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Plains-wanderer and other grassland birds



A guide for identifying Plains-wanderer and other co-occurring grassland birds, and assisting in their conservation

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AUSTRALIA

Native grasslands once occurred across large areas of Australia, but since European settlement, the extent and condition of these grasslands have declined, especially those in south-eastern Australia. Animals and plants that depend on these grasslands are under increasing stress and many are now considered threatened, including grassland specialists such as the Eastern Barred Bandicoot, Grassland Earless Dragon and Plains-wanderer.

The Plains-wanderer is a unique and ancient bird. It is the only member of the family Pedionomidae and relies solely on the grasslands of south-eastern Australia for its habitat. The Plains-wanderer is listed as Critically Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Its population is estimated to be between 250-1000 birds.

Conservation of Plains-wanderer and other grassland species depends on the successful protection and management of grassland habitat. This booklet is intended for use by landholders, land managers and local communities in areas where Plains-wanderers occur. It provides information on the conservation of this species and its grassland habitat, as well as a guide to assist in the identification of Plains-wanderer and other co-occurring grassland bird species.

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Female Plains-wanderer. Photo: Chris Tzaros

The Plains-wanderer once occurred across large parts of southern and central Queensland, New South Wales, western Victoria, and south-eastern and central South Australia, with some unconfirmed reports in the Northern Territory. Its distribution is now much more restricted and scattered across its range, with the species relying on habitat in protected areas as well as on free-hold agricultural land (for further detail see species profile on page 12).

The main factor contributing to the decline of the Plains-wanderer is the loss of suitable temperate grassland habitat across south-eastern Australia. Typified by relatively low rainfall and infertile soils, temperate grasslands have dramatically declined in extent and condition. Changes in fire regimes, weed invasion, clearing for urban development and cultivation for agriculture all contribute to the reduced availability of this habitat for the Plains-wanderer. Two of these grassland communities (the *Natural Grasslands of the Murray Valley Plains* and the *Natural Temperate Grassland of the Victorian Volcanic Plain*) are listed as threatened ecological communities under the EPBC Act 1999.

As a result of the widespread loss of grassland habitat, the Plains-wanderer has only two remaining strongholds: the Riverina region of New South Wales and the Northern Plains of north-central Victoria. Both of these areas have been named as Key Biodiversity Areas (KBAs) by BirdLife International because of their significance for the Plains-wanderer. Within these strongholds, the Plains-wanderer relies on the protection and management of native grassland areas. Both natural grasslands and those that occur as a result of past land clearing now provide important Plains-wanderer habitat.

Plains-wanderers are picky! They prefer sparse grasslands on red or red-brown clay soils. Ongoing research of their chosen habitat shows just how picky they are. On the Patho Plains they occur at sites with an average of 25-30% bare ground, 25-30% cryptogamic crust cover and 20% grass cover. Grasses and herbs should be 5-15cm in height and spaced 10-20cm apart, although taller tussocks up to 30cm may also be present. Plains-wanderer will avoid areas that are within 200m of tall trees (10m tall or more).

These habitat requirements fit well with lightly-grazed native grasslands, making Plains-wanderer habitat management compatible with some pastoral activities. Habitat becomes unsuitable if it is overgrazed, in times of drought or if it becomes too dense as a result of insufficient grazing or significant rainfall. Plains-wanderers may also occasionally be found in cereal stubble, low sparse chenopod scrublands and low cereal crops, but these habitats cannot support long-term populations.



Plains-wanderer habitat in Victoria. Photo: Mark Antos

Threats to the Plains-wanderer

Ongoing habitat loss

An estimated 95% of Plains-wanderer habitat has been modified or lost since European settlement. As most of the remaining habitat occurs on private land, co-operation between relevant landholders is critical for Plains-wanderer conservation. Grasslands and native pastures can provide suitable habitat for Plains-wanderers when appropriate management is applied. Limiting the use of fertilizers, selecting native pasture plants over introduced pasture plants and controlling environmental weeds will contribute to improving the suitability of habitats for Plains-wanderers.

Inappropriate habitat management

The Plains-wanderer has specific habitat requirements, which means that grasslands can quickly become unsuitable if not managed appropriately. Overgrazing by stock and rabbits, particularly during droughts can result in grasslands becoming too sparse. At the other extreme, too little grazing can result in vegetation becoming too tall and dense for Plains-wanderer. Where grasslands have been identified as important habitat for Plains-wanderers, trees and tall shrubs should not be planted.

Climatic events

Extreme climatic events such as extended periods of drought or flooding can damage or destroy Plains-wanderer habitat. Drought can lead to sparseness in the grassland vegetation, and flooding can cause over growth of vegetation. Predicted climate change is likely to increase the occurrence of extreme climatic events in the future. Maintaining habitat stability for this species in light of these climatic changes is an ongoing management concern.

Predators

Plains-wanderer are vulnerable to predation by introduced predators such as the European fox and feral cat. Birds of prey are also known to predate on grassland birds like Plains-wanderer, especially when tall trees provide vantage points over sparse grasslands.

Pesticides

The use of broad-spectrum pesticides near Plains-wanderer populations can adversely affect the species through direct poisoning and disturbance, as well as through the loss of insects as a food source.

Game Hunting

In Victoria licensed game hunting of Stubble Quail is allowed (mid-March to early-June) in areas where Plains-wanderer may occur. Hunters must take care when identifying their target as Plains-wanderer may be mistaken for Stubble Quail. If you're not sure, don't shoot.



Quail hunting can impact Plains-wanderer. Photo: Mark Antos

Small Population Size

Plains-wanderer populations have become fragmented and isolated, and potentially vulnerable to issues of small population size including low encounter rates between breeding adults, low rates of recruitment, in-breeding and reduced genetic diversity.

A *Draft National Recovery Plan* for Plains-wanderer was released in 2015 in response to the reclassification of the species as critically endangered under the federal EPBC Act and the inclusion of the species in the national *Threatened Species Strategy*. The national recovery team has been investigating further strategies for Plains-wanderer conservation, including the suitability of the species for a captive breeding program.

To save Plains-wanderer from extinction, grassland habitat is being managed with a combination of approaches on public and private land. Key habitat has been protected in Oolambeyan National Park (NSW) and Terrick Terrick National Park (Vic) and strategic sheep grazing is used to keep grasses at an ideal height and density for Plains-wanderer. Burning and slashing may also be used and research is underway to determine which grazing/burning regimes will deliver the best outcomes for Plains-wanderer habitat.

Conservation organisations such as Trust for Nature and Bush Heritage have purchased land for the conservation of Plains-wanderer and their habitat. On private land, conservation covenants have been negotiated to protect key areas of Plains-wanderer habitat. These covenants integrate habitat management strategies with existing farming activities.

Regular, ongoing surveys for Plains-wanderer are conducted throughout its range to help understand and monitor population fluctuations. Local community groups and landholders are invaluable in the ongoing survey efforts.

Key partners in the fight to save Plains-wanderer from extinction include:

- dedicated private landholders
- government departments and natural resource management groups from New South Wales, Victoria, Queensland and South Australia as well as Federal government
- conservation organisations
- interest groups
- scientists and universities
- recreational birdwatchers and conservation volunteers
- zoos for captive breeding and education

There are a number of ways you can help conserve the Plains-wanderer and other threatened grassland species:

Manage habitat for Plains-wanderer

If you own or manage land with native grassland habitat and would like more information on how to best manage it for Plains-wanderer, please contact your local government, local land management office or a conservation organisation for advice.

Report sightings and bands

If you see a Plains-wanderer (or another grassland bird), report your sighting to BirdLife Australia's Atlas Project. Visit birdata.birdlife.org.au for more information or send an email to plains.wanderer@birdlife.org.au. Some individual Plains-wanderer may have leg bands. Bands can be reported to the Australian Bird and Bat Banding Scheme at environment.gov.au/science/bird-and-bat-banding



Bird band. Photo: Mark Antos

Be cautious when birdwatching

If you go looking for Plains-wanderer, make sure you check with the appropriate land manager to see if site access is possible. On private land, you should always get the permission of the land owner before accessing their property. Be aware of the time of year and your potential to disturb these birds during breeding periods.

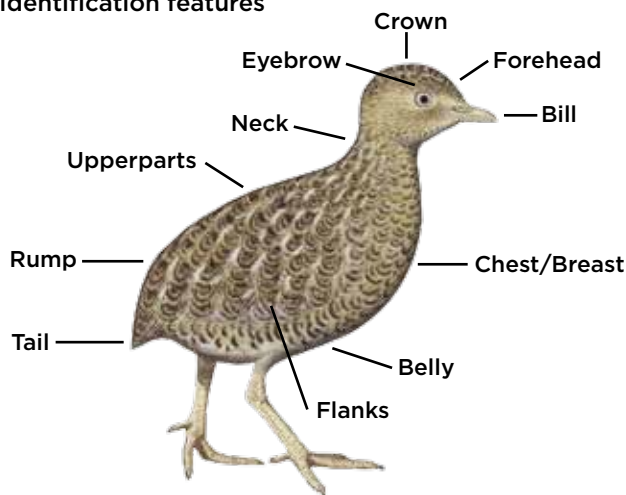
Volunteer or support a conservation organisation

There are a number of conservation organisations and community groups working to save Plains-wanderer and other threatened species across Australia. You can support these groups by becoming a member, making a donation or volunteering your time.

At BirdLife Australia, the Threatened Bird Network encourages community participation in threatened bird research and conservation projects, including work with the Plains-wanderer. For more information on volunteer opportunities with threatened birds see birdlife.org.au/tbn

This booklet provides information on the Plains-wanderer as well as other bird species that inhabit native grasslands of Australia. Some birds are seasonal or occasional visitors to these grasslands. Others are residents and encountered all year-round. Some, like the Plains-wanderer may be considered grassland specialists, while other species can occupy a variety of other habitat types. Many of these species share similar characteristics to Plains-wanderer, such as ground nesting or foraging amongst grass tussocks for seeds and insects. Although there are a number of other grassland species that could potentially be included in this booklet, we have limited our Identification Guide to 12 species most relevant when looking for Plains-wanderer.

Identification features



Male



Female



Size



Identification tips



Habitat



Seasonal movement



Diet



Flush/Flight behaviour



Breeding

bp Breeding plumage

im Immature

nbp Non-breeding plumage

Shaded area indicates verified bird sightings, held in BirdLife Australia's Atlas of Australian Birds.



The maps provided here are adapted from the 'New Atlas of Australian Birds' (Barrett et al. 2003), which is the result of over half a million hours of surveys by more than 7,000 BirdLife Australia volunteers. We would like to thank all our volunteers for this fantastic effort.

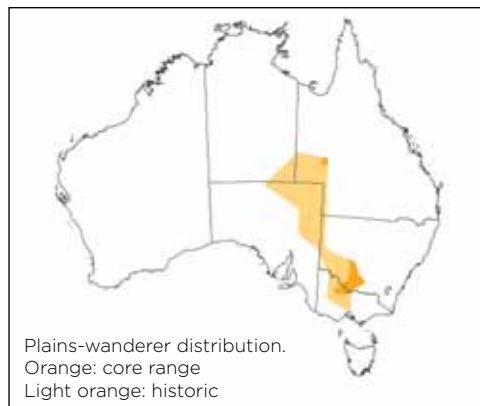
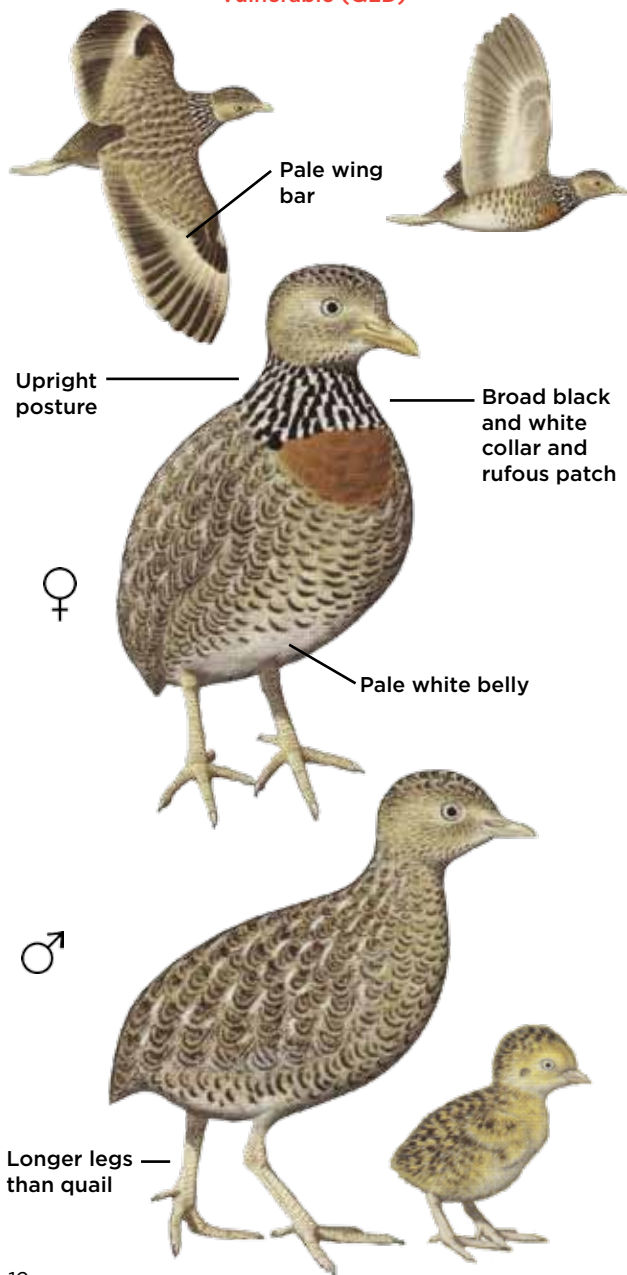
The monitoring of Australian birds through the Atlas project continues, and plays an important role in tracking changes in bird populations and habitats.

If you are interested in Atlassing, visit:
birdlife.org.au/projects/atlas-and-birdata

PLAINS-WANDERER

Pedionomus torquatus

CRITICALLY ENDANGERED (EPBC Act 1999)
Critically Endangered (VIC) Endangered (NSW and SA),
Vulnerable (QLD)



↔ 15-17cm

i Female is slightly larger than male and brighter in colour. Legs normally pale-yellow.

Males and young may be confused with Button-quails, but are larger with a finer bill and much longer legs with a hind toe. Also similar to Stubble Quail, but lankier with a weaker flight pattern.

🌿 Inhabits low and sparse, native grasslands, with a red or red-brown clay soil. Also sometimes found in low chenopod shrublands. Requires particular habitat structure (see description on page 5 for further detail).

☀ Sedentary in favoured habitat, will move into suitable habitat or disappear altogether if grassland structure becomes unsuitable.

🐛 Forages during the day on seeds, berries, leaves and invertebrates.

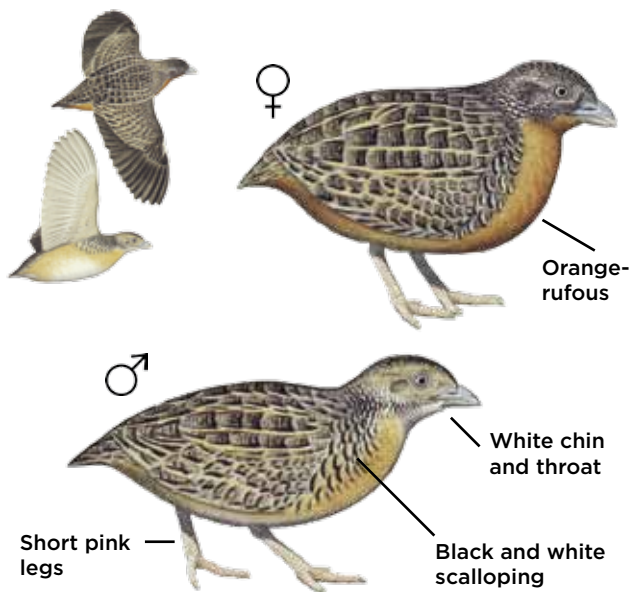
🚶 When approached, is likely to walk away slowly. May also freeze in crouch position or stand still on extended toes with head held high to look around. Will flush only occasionally. Flight is laboured (slower than Stubble Quail) and heavy with legs hanging lower than tail. Flies parallel to the ground, seldom rising more than 3-4m. Has a gradual vertical descent.

🐣 Female is territorial and may breed with several males in her territory, laying 2-5 eggs in a nest on the ground (small hollow lined with fine grasses). Male cares for eggs and chicks alone. Season: May - February, but may breed year round in suitable conditions.

RED-CHESTED BUTTON-QUAIL

Turnix pyrrhothorax

VULNERABLE (VIC)



↔ Male 12-14, female 14-16cm

i "Chunky" silhouette, orange-buff chest and flanks.

🌿 Grasslands and woodlands. Prefers slightly denser grasslands to Plains-wanderers with little or no tree cover.

☀️ Poorly known. May be sedentary in Qld and northern and central NSW. Present during warmer months in SA, Vic and southern and eastern NSW.

🐛 Feeds on seeds and insects at night, especially dawn/dusk.

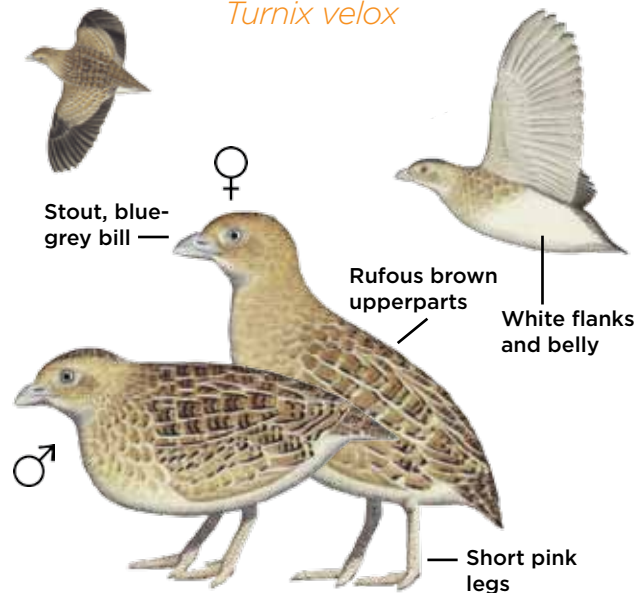
🏃 Difficult to flush as it often runs quickly with head down and then squats. When flushed, flies fast, flat and low. Small wings flap rapidly and it will drop tail-first into cover.

🐣 Female holds territory and solicits males. Male incubates eggs and looks after young. Season: probably September-February.



LITTLE BUTTON-QUAIL

Turnix velox



↔ Male 12-14, Female 14-16cm

i Similar to Red-chested Button-quail, but is distinguished by white flanks and belly. Has a stouter grey bill.

🌿 Grasslands and woodlands. Prefers native grassland for breeding.

☀️ Not well known. May move seasonally between semi-arid and arid areas. Present in south-west NSW in spring/summer after rainfall. May stay year round in southern and eastern regions following high summer rainfall.

🐛 Forages mainly at night on grass seeds and insects.

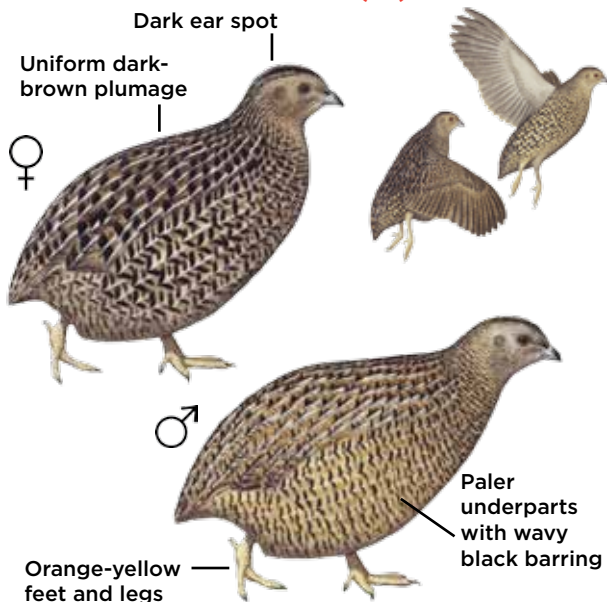
🏃 When disturbed, may run like a mouse and then squat. Only flushes occasionally, flying fast, flat and low. Small wings flap rapidly and it flies far away before appearing to turn in air and dropping tail-first into cover.

🐣 Poorly known. Female prepares nest and male incubates eggs. Season: September-March, but may breed year-round if rainfall allows.



BROWN QUAIL

Coturnix ypsilophora
VULNERABLE (SA)



↔ 17-22cm

Often calls when flushed.

Grasslands and shrublands, especially tall and dense vegetation often associated with creeks and drainage lines.

Mostly resident in wetter parts of range. Irregular visitor to semi-arid and arid regions in southern Australia after good rains.

Forages during the day on seeds and insects.

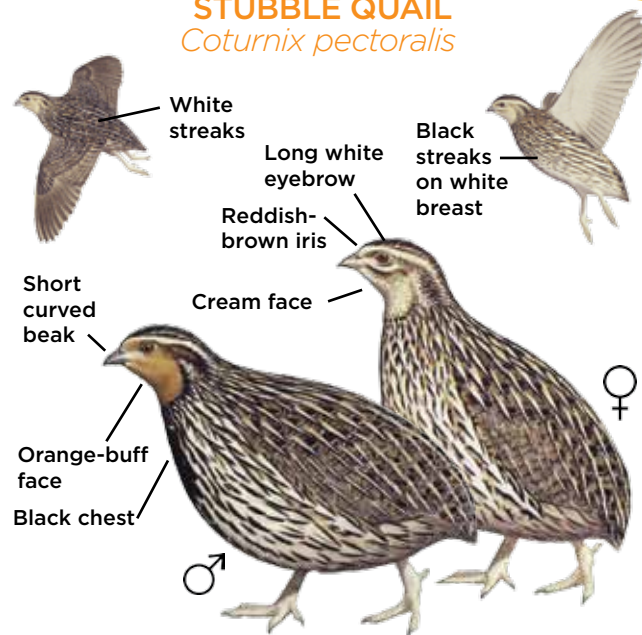
When disturbed, tends to squat or creep between dense vegetation in bursts. Will flush quickly if surprised, rising noisily with whirring of wings and whistling call. Rises vertically and then flies strongly with glides between bursts of whirring. Plunges **head-first** into dense cover and keeps running. When a group is flushed, individuals will fly in different directions.

Pairs raise chicks together. Season: not well known. August-January in southern Australia.



STUBBLE QUAIL

Coturnix pectoralis



↔ 16-20cm

Similar to Brown Quail but much paler and with more obvious white streaking. Similar to Little Button-quail but much larger and with black streaks on breast and flanks.

Prefers tall dense ground vegetation in temperate grasslands and shrublands.

Recorded year round in south-eastern Australia but numbers may fluctuate significantly depending on habitat structure.

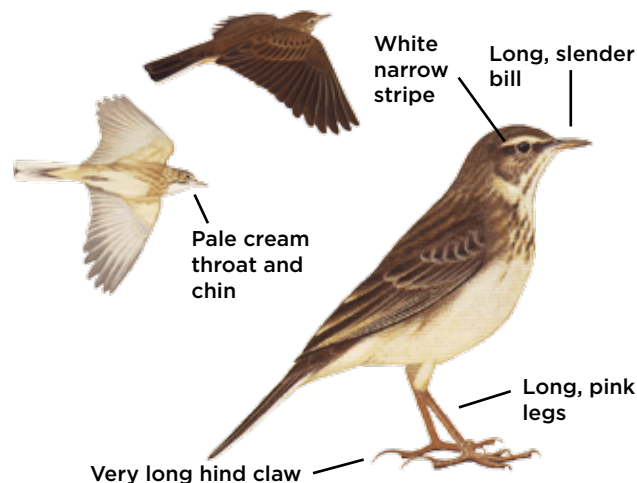
Forages during the day on seeds, grass and foliage and insects.

May crouch but usually flushes with rapid burst of noisy wingbeats. Flies low and far before dropping **tail-first** into tall cover and running away.

Female incubates eggs and both care for young. Season: August-April, but may breed in winter following summer rainfall.



AUSTRALASIAN PIPIT *Anthus novaeseelandiae*



↔ 13-18cm

i Also known as Richard's Pipit. Pumps tail up and down when standing. Similar to Skylark and Bushlark but distinguished by lack of crest and more alert stance. Also has stronger, more undulating flight.

🌿 Open and modified habitats including grasslands, low shrublands and farmland. More common in areas with low and sparse cover, although also found in dense low grasslands.

🌍 Largely sedentary over most of Australia. May move seasonally in south-eastern Australia, leaving higher altitude areas in winter.

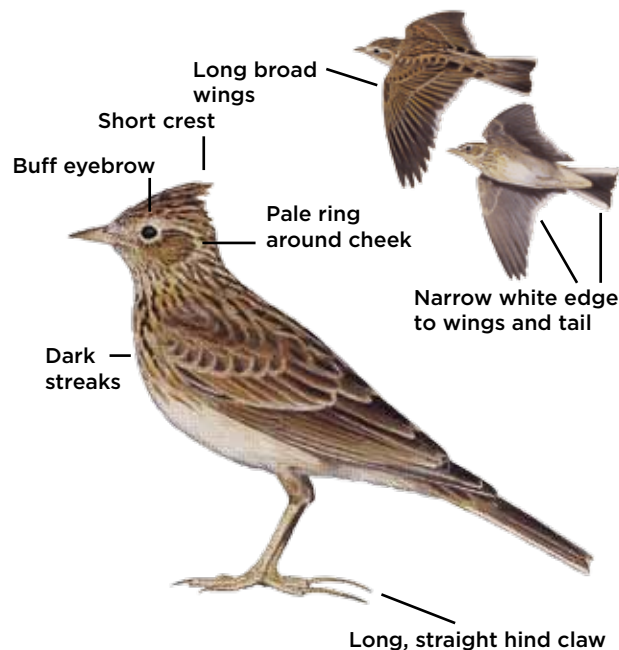
🐛 Forages on insects, mostly in afternoon and evening.

🐦 Very terrestrial and may perch on stumps or fences. Flushes readily. Will rise rapidly with flutter of wings and soft call. Often defecates at high point of flight and then flies with fast undulations before shooting straight for cover.

🐣 Pairs breed year round, but most eggs are laid in September-December.



EURASIAN SKYLARK *Alauda arvensis* INTRODUCED



↔ 16-19cm

i Erectile crest. White edge on wings and tail.

🌿 Open grassy areas including tussock grasslands, crops and farmland.

🌍 Not well known. Probably sedentary. Most conspicuous during spring when males perform display flights and songs.

🐛 Forages on the ground for insects, seeds and occasionally foliage and fruit.

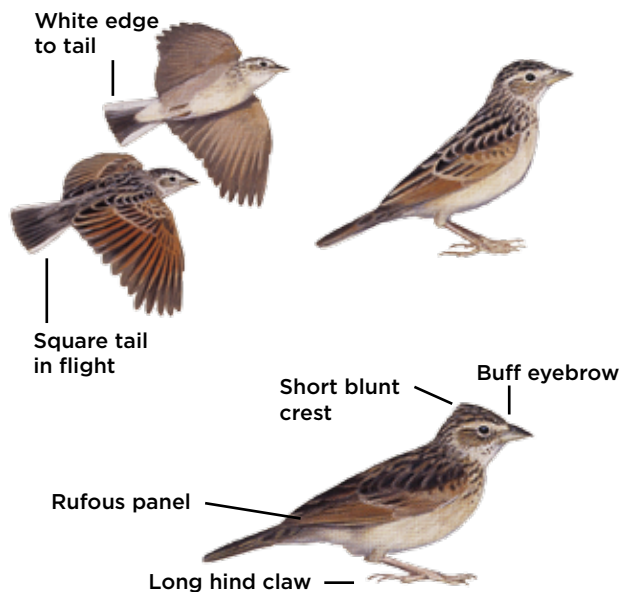
🐦 Flushes easily when disturbed, but may occasionally crouch and freeze. Flies rapidly with fluttering, weaving and undulating movement and for a long distance.

🐣 Both parents raise young. Season: August-January.



HORSFIELD'S BUSHLARK

Mirafrja javanica



↔ 12-15cm

i Also known as Singing Bushlark. Sparrow-like body shape. Buff eyebrow.

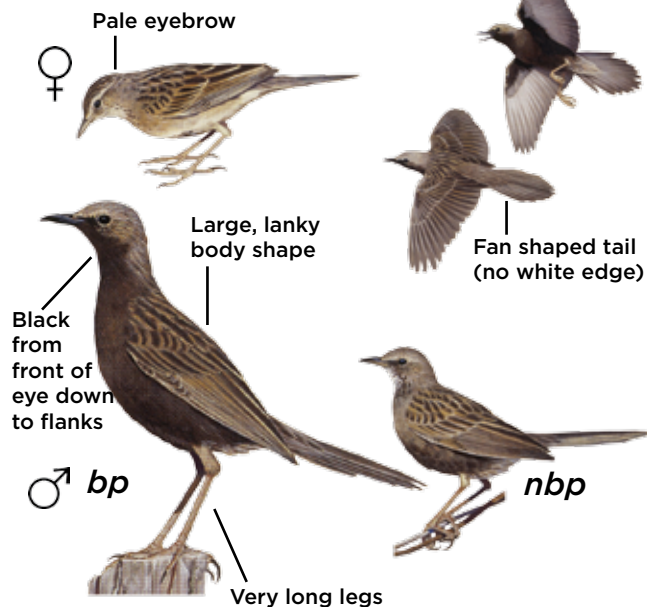
Similar to Skylark, although smaller. Similar to Pipit, but has a much shorter broader bill, dumper body shape and more crouched stance.

- Grasslands (native, introduced and modified) and occasionally woodlands, shrublands and crops.
- Considered resident throughout eastern Australia but may migrate in summer to south-eastern Australia with small numbers remaining in winter.
- Forages on seeds and insects on the ground.
- When flushed, it will fly low (2-4m in height) with short, fluttering movements for a short distance. Hovers briefly before fluttering down to ground.
- Both parents raise young. Season: mainly August-April.



BROWN SONGLARK

Cincloramphus cruralis



↔ Male 19-25, female 18cm

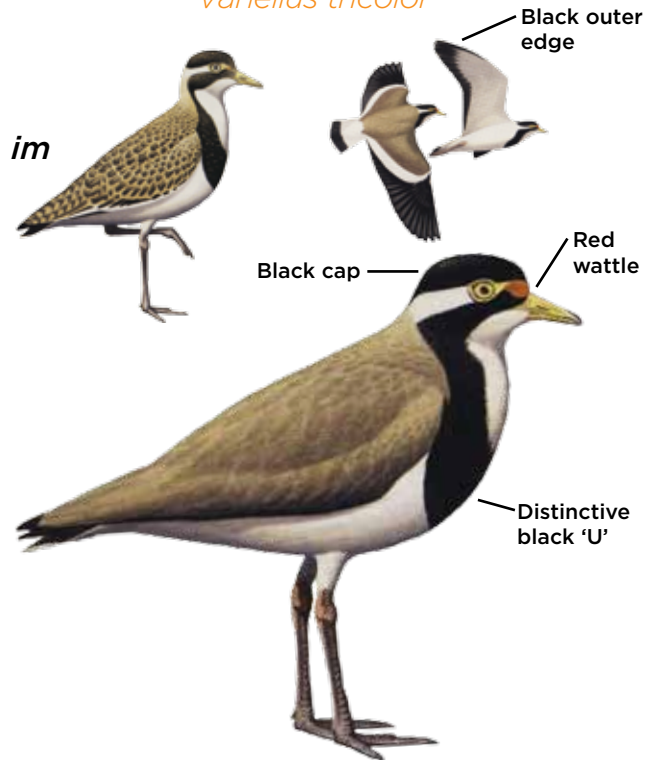
i Lanky body shape and long tail. Distinct metallic sounding call teamed with song-flights by males during breeding. Females similar to Bushlark, Skylark and Pipit, but distinguished by lack of crest and white edge on tail.

- Found in treeless or sparsely-treed grasslands, chenopod shrublands and pastures. Prefers denser grasslands.
- Migrates north and inland during winter and will move to areas of recent rainfall.
- Forages on insects on the ground during the day.
- Flushes easily and will fly quickly with strong wingbeats and undulating motion for a long distance. Long wings and tail are conspicuous and legs hang down when landing.
- Male breeds with numerous females in territory. Female builds nest and incubates eggs alone. Season: mainly July-January.



BANDED LAPWING

Vanellus tricolor



↔ 25-29cm

i Black band on chest. Black cap and red wattle. White underwing with black outer edge.

W Found in open short grasslands and agricultural areas with well-grazed pasture.

S Poorly known. May move between coastal areas and inland arid regions depending on seasonal rainfall.

I Forages during the day on seeds, leaves, and invertebrates.

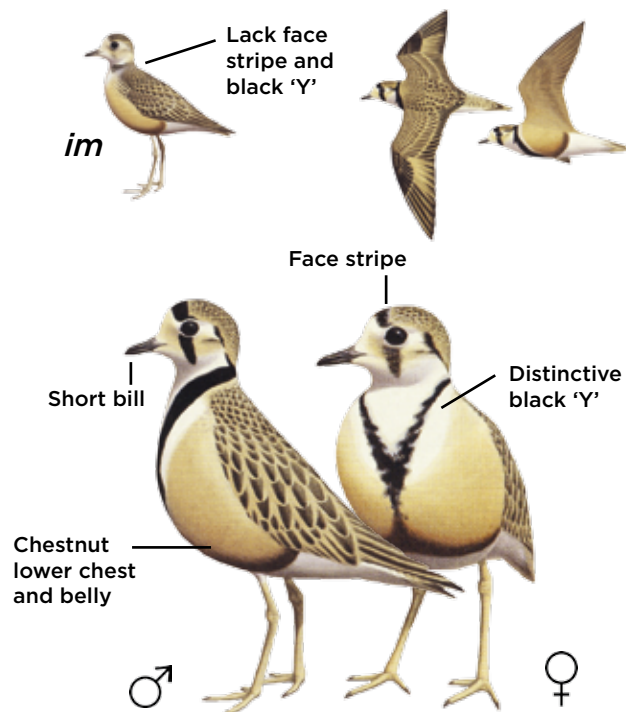
L Flushes early and quickly but may occasionally walk quickly away. Calls loudly when taking flight and flies high and far.

B Territorial pair raises young. Season: June-November, but all year if conditions suitable.



INLAND DOTTEREL

Charadrius australis



↔ 19-23cm

i Black 'Y' on pale breast and black stripe on side of face.

W Clay pans, sparse pasture and tussock grasslands.

S Very poorly known but may move south in spring and north in autumn when grassland structure becomes thicker.

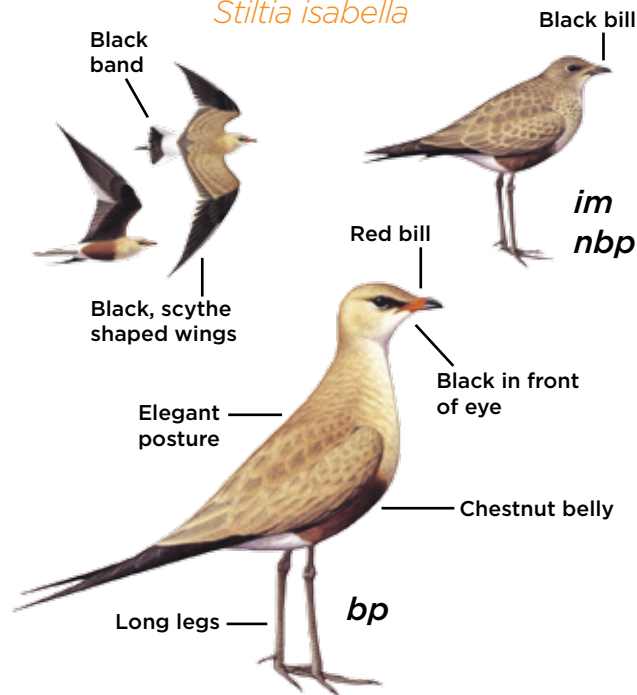
I Forages for insects at night and on plants during the day.

L When disturbed, tends to crouch but may also walk away, bobbing head in alarm. Calls often and flies strongly for a long distance if flushed.

B Probably pairs but generally seen in flocks. May breed year-round in response to heavy rainfall.



AUSTRALIAN PRATINCOLE

Stiltia isabella

↔ 19-24cm

i Elegant posture. Black, scythe-shaped wings. Bill red when breeding.

W Found in open habitats, including grasslands and sparsely wooded plains, rocky plains and claypans. May be seen on roadsides and dry agricultural land but is usually seen near water and will nest within 2km of water.

S Migrates south to breed in spring/summer, and north during winter.

I Forages during the day (especially dawn/dusk) on insects, spiders and centipedes. Drinks regularly.

B Will flush quickly but may also occasionally walk away with head held high. Flies low with a strong graceful flight and slender wings.

B Both sexes care for eggs and young. Season: September-January.



This *Plains-wanderer* and other grassland birds booklet has been compiled by BirdLife Australia's Jasmine de Milliano, Nick Bradsworth, Janelle Thomas, Caroline Wilson and Kerryn Herman.

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- Horsfield's Bushlark (Vol 7a), Eurasian Skylark (Vol 7a) and Brown Songlark (Vol 7b) (K. Franklin).

If you want to find out more or are interested in volunteering to help save Plains-wanderer and other threatened birds, visit our website for more information birdlife.org.au

Contact us:

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