appearance, being pale brown above, with a dark line through the eye and slight pale eyebrow. The underparts are washed brown, with buff edges to wing feathers forming a netted pattern like the males. Immatures are similar to females (Pizzey & Knight 1998).

DISTRIBUTION AND ABUNDANCE

The White-winged Triller is found across Australia. It is resident near water in the north, but nomadic and seasonally migratory through central and southern Australia and vagrant in northern Tasmania. It is also found in Indonesia and New Guinea. In the Canberra region the species is an uncommon, breeding, summer migrant, and numbers vary from year to year. Birds begin returning from the north in August with most of the population arriving in October. White-winged Trillers are among the first of the summer migrants to leave, departing from mid-summer through to late autumn (Taylor and COG 1992).

Within the local area, records of this species are widespread, but most records are from Hall, Mulligans Flat, Gooroo, the Pinnacle, Campbell Park and the Gigerline–Tharwa area.

Comparison of two extensive Australia-wide data sets co-ordinated by Birds Australia indicates that, in the

South Eastern Highlands region (which includes the ACT), the reporting rate for this species has declined by 54% in the twenty years between atlases. Nationally the decline in reporting rate is 16%. Although it is not clear how a change in reporting rate is related to a change in abundance, additional data on this region from the records of NSW Atlassers indicates a high probability that abundance of this species has continued to decrease over the last 20 years.

HABITAT

The species inhabits eucalypt woodland, mallee, Acacia scrub and spinifex in wetter northern and drier southern regions of Australia (Blakers *et al* 1984). Locally, they are found in and around grassy woodland areas including Yellow Box–Red Gum, Apple Box, Candlebark, or less commonly, Snowgum woodlands.

BEHAVIOUR AND BIOLOGY

The White-winged Triller eats insects, including winged termites, ants, grasshoppers and caterpillars, and feeds both on the ground and in the air (Blakers *et al* 1984). Frith (1984) notes that it takes most food on or close to the ground, in shrubs or amongst fallen timber. It may also feed amongst blossoms, presumably on the nectar (Pizzey 1980). The feeding area may be within the breeding territory, but quite often is up to 1 km away.

Birds are usually seen in pairs. Courting males fly slowly over the territory, singing, with wings and tails spread (Pizzey and Knight 1998). They have a loud canary-like trill, a series of fast notes repeated in a continuous song (Pizzey and Knight 1998). The males

are particularly conspicuous during the breeding period, singing loudly and chasing other males out of nesting territories. Females can be difficult to find as they are more camouflaged (Frith 1984).

Breeding may be semi-colonial with several pairs, although each pair has its own foraging territory (Morcombe 2000). In the Canberra region, most records of the White-winged Triller are of one or two birds. The nest is a small, well-camouflaged shallow

cup of grass, rootlets and spider webs on a fork or horizontal branch of a tree (Pizzey 1980).

CONSERVATION STATUS

See Table 4.1.

Appendix 2.4

Varied Sittella (*Daphoenositta chrysoptera*)

Conservation Status (ACT): Vulnerable

Criteria satisfied (ACT Flora and Fauna Committee 1995)

The species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the medium-term future, as demonstrated by:

- Current serious decline in population or distribution from evidence based on:
 - direct observation, including comparison of historical and current records.

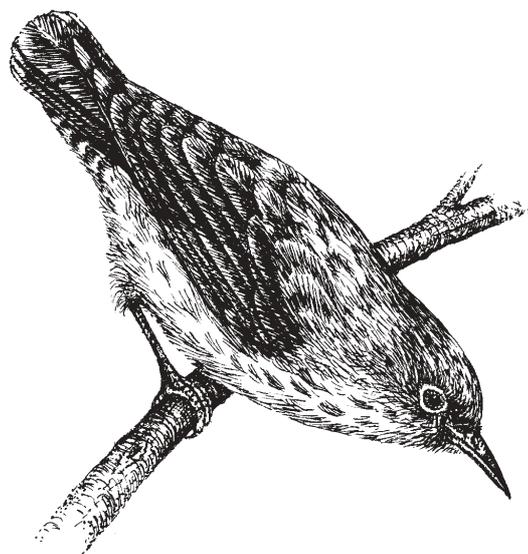


Figure 1: Varied sittella (*Daphoenositta chrysoptera*).

DESCRIPTION

The Varied Sittella is a small stout bird with short wings and tail, 135 to 170 mm in length. Females are slightly smaller than males. Plumage patterns vary with locality. In the ACT region, its head, nape and chin are sooty grey in both sexes, although sometimes paler on the face in males. The mantle and back are pale grey, streaked rather finely with fine dusky streaks. The wings are dark with a cinnamon-rufous bar of cinnamon-rufous, spanning both primaries and secondaries, and are which is most conspicuous in flight. The rump is whitish and the tail is black with a white tip. Underparts are pale, streaked rather finely with dusky brown. The bill is slightly upcurved. Juveniles are similar to adults though paler. (Schodde and Mason 1999; Pizzey and Knight 1998).

DISTRIBUTION AND ABUNDANCE

The species is distributed across much of continental Australia where it occupies a variety of treed habitats. In the ACT the species is recorded in from Aranda bushland, O'Connor and Bruce Ridges, Black Mountain, the Pinnacle (stringybark forest), Mt Ainslie–Campbell Park, Mulligan's Flat, Bluett's (eucalypt forest), Naas and Orroral valleys, Shepherd's Lookout and the Murrumbidgee River Corridor.

Comparison of two extensive Australia-wide data sets co-ordinated by Birds Australia indicates that, in the South Eastern Highlands region (which includes the ACT), the reporting rate for this species has declined by 46% in the 20 years between atlases. Although it is not clear how a change in reporting rate is related to a change in abundance, additional data on this region

from the records of NSW Atlassers indicates a high probability that abundance of this species has continued to decrease over the last 20 years.

HABITAT

Varied Sittellas occupy a variety of habitats across coastal and inland Australia. They are found in most treed habitats except rainforest. Common habitat includes eucalypt forest and woodland, mallee, inland Aacacia, coastal scrub, farm trees, shelterbelts, roadside trees, golf courses, orchards and parks. In the ACT it has been recorded from a wide variety of woodland and forest habitat, although it is more likely to be found in lowland habitats, and is absent from the highest alpine woodlands and wettest forests (Taylor and COG 1992). In this region the species has a preference for areas with Red Stringybark (*Eucalyptus macrorhyncha*). The birds show a preference for rough barked trees (Pizzey and Knight 1998; Morcombe 2000) and spend up to a third of their time foraging on dead branches (Noske 1985).

BEHAVIOUR AND BIOLOGY

The Varied Sittella is a climbing species usually seen in noisy flocks hopping in jerky movements up or down the outer branches of large trees. The small flocks

travel between treetops with bouncing flight, and settle head-downwards on the high branches. They usually work down and around the branches, gripping with their strong feet, probing into crevices and levering away bark to reach their invertebrate prey which includes spiders, beetles, bugs and larvae (Pizzey 1980). The species is highly social, forming breeding groups of 5–7 and sometimes gathers into large winter flocks. In inland areas the groups are nomadic, though nearer the coast they are sedentary. The weakly defended territories are around 13–20 ha (Noske, 1998). The breeding season in the ACT can stretch from September to February (Taylor and COG 1992) and sometimes two broods are attempted. The nest is a deep, well-camouflaged cup (often resembling a branch knot) in an upright, thin (usually dead) fork, of bark and lichen bound with cobwebs, 5–20 m above ground. Members of the flock cooperate in breeding, though one female usually does most of the building and incubating. Noske (1998) suggests the low breeding success (20%) may be due to limited food availability.

CONSERVATION STATUS

See Table 4.1.

Appendix 2.5

PAINTED HONEYEATER (*Grantiella picta*)

Conservation Status (ACT): Vulnerable

Criteria satisfied (ACT Flora and Fauna Committee 1995)

The species is known or suspected to occur in the ACT region and is already recognised as endangered in an authoritative international or national listing.

The species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the near future, as demonstrated by:

- Current severe decline in population or distribution from evidence based on:
 - direct observation including comparison of historical and current records; and
 - severe decline in quality and quantity of habitat.
- Extremely small population.



Figure 1: Male Painted Honeyeater (*Grantiella picta*).

DESCRIPTION

The Painted Honeyeater *Grantiella picta* (Figure 1) is a bright and showy honeyeater, about 16 cm in length. Males have black and white upper plumage with bold yellow edging and white underparts. Females and juveniles are smaller and browner (Simpson and Day 1999; ACT Government 1999f).

DISTRIBUTION AND ABUNDANCE

G. picta is sparsely distributed from southeastern Australia to northwestern Queensland and eastern Northern Territory. The greatest concentrations, and almost all breeding, occur on the inland slopes of the Great Dividing Range in Victoria, New South Wales and Queensland, south of 26°S (Blakers et al. 1984). After April the species migrates to semi-arid regions, including northeastern South Australia, central and western Queensland and central Northern Territory. *G. picta* is reported as declining throughout its range and there are no recent records for southeastern South Australia (Garnett and Crowley 2000).

In the ACT region, *G. picta* appears to be a strict migrant (Wilson 1984), with small numbers recorded up until the end of the 1960s returning to the region in November each year, some breeding immediately and departing by February. Since Between 1971, and 2002 there were only three published records of single birds and one record of a pair in the ACT. In the Spring/Summer of 2002–03 there was an influx of Painted Honeyeaters to the ACT and nearby areas. The number and locations of Canberra Ornithologists Group (COG) sightings suggest at least 35 individuals were present. The influx was possibly due to the widespread drought affecting core habitat of the species in western NSW and QLD, and perhaps also to the particularly abundant flowering and seeding of mistletoes that year (Lenz and Dabb 2003). Canberra Ornithologists Group (COG) has progressively downgraded the status of *G. picta* from 'rare summer breeding migrant' to 'vagrant' to not listing the species at all in the current field list of birds of the Canberra region (ACT Government 1999f).

HABITAT

G. picta frequents eucalypt forests and woodlands, particularly those that are infested heavily with mistletoes. It may be found in acacia woodlands, and paperbarks and casuarinas along watercourses (Blakers et al. 1984; Schodde and Tidemann 1986; Pizzey and Knight 1998). It is also seen in treed farmland and gardens (Pizzey and Knight 1998). It is believed that the critical, core breeding habitat for *G. picta* in the Murray – Darling Basin is probably the Boree (*Acacia pendula*) and Willow Wattle (*A. salicina*) scrub, with abundant Grey Mistletoe (*Amyema quandong*) on the Hay Plains and similar country through to the Brigalow (*Acacia harpophylla*) in southern Queensland (L. Conole in ACT Government 1999f).

In the ACT, the species has historically been associated with River Oak (*Casuarina cunninghamiana*) along river systems, especially the Murrumbidgee River, where River Oak is host to the Needle-leaf Mistletoe (*Amyema cambagei*). Wilson (1984) noted the large trees near Uriarra Crossing as a breeding area. However, since the earlier reports there have been no records of large numbers of Painted Honeyeaters associated with riverine Casuarina. The numerous sightings of Painted Honeyeaters during the dry Spring /Summer of 2002–03 were from woodlands and forests away from the major river systems, including Mulligans Flat NR, Campbell Park, Mugga Lane, 'Woden' property, Bibaringa, Mt Taylor NR, Tidbinbilla NR, near Hall and between Sutton and Gunning.

BEHAVIOUR AND BIOLOGY

G. picta is arboreal, foraging on mistletoes, particularly *Amyema* spp., mainly in upper canopies of trees. It feeds almost exclusively on mistletoe berries but also eats nectar from mistletoe flowers and insects (Higgins et al. 2001). The breeding distribution of *G. picta* is dictated by the presence of mistletoes, which are largely restricted to older trees and by the seasonality of mistletoe fruiting (Garnett and Crowley 2000). However, extent of vegetation is also important. Birds

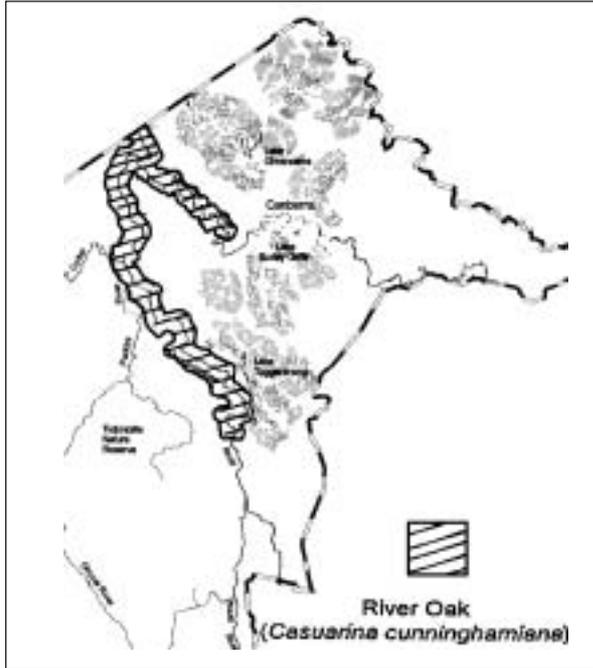


Figure 2: Distribution of riverine habitat (River Oak woodland) used by *G. picta* in the ACT.

are less likely to be found in strips of remnant woodland, such as occur along roadsides or in windbreaks, than in wider blocks (Robinson 1994).

G. picta may breed in the ACT region, particularly between November and February. Nesting is in loose colonies. The nest is a flimsy cup of plant material and spider web in foliage, 3–20 m from the ground. Both male and female build the nest, and both incubate the eggs (Whitmore and Eller 1983; Schodde and Tidemann 1986). Both parents feed the young, mostly on insects and mistletoe berries (Schodde and Tidemann 1986). The male bird defends the territory in a spectacular manner, flying high over the canopy and calling constantly (Eddy 1961).

Outside the breeding season, the species is usually seen in pairs, but sometimes in small flocks (Blakers *et al.* 1984). The ecology of the species in the non-breeding season is virtually unknown, but movement seems to be influenced by rainfall and fruiting of mistletoes (Pizzey and Knight 1998).

CONSERVATION STATUS

See Table 4.1.

Appendix 2.6

REGENT HONEYEATER (*Xanthomyza phrygia*)

Conservation Status (ACT): Endangered

Criteria satisfied (ACT Flora and Fauna Committee 1995)

The species is known or suspected to occur in the ACT region and is already recognised as endangered in an authoritative international or national listing.

The species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the near future, as demonstrated by:

- Current severe decline in population or distribution from evidence based on:
 - direct observation including comparison of historical and current records; and
 - severe decline in quality and quantity of habitat.
- Extremely small population.



Figure 1: Regent Honeyeater (*Xanthomyza phrygia*).

DESCRIPTION

The Regent Honeyeater (*Xanthomyza phrygia*) is one of the most spectacular Australian honeyeaters. Adult birds are 200–220 mm in length. The head is black with yellowish, orange, warty, facial skin that extends over and around the eye. The back and breast are pale lemon scaled in black. The wings are black with conspicuous yellow patches. The tail is also black with prominent yellow edging.

DISTRIBUTION AND ABUNDANCE

X. phrygia was formerly distributed throughout southeastern Australia from Adelaide, SA to Dalby, Qld, and from the coast, inland to the western slopes of the Great Dividing Range (Garnett and Crowley 2000). It was reported as widespread and numerous throughout this range with many historical records of local influxes. Both the range and numbers have declined greatly, probably since the 1940s (Higgins *et al.* 2001). *X. phrygia* is probably now extinct in South Australia, an occasional visitor to southeast Queensland, found in a few areas north of the Great Divide in Victoria, and along the western slopes and plains of NSW and the ACT. In NSW the species has been regularly recorded in the Bundarra–Barraba area, Warrumbungle National Park and the Capertree Valley.

The ACT region lies at the maximum altitudinal limit of the distribution of *X. phrygia* (Taylor and COG 1992). In this region records show a preference by the species for Yellow Box–Red Gum Grassy Woodland along the lower slopes of Mounts Ainslie and Majura, extending through Mulligans Flat Nature Reserve to the Sutton and Lake George areas. The species was fairly common in the ACT and was recorded in areas where it is now rarely observed including the slopes of Black Mountain, along the Murrumbidgee River, Tharwa, Castle Hill, and suburban Canberra.

The serious decline in numbers of the species is evident in the population estimates of 1500 (Garnett and Crowley 2000) and 500–1500 individuals (Higgins *et al.* 2001). ACT records show a decline since the 1960s (ACT Government 1999g). From 1964 to 1969, the species was regularly reported in small numbers. No birds were recorded from 1969 to 1974. Since 1974, the species has been generally recorded as single birds or pairs, except for small flocks in 1995. In that year four pairs bred in the North Watson area (Bounds *et al.* 1996). In 1998, three pairs of Regent Honeyeaters were recorded in Mulligans Flat NR and one pair at Gooroo. Breeding was attempted but was unsuccessful (COG 2000).

HABITAT

X. phrygia generally inhabits drier temperate woodlands and open forests, including forest edges, wooded farmland and sometimes urban areas with mature eucalypts. Particularly important are associations in moister, more fertile sites along creeks and river valleys and on lower slopes of foothills (Higgins *et al.* 2001). The species is an arboreal

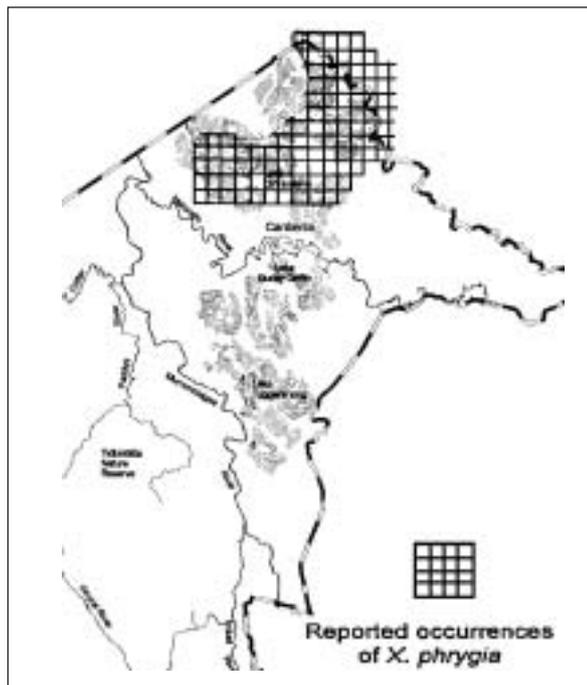


Figure 2: Location of occurrences of *X. phrygia* in the ACT. Redrawn from Taylor & COG (1992).

nectarivore relying on locally abundant nectar and associated insect food sources. Movements coincide with the flowering of several species of eucalypt, especially Mugga Ironbark (*Eucalyptus sideroxylon*), White Box (*E. albens*), Yellow Box (*E. melliodora*), Yellow Gum (*E. leucoxyton*), Red Box (*E. polyanthemos*), and River Red Gum (*E. camaldulensis*). In riparian areas in NSW, the birds also use River Oak (*Casuarina cunninghamiana*), where the trees are heavily infested with the Needle-leaved Mistletoe (*Amyema cambagei*). In the ACT region, *X. phrygia* is associated with naturally occurring flowering Yellow Box and Blakely's Red Gum and various species of eucalypts and grevilles planted in urban areas.

BEHAVIOUR AND BIOLOGY

X. phrygia is an irruptive and partly migratory species, generally moving northwards in autumn and winter, returning south to breed in spring. Its movements are complex but mainly governed by the flowering of a small group of eucalypts (Higgins *et al.* 2001). It is conspicuous, noisy and aggressive when congregating at food. In spring of 1995, seven of the eight *X. phrygia* nesting in Yellow Box–Red Gum Grassy Woodland near north Watson were captured and colour banded. Subsequently, two of these birds were observed in the Capertree Valley (D. Geering in ACT Government 1999g), a significant movement of

270 km. Birds may retreat to core areas such as the Capertree Valley during poor flowering years.

X. phrygia usually nests in the crowns of tall eucalypts and pairs defend their breeding territory. Nesting is mainly from September to November but is reported as occurring later (December–January) in the ACT (Wilson 1984). The species nests solitarily or in loose colonies. The solidly constructed cup-shaped nest, of

bark or coarse dry grass bound with cobweb, is placed in the fork of a tree or clump of mistletoes. Clutch size is normally two. The female incubates the eggs and both adults feed nectar, lerp and invertebrates to the young (ACT Government 1999g; Higgins *et al.* 2001).

CONSERVATION STATUS

See Table 4.1.

Appendix 2.7

Superb Parrot (*Polytelis swainsonii*)

Conservation status (ACT): Vulnerable

Criteria satisfied (ACT Flora and Fauna Committee 1995)

The species is known to occur in the ACT region and is already recognised as vulnerable in an authoritative international or national listing.

The species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the medium-term future, as demonstrated by:

- Current serious decline in population or distribution from evidence based on:
 - direct observation, including comparison of historical and current records;
 - serious decline in quality or quantity of habitat; and
 - serious threats from herbivores, predators, parasites, pathogens or competitors.
- Seriously fragmented distribution for a species currently occurring over a moderately small range or having a moderately small area of occupancy within its range.
- Small population.

DESCRIPTION

The Superb Parrot (*Polytelis swainsonii*) is a slender grass-green parrot, about 400mm in length, with a distinctively long tail. The male's general plumage is brilliant green with yellow–green underparts. The forehead, throat and cheeks are yellow and there is a scarlet band across the foreneck. The female is green, with a dull bluish-green face (Forshaw and Cooper 1981).



Figure 1: Male Superb Parrot (*Polytelis swainsonii*).

DISTRIBUTION AND ABUNDANCE

P. swainsonii occurs in central and eastern inland NSW, parts of northern ACT and northern central Victoria (mainly Barmah Forest). It formerly occurred in southern and central Victoria (Garnett and Crowley 2000; Higgins 1999).

In NSW, there are two main centres of breeding distribution, in the Riverina and Southwest Slopes regions. The Riverina area includes Griffith, Wagga Wagga and Deniliquin where birds may be present all year round. This area adjoins the species Victorian

range. The Southwest Slopes area is bounded approximately by Cowra, Rye Park and Yass in the east (including parts of Yarrowlumla Shire and the ACT near Hall) and Grenfell, Young, Cootamundra and Coolac in the west (Webster and Ahern 1992; Higgins 1999; ACT Government 1999d).

Birds move north to areas adjoining the NSW breeding areas in the winter months. The proportion of the population moving north is poorly known. Some remain in the breeding range (Higgins 1999).

In the ACT region, *P. swainsonii* is present during the breeding season, and is sparsely distributed in the area between Canberra, Yass, Sutton and Gundaroo (Davey 1997). This coincides with the distribution of the Yellow Box–Red Gum Grassy Woodlands. Most ACT records are from the Hall area.

The total breeding population of *P. swainsonii* is estimated as less than 5000 pairs. The species has suffered a contraction in range and great numbers were killed early in the 20th century by poisoned grain intended for eradication of Galahs (*Eolophus roseicapillus*) and rabbits. Large numbers were also trapped for the aviary trade (Higgins 1999). Numbers may be higher now than in the 1940s, but trends in habitat suggest a decline is likely (Webster 1998). In the ACT, historical records and results of surveys show a decline from former numbers (Davey 1997).

HABITAT

P. swainsonii inhabits open, tall riparian River Red Gum (*E. camaldulensis*) forest along the Murrumbidgee and Murray rivers. Elsewhere it mainly occupies box woodlands. In the NSW South Western Slopes breeding region, *P. swainsonii* nests in riparian woodland containing *E. camaldulensis* and box–gum woodlands (Yellow Box (*E. melliodora*), Blakely's Red Gum (*E. blakelyi*), Apple Box (*E. bridgesiana*), Grey Box (*E. microcarpa*), White Box (*E. albans*), and Red Box (*E. polyanthemus*)) away from watercourses (Webster and Ahern 1992). Birds may forage up to 15 km from nests. They rarely cross open ground in foraging, and clearance of corridors used for local movements is considered a threat to the species (Garnett and Crowley 2000). North of Canberra, nesting and foraging areas coincide and the birds move little distance during breeding (Webster and Ahern 1992; Martin 1996; Davey 1997). In the ACT region, Yellow Box–Red Gum Grassy Woodlands form the major habitat of the species, with *E. blakelyi* being the main source of nesting hollows (Davey 1997).

Many of the sites where *P. swainsonii* was recorded in a 1998 NSW NPWS survey are travelling stock reserves or other crown reserves with high quality remnants of Yellow Box–Red Gum Grassy Woodland.

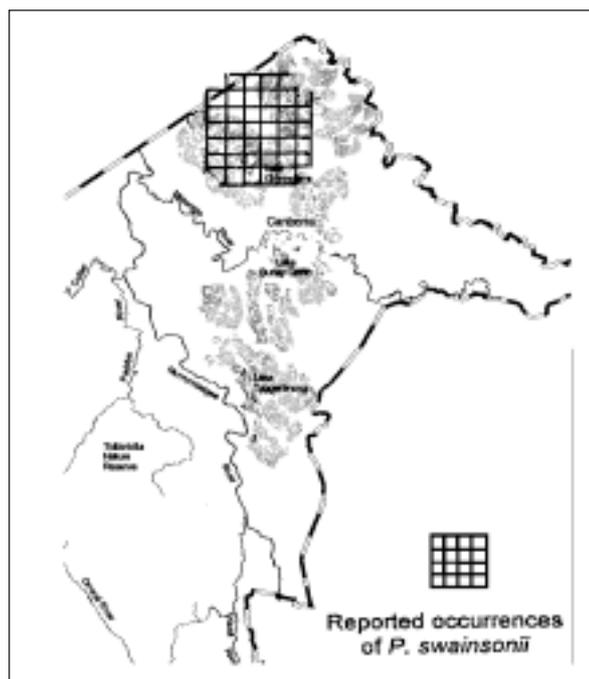


Figure 2: Locations of occurrences of *P. swainsonii* in the ACT. Redrawn from Taylor & COG (1992).

In most cases, the sites are surrounded by highly modified country.

BEHAVIOUR AND BIOLOGY

Movements are poorly known. *P. swainsonii* arrives in the ACT region during August to breed, departing the following January. In the non-breeding season, birds are usually in small flocks of up to 30 with equal proportions of males and females. In the breeding season, male flocks of a similar size forage to feed nesting females. Nesting begins by September and continues through to November. Loose nesting colonies are often found, and form around clusters of nest trees. Four to six eggs are laid and incubated for about 20 days. Chicks fledge at about five weeks. The female remains at the nest throughout incubation and until the chicks are well developed.

P. swainsonii is active mostly in the early morning and late afternoon, feeding mainly on the ground but also in shrubs, understorey and tree canopy. The main foods are seeds of grasses and herbaceous plants, also fruits, berries, nectar, flowers and occasionally insects (Higgins 1999). Davey (1997) stated that in the ACT region, *P. swainsonii* rarely feeds in trees, preferring to feed on the ground, particularly favouring grasses and other plants associated with Yellow Box–Red Gum Grassy Woodland.

CONSERVATION STATUS

See Table 4.1.

Appendix 2.8

Swift Parrot (*Lathamus discolor*)

Conservation status (ACT): Vulnerable

Criteria satisfied (ACT Flora and Fauna Committee, 1995)

The species is known to occur in the ACT region and is already recognised as vulnerable in an authoritative international or national listing.

The species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the medium-term future, as demonstrated by:

- Current serious decline in population or distribution from evidence based on:
 - direct observation, including comparison of historical and current records;
 - serious decline in rate of reproduction or recruitment; serious increase in mortality, serious disruption of demographic or social structure; and
 - serious decline in quality or quantity of habitat.
- Small population.

DESCRIPTION

The Swift Parrot is a small, streamlined, bright grass-green parrot, about 250 mm in length. It has a dusky red spike-shaped tail, red forehead and throat bordered by yellow, and blue crown and cheeks.

DISTRIBUTION AND ABUNDANCE

L. discolor breeds only in Tasmania and over-winters mainly in the box–ironbark forests and woodland inland of the Great Dividing Range in NSW and Victoria, occasionally extending to South Australia and Queensland (Higgins 1999). Non-breeding birds are highly mobile, with movements varying between years and not well known (Garnett and Crowley 2000; Higgins 1999). The breeding range of *L. discolor* is now largely restricted to the Tasmanian east coast within the range of Tasmanian Blue Gum (*Eucalyptus globulus*). There is also a small breeding population in northern Tasmania between Launceston and Smithton. The area used by *L. discolor* has been greatly reduced and the foraging habitat used by breeding birds reduced by half (Brereton 1998).



Figure 1: Swift Parrot (*Lathamus discolor*).

Censuses of the breeding population in 1987–8 (1320 pairs) and 1995–6 (940 pairs) showed a decline of 30% (Brown 1989; Plowman 1996; Brereton 1996). Small numbers of *L. discolor* are recorded intermittently in the ACT although not each year (Brereton 1998).

HABITAT

Grassy Blue Gum (*E. globulus*) forest in eastern Tasmania is the preferred habitat of *L. discolor* in the breeding season. This habitat is highly fragmented, with remnant patches of less than one hectare being commonly used (Brereton 1996). On the mainland, the species inhabits mainly dry open eucalypt forests and woodlands, usually box-ironbark communities and also Yellow Box–Red Gum woodland. Urban areas and farmlands with remnant woodland are also visited (Higgins 1999).

L. discolor is likely to occur anywhere in the lower parts of the ACT below 700 m. ACT records of the species over the last 25 years are from inner Canberra suburbs, Gungahlin and Hall (ACT Government 1999c). In April 2000, ten birds were recorded in Namadji National Park (Cotter Hut fire trail) feeding in *Eucalyptus viminalis*. The species may regularly use this habitat during its northward migration (COG 2001).

BEHAVIOUR AND BIOLOGY

L. discolor is mainly an arboreal feeder, usually in the outer canopy of *Eucalyptus* trees. Their main food is nectar, also psyllids, lerps, seeds and fruit. They occasionally come to ground to drink and feed on seeds and fallen material (Higgins 1999). During the

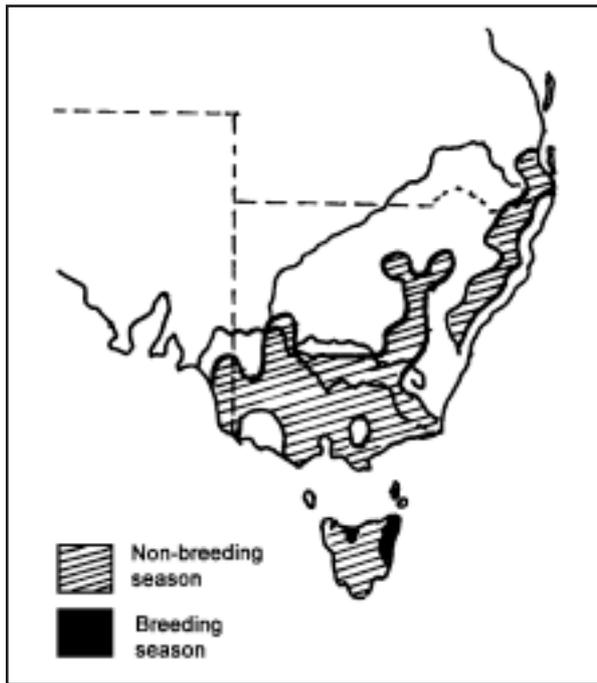


Figure 2: Distribution of *L. discolor* in southeast Australia, showing its breeding and winter range.

breeding season in Tasmania the main food of *L. discolor* is nectar from flowering *E. globulus*. On the mainland, the population feeds mainly on nectar from winter flowering eucalypts.

The species has been recorded foraging on lerps and psyllids on a range of eucalypt species on the mainland including Blakely's Red Gum (*E. blakelyi*) (Robinson 1994). Some of the largest irruptions of *L. discolor* into NSW have coincided with a great abundance of lerps (Blakers *et al.* 1984).

L. discolor occurs in small flocks appearing where eucalypts are flowering. The flock flies quickly and with remarkable precision (Schodde and Tidemann 1986). This fast, high flight makes the bird difficult to identify, unless it is in a feeding group. The species is sometimes confused with lorikeets.

In Tasmania, *L. discolor* nests only in hollows in mature and senescent eucalypts

CONSERVATION STATUS

See Table 4.1.