# Photos by George D. Dodge and Dale R. Thompso

These Yellow-vented Blue Bonnet Parakeets are related to the common Red-rumped Parakeet but the Blue Bonnets are somewhat scarce in captivity.



The Paradise Parakeet is thought to be extinct in Australia but rumors still persist that it exists. This bird is the size of a Red-rumped Parakeet. The frozen specimen shown here belonged to an Australian aviculturist in 1933.

# **Parrots** and Their Australian **Habitats**

by Joseph M. Forshaw Jamison Centre, Australia

Reference to Australia as "The Land of Parrots' is made repeatedly, and with approximately one-sixth of the world's species occurring there the reference would seem to be well founded. Since the time of European settlement, scientists and observers have been fascinated by Australian parrots, and in 1865 John Gould wrote:

"No group of birds gives to Australia so tropical and foreign an air as the numerous species of this great family by which it is tenanted, each and all of which are individually very abundant?

Some 125 years later, it is important that current appropriateness of this comment be assessed, particularly in the light of what has occurred with the status of some species. Also, it is timely that comparisons be made with other parts of the world, where parrots are prevalent, especially South America, to ascertain whether the birds are responding similarly or in different ways to environmental changes.

Overall, Australia still qualifies as the "Land of Parrots," and it continues to be tenanted by "numerous species of this great family." From monsoon forests of the tropical north



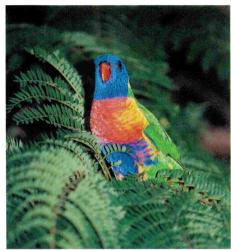
The Varied Lorikeet is one of Australia's smaller lorikeets. It is the only Australian lorikeet that is dimorphic, with the males being brighter in color including its wine colored chest. This beautiful lorikeet is very uncommon in America.

to open, sandy deserts of the interior and bleak, windswept heathlands of southernmost latitudes, all parts of the continent are inhabited by parrots, and in many regions the brightly-plumaged, noisy birds can be one of the most conspicuous elements of the avifauna. This "conspicuousness" of parrots is one aspect that always impresses visiting fieldworkers, and certainly is a phenomenon that I have not experienced so readily when in the field in other countries where parrots occur. Last year, when on his first visit to Australia, Robert Ridgely commented to me: "This is the place to come for parrots — they are so easy to see!"

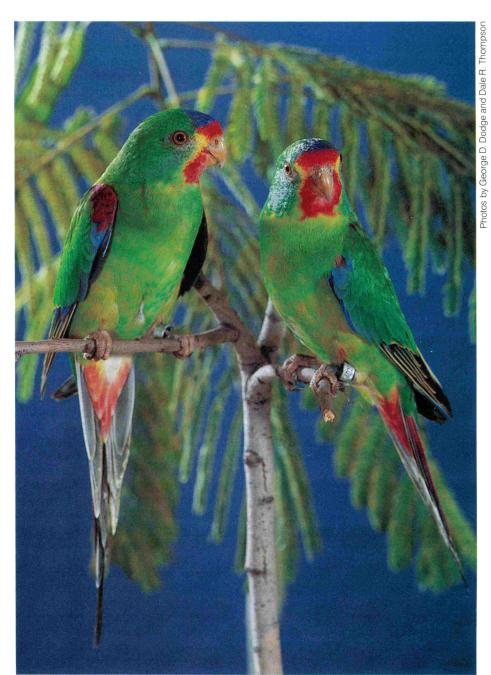
It is worthwhile pausing for a moment to examine more closely the ubiquitous occurrence of parrots within Australia, and if the birds are more conspicuous in Australia than in other parts of their world range — why would that be so?

I have seen parrots in all major parts of their world range, though, of course, my personal experiences with them are far more extensive in Australia than elsewhere and this bias could be reflected in the point I am making.

Parrots can be extremely difficult to locate in dense, tropical rainforest. I always think of looking for them as being akin to ocean fishing — they are there, but an awful lot of habitat is present with them! Often the only sighting will be a brief glimpse of swiftly-flying flocks darting across a break in the canopy, with the screeching call-notes attracting attention. In the neotropics, New Guinea and Southeast Asia, I have experienced the frustrations of seeking parrots in



The Rainbow Lorikeet has a very extensive range in Australia. It is found throughout the entire eastern range and its habitat varies from rainforset to dry scrublands.



The habits of the Swift Parakeet closely resemble those of the lorikeets. In the wild, it feeds mainly on pollen, nectar and small insects. This small parakeet is colony bred in captivity and often has multiple clutches.



Scaley-breasted Lorikeets are a desired aviary subject. Though not common in American aviaries, it breeds relatively well and will often double or triple clutch. It is quite abundant in its natural habitat in Australia.

rainforests, but in Australia we have only four species dependent on rainforest, and those are species that we share with New Guinea. Other species regularly occur in rainforest, but are not dependent on it, and readily are found in more open habitats. The vast majority of Australian parrots frequent open woodland and dry scrublands where, for the most part, detection is not so difficult.

It is true that in other countries parrots occur in open habitats, but my experience has been that these parrots are not generally abundant, and this is particularly evident in Africa, where parrots are locally dispersed and generally uncommon. In South America, away from forested areas, I found them to be sporadically distributed and uneven in levels of abundance. The situation in Africa is especially intriguing, and frequently the question is posed: "Why are there so few parrots in Africa?" I have not seen a satisfactory answer, but some comparisons with the Australian situation struck me forcefully. In Africa, I found other bird groups, notably touracos, pigeons and doves, and grassfinches occupying niches that in Australia are widely utilized by parrots. We have relatively few species of grassfinches, and their distribution is concentrated primarily in the north, while Columbiformes also is poorly represented in Australia. Perhaps competition has been significant in determining the relative roles of parrots in Australia and Africa they succeeded in the former, but lost out in the latter! I am not sufficiently familiar with the situation in the neotropics, but would make the observation that Forpus and Bolborbynchus species, which are adapted to grassseed feeding in open country, are nowhere near as widespread or abundant as are grass-seed feeding parrots in Australia.

Australia is a flat, dry continent. Less than five percent of the land mass is above 600 meters, and approximately 60 percent has an annual rainfall of less than 250 mm. Consequently, there is a dearth of montane habitats, while vast areas are arid and support sparse vegetation. Near to the eastern coastline is the only extensive tract of high country, a broken chain of variable mountains collectively termed the Great Dividing Range. There are no exclusively highland parrots, though mountains constitute refuges for some extralimital populations. For example, isolated

populations of the King Parrot Alisterus scapularis and the Crimson Rosella Platycercus elegans, species with wide distributions in the southeast, occur on coastal mountains in northeastern Queensland, while in the range country around Alice Springs, central Australia, there is an apparently isolated population of the Red-tailed Cockatoo Calyptorbynchus magnificus, a species that is widely dispersed throughout the north, northeast and southwest. In the southeast there are seasonal altitudinal movements of Gang Gang Cockatoos Callocephalon fimbriatum.

Rainfall is low and unreliable over much of the continent. The arid interior is surrounded more or less by concentric zones of increasing rainfall towards the coast. Across the tropical north, there is a monsoonal influence that produces clearly defined wet and dry seasons, the former from November or December to April, and the latter during May to October. In the southeast and the southwest, there is a predominantly winter rainfall, but elsewhere the reliability decreases toward the arid centre. Vegetation becomes more luxurient in response to higher and reliable rainfall, so there is greater diversity of avian habitats in the wetter, wooded coastal zones than in the dry inland. In semiarid and arid regions, water runoff determines vegetation patterns, and tree-lined watercourses are extremely important habitats for parrots. For example, the Superb Parrot Polytelis swainsonii and the Yellow Rosella Platycercus flaveolus are confined to riparian woodlands along major river systems in inland southeastern Australia, while across eastern Australia a number of species, including lorikeets, the Sulphur-crested Cockatoo Cacatua galerita, the King Parrot Alisterus scapularis, and some rosellas, are very closely associated with riverine habitats at the western extremities of their ranges.

# The Tropical North

Let us now take a closer look at tropical northern Australia, where the dominant vegetation communities are Eucalyptus and mixed Eucalyptus-Melaleuca woodlands, and in these habitats are found exclusively northern species, including the Varied Lorikeet Trichoglossus versicolor, the Northern Rosella Platycercus venustus and the Golden-shouldered Parrot Psephotus chrysopterygius, as well as

widely-distributed species such as the Rainbow Lorikeet Trichoglossus baematodus, Galah Eolophus roseicapillus, Red-tailed Cockatoo Calyptorbynchus magnificus, and Red-winged Parrot Aprosmictus erythropterus.

Of particular interest is Cape York Peninsula, in the far northeast, where the avifauna shows a strong affinity with that of New Guinea and consequently there is a marked regional endemism. Among the "New Guinea species' that occur on Cape York Peninsula are four parrots — Palm Cockatoo Probosciger aterrimus, Eclectus Parrot Eclectus roratus, Redcheeked Parrot Geoffroyus geoffroyi, and the northernmost form of the Double-eyed Fig Parrot Cyclopsitta diophthalma.

### Humid Eastern Australia

Humid woodland is the dominant habitat in eastern Australia gradually giving way to forests in subcoastal mountains and on parts of the coastal plain, while towards the interior it is replaced by semi-arid woodland. In eastern Queensland, south of Cape York Peninsula, there are two major tracts of tropical rainforest, and each is inhabited by an endemic subspecies of the Double-eyed Fig Parrot. In northeastern New South Wales, there are stands of subtropical rainforest, while farther south, usually at high altitudes, there is temperate rainforest, which may be dominated by Antarctic beech Nothofagus cunningbamii, particularly in Tasmania. Eucalyptus dominates in forests and humid woodlands, but in drier areas towards the west there is an increasing proportion of other trees, notably Acacia, Casuarina and Callitris. Parrots are not well represented in dense mountain forests, where typical species are the Yellow-tailed Cockatoo Calyptorbynchus funereus, the Gang Gang Cockatoo Callocephalon fimbriatum, the King Parrot Alisterus scapularis and the Crimson Rosella Platycercus elegans, but all of these occur also in other habitats and probably only the Gang Gang Cockatoo could really be considered a bird of the mountain forests. In humid woodlands, there occurs an abundance of lorikeets and rosellas as well as the Sulphur-crested Cockatoo Cacatua galerita, Glossy Cockatoo Calyptorbynchus lathami, Bluewinged Parrot Neophema chrysostoma, Turquoise Parrot N. pulchella, and the nectar-feeding Swift Parrot

Lathamus discolor. Along the seaboard there are areas of salt-marsh. heathland and coastal grassland, habitats frequented by the Rock Parrot Neophema petrophila, the seriously endangered Orange-bellied Parrot N. chrysogaster, and the highly specialized Ground Parrot Pezoporus wallicus.

West of the Great Dividing Range, there is a gradual transition from humid woodland and open forest to arid woodland and lightly timbered grassland, regularly traversed by watercourses with forests of river red gums Eucalyptus camaldulensis on surrounding floodplains. Parrots typical of this transition zone include the Galah Eolphus roseicapillus, about which more will be said later, the Slender-billed Corella Cacatua tenuirostris, Superb Parrot Polytelis swainsonii, Regent Parrot P. anthopeplus, Mallee Ringneck Parrot Barnardius barnardi, Red-rumped Parrot Psephotus haematonotus, and Elegant Parrot Neophema elegans.

# The Dry Interior

The dry interior supports extensive tracts of arid scrubland dominated by Acacia and with a locally variable mixture of Eucalyptus, Casuarina, Hakea or Callitris. Across the southern sector, this is replaced by mallee, an arid scrubland of low, multistemmed eucalyptus. The ground cover is mainly spinifex grass Triodia, supplemented with a variety of herbs and woody perennials. In particularly dry areas, the trees give way to open grasslands or shrub steppe, the former dominated by Triodia or Astrebla grasses, while the latter supports mainly saltbush Atriplex and bluebush Kochia.

Parrots have adapted well to the harsh environment of the arid interior, and nomadism is marked in most species. Flocks of Budgerigars Melopsittacus undulatus and Cockatiels Nymphicus bollandicus wander about in search of surface water, while at times Princess Parrots Polytelis alexandrae or Scarlet-chested Parrots Neophema splendida visit districts from which they have been absent for decades. Other species characteristic of the dry interior are Major Mitchell's Cockatoo Cacatua leadbeateri, the Barnardius Parrots, which are the arid zone representatives of the rosellas, the Mulga Parrot Psephotus varius, the Bluebonnet P. baematogaster, Bourke's Parrot Neophema bourkii and the recently

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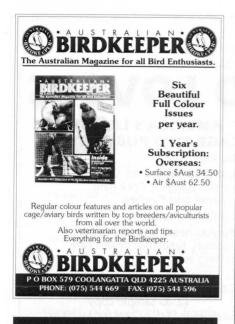
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# The Southwest: A Special Zone

Finally, mention must be made of southwestern Australia, a special zone bordered by a sharply defined line where Acacia-dominated scrublands of the interior meet Eucalyptus woodlands of the southwest. This line is the limit of distribution of many bird species from both the inland and the southwest. Widespread parrots that reach the southwest are the Purple-crowned Lorikeet Glossopsitta porphyrocephala, Redtailed Cockatoo Calyptorbynchus magnificus, Regent Parrot Polytelis anthopeplus, Port Lincoln Parrot Barnardius zonarius, Elegant Parrot Neophema elegans, Rock Parrot N. petrophila and Ground Parrot Pezoporus wallicus. The Yellow-tailed Cockatoo Calyptorbynchus funereus of the east is represented by two endemic subspecies collectively known as the White-tailed Cockatoo. while the Bare-eved Corella Cacatua pastinator also is represented by an endemic subspecies. The Red-capped Parrot Purpureicephalus spurius and the Western Rosella Platycercus icterotis are very distinctive forms confined to the southwest.

## Status And The Future

For almost two centuries, Australia has been a primary-producing nation supplying the traditional markets of Europe. Though often disclaimed, the phrase ". . . living off the sheep's back" is a telltale statement with some validity. This prominence of primary production has resulted in widespread, sometimes dramatic changes to the natural environment, especially in humid coastal areas where agricultural and urban development have been concentrated. Since the time of European settlement, there has been disturbance of all habitats; none has been destroyed completely, but some have been gravely depleted.

Consequently, parrots have been affected in one way or another by human-induced changes. Some species, such as the Galah Eolophus roseicapillus, obviously have benefitted, others seem to have been little affected, but certainly there are signs that some species are now declining. In a recent summary of the abundance and population trends of Australian parrots, Smith (1978) concluded that 72 percent of species appear to be holding their own, but only 60 percent have stable or increasing populations.

There is clear evidence of wildlife populations being affected by losses of hollow-bearing trees, and all but four species of Australian parrots are dependent on tree hollows for nesting. In recent years there have been increasing instances of multiple sequential or even simultaneous occupation of hollows, and of eviction of occupants by more aggressive species. In eastern and southern Australia, smaller parrots must contend with intense competition for nest sites from the introduced House Sparrow Passer domesticus, Starling Sturnus vulgaris and Indian Mynah Acridotheres tristis.

Special interest, of course, has focused on the apparent disappearance of the Paradise Parrot Psephotus pulcherrimus, and that brings me back to the specialist seed-eating parrots. These parrots feed mainly on the ground and are dependent on an abundance of seeding grasses and shrubs, particularly during the breeding season, so changes in ground cover are potentially damaging to local populations. It has been suggested that at the turn of the century. severe drought, coupled with a rapid expansion of the cattle industry, brought about fundamental changes to ground-cover vegetation in parts of central Queensland which, in turn, eventually resulted in the probable extinction of the Paradise Parrot as well as the disappearance of Turquoise Parrots Neophema pulchella from the northern sector of their range. I suspect that similar changes, brought about by grazing and persistent dry-season burning, could be threatening the Hooded and Goldenshouldered Parrots Pasephotus chrysopterygius.

Parrots are long-lived birds, especially the large cockatoos so, without normal recruitment, a population can remain apparently stable in numbers, though there is a uniform ageing of individuals, and this eventually brings about a dramatic and sudden decline. Studies have been undertaken, and are being undertaken of the conservation needs of some Australian parrots, and a comprehensive recovery plan is in place to save the Orange-bellied Parrot Neophema chrysogaster. These developments are most encouraging, but we must continue our efforts to ensure that Australia continues to be the "Land of Parrots."