

The Gang-gang Cockatoo

Callocephalon fimbriatum

Observations in the Wild
and in Rehabilitation

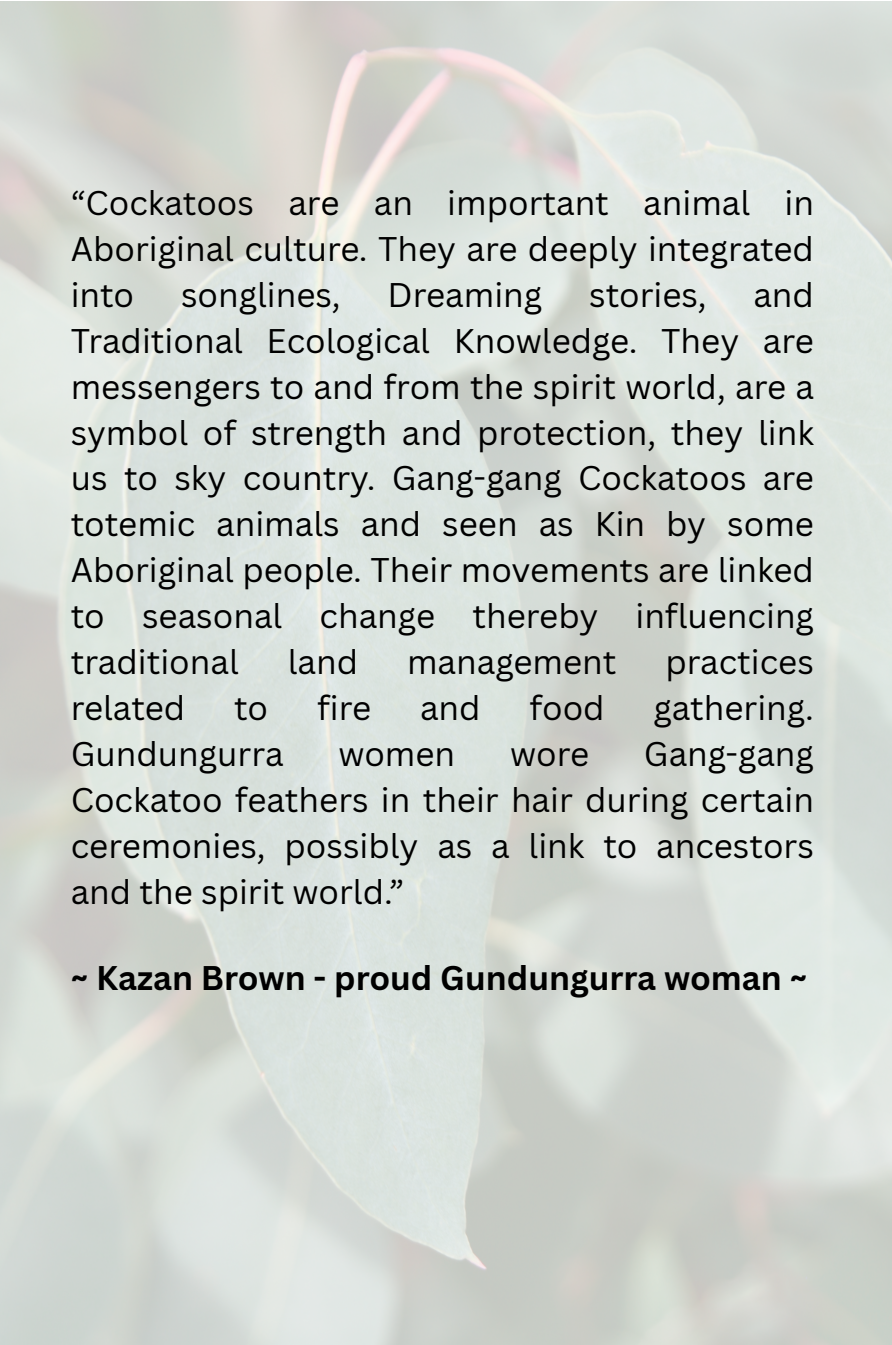


Peggy McDonald OAM CF
Emma Croker GradCert Ornithology



Acknowledgement of Country

In the spirit of reconciliation, we acknowledge the Traditional Custodians of Country throughout Australia and their connections to all creatures of land and sea. We pay our respect to Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today. This booklet began its journey with the Gang-gangs of Gundungurra Country, and was made on Yuin Country, and Dharug and Darkinjung Country. It was created with gratitude between us for the sharing and understanding of knowledge from and for the birds.



“Cockatoos are an important animal in Aboriginal culture. They are deeply integrated into songlines, Dreaming stories, and Traditional Ecological Knowledge. They are messengers to and from the spirit world, are a symbol of strength and protection, they link us to sky country. Gang-gang Cockatoos are totemic animals and seen as Kin by some Aboriginal people. Their movements are linked to seasonal change thereby influencing traditional land management practices related to fire and food gathering. Gundungurra women wore Gang-gang Cockatoo feathers in their hair during certain ceremonies, possibly as a link to ancestors and the spirit world.”

~ Kazan Brown - proud Gundungurra woman ~

This work is for the Gang-gangs themselves,
for all they have shown us on our decades-long
journey with them. May others be inspired
into action by what we share here to help these
birds survive as a species into the future.

It is also for the Tony and Lisette Lewis Foundation,
and especially for our very wise friend
Richard Chadwick.

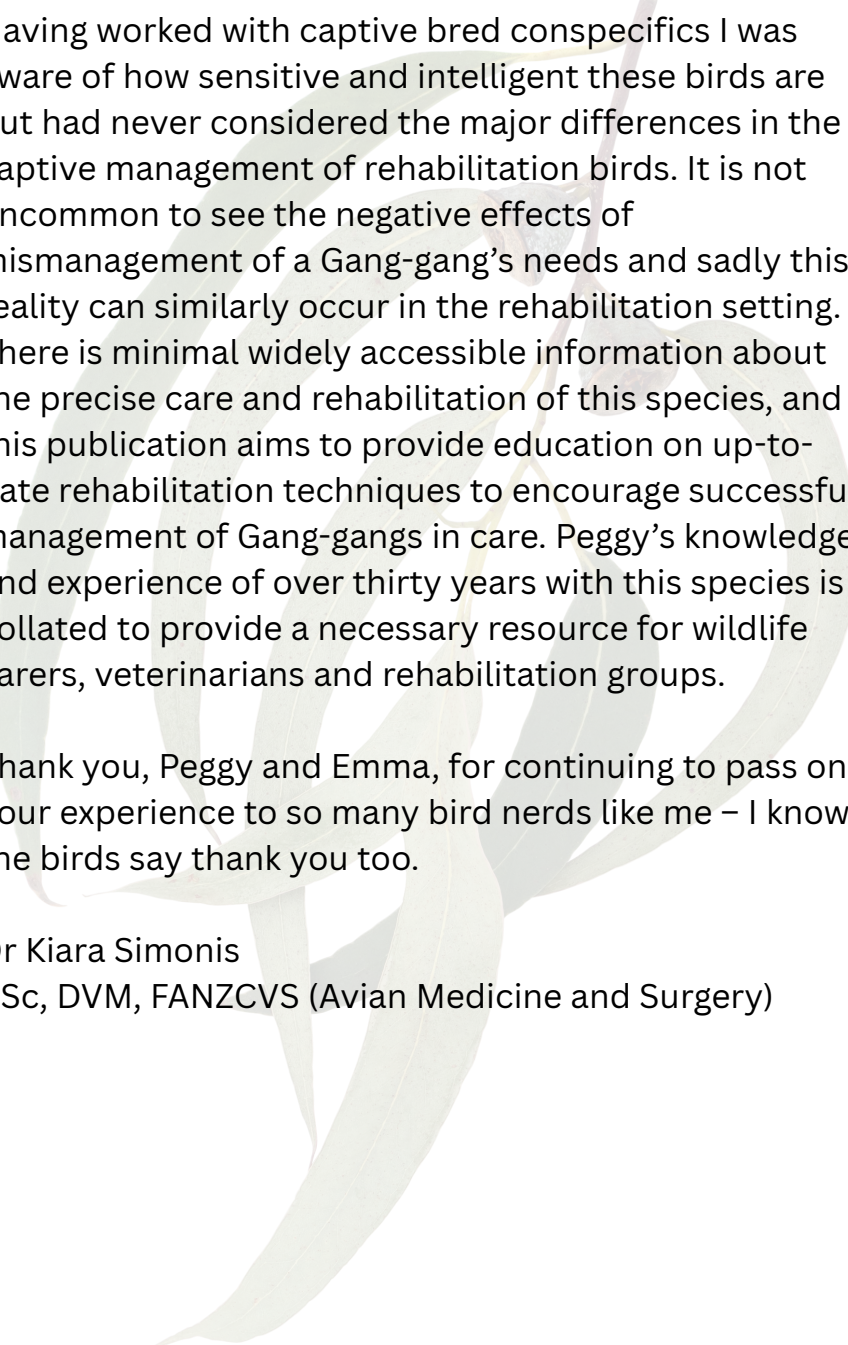


We are very grateful to Dr Ellen Rasidi for her
invaluable support and friendship.

~ Foreword ~

Which words come to mind when you think of the Gang-gang Cockatoo? For me, I think cheeky, noisy, vibrant, hilarious, crest. And endangered. These unique birds are a fabulous representation of the richness of Australian avifauna and yet they are often overlooked – Gang-gang Cockatoos have suffered major population declines resulting in an endangered status, attributable to major habitat loss and disease incursion. It is a priority that action is undertaken to aid this beautiful species, and veterinarians and wildlife carers are on the frontlines. Having worked with these birds from both wild and captive settings, many commonalities remain – their intelligence, sensitivity and charm.

As a longtime lover of this species, I was lucky enough to experience the rehabilitation of wild Gang-gangs during a veterinary student placement that I was on, where I was taken under Peggy's wing. From searching for the correctly mature eucalyptus forage to identifying the introduced Hawthorn berries which they have adapted to consuming, discussing appropriate perches, placement and presentation of food, and methods of interaction without humanization, I was amazed by Peggy's knowledge and appalled by my lack thereof.



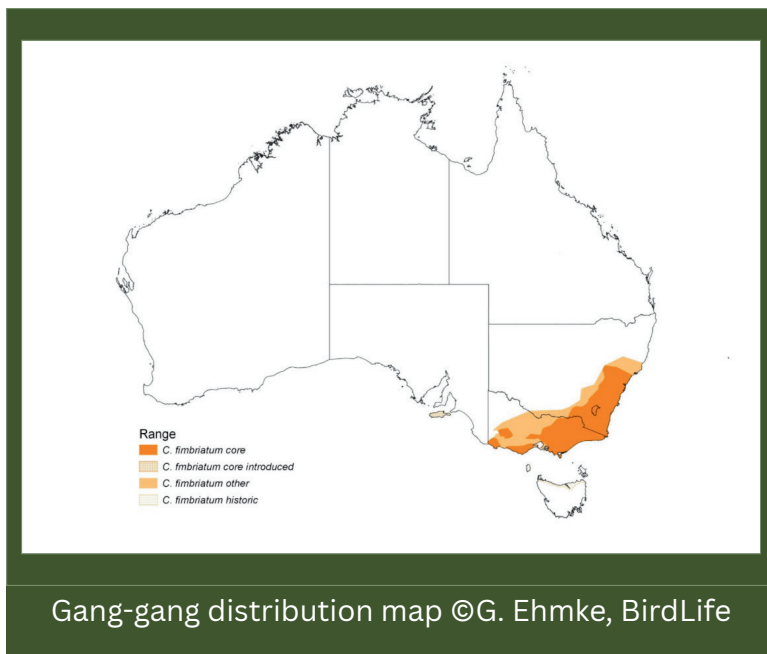
Having worked with captive bred conspecifics I was aware of how sensitive and intelligent these birds are but had never considered the major differences in the captive management of rehabilitation birds. It is not uncommon to see the negative effects of mismanagement of a Gang-gang's needs and sadly this reality can similarly occur in the rehabilitation setting. There is minimal widely accessible information about the precise care and rehabilitation of this species, and this publication aims to provide education on up-to-date rehabilitation techniques to encourage successful management of Gang-gangs in care. Peggy's knowledge and experience of over thirty years with this species is collated to provide a necessary resource for wildlife carers, veterinarians and rehabilitation groups.

Thank you, Peggy and Emma, for continuing to pass on your experience to so many bird nerds like me – I know the birds say thank you too.

Dr Kiara Simonis
BSc, DVM, FANZCVS (Avian Medicine and Surgery)

Gang-gangs in the wild

A distinctive and charismatic Australian cockatoo, the Gang-gang (*Callocephalon fimbriatum*) has recently been reclassified. Gang-gangs were previously in the Calyptorhynchinae clade (the 'black cockatoos') but with changing taxonomic methods such as molecular phylogeny, they are now part of the Cacatuinae clade along with Palm Cockatoos, Galahs and the 'white cockatoos'. They typically inhabit specific highland old-growth areas with generally high rainfall in southern Victoria and eastern New South Wales, some moving to warmer coastal regions in summer.



They prefer cool, high-altitude, mature Eucalypt forests with dense understorey, often rich in Acacia species. These forests provide both the food and deep natural nesting hollows they require to breed. In winter they may be seen at lower altitudes, often in suburban parks and gardens where they feed on introduced species such as Hawthorn (*Crataegus monogyna*) and Liquidambar (*Liquidambar styraciflua*). They have become a regular feature in areas of Canberra and are the Australian Capital Territory's faunal emblem.



Fledgling female and adult male ©Ken Griffiths

Threats

In 2004 the NSW Office of Environment and Heritage (NSW OEH) listed Gang-gangs as a vulnerable species primarily due to habitat loss and climate change, notably an increase in the length and frequency of drought and severe bushfire events. This listing helped in enhancing the recognition and understanding of their kind. The species' future survival was impacted dramatically by the 2019-2020 Black Summer bushfires due to substantial loss of life and habitat in the already limited areas they populated.

This catastrophic event, just twenty years on from the original listing, saw them gain both NSW and Commonwealth Endangered status in 2022, after recommendation by the Threatened Species Scientific Committee to the Department of Climate Change, Energy, the Environment and Water (DCCEEW).



Despite multiple agency efforts to reverse the decline in the population, such as those by NSW OEH and Birdlife Australia, the challenges faced by the Gang-gang Cockatoo continue to require ongoing attention and action. The destruction of forested land in eastern Australia and the consequent loss of essential nesting hollows and food, the spread of diseases such as psittacine beak and feather disease virus (PBFD virus) brought over the eastern side of the Great Dividing Range by birds like the Sulphur-crested Cockatoo, all had a significant impact on Gang-gang populations in the Southern Highlands and Tablelands of NSW.

Though Gang-gang numbers in Canberra have remained steady for the last 30 years, **their numbers have declined elsewhere by up to 70% between 1999-2019.**



Description

Average length: 35cm; average weight: 300g

Body plumage in adults is generally grey with the feathers edged pale grey to cream. They have short, thick legs and very dexterous feet which they use to manipulate food, mostly by using the left foot.

Males have a bright red head and crest which can take approximately three years to achieve full colour.



Adult male ©Amy Jo



Adult male ©Peg McDonald

Females have orange barring on the chest and throat. They have a grey crest and head which may have slight red flecking. The colouring on the female's chest extends to the throat, but only to the top of the breast on the male.



Adult female ©Peg McDonald



Adult female ©Mark Kelly



Immature birds may appear similar in plumage to adult females with the underside of the tail heavily barred grey to cream. Young males will have degrees of red on the head and crest, varying from distinctive red patches and crest feathers to simple spotting in the early stages of development.



Breeding

Breeding typically occurs between October and January, but can occur between August and March. Gang-gangs in the Southern Highlands and on the far south coast of NSW were noted by Peg McDonald to breed in winter when summer clutches failed in the heat, or to double-clutch.



Female Gang-gang with brood patch ©Peg McDonald



Newly-hatched chick and egg ©Peg McDonald

Gang-gangs form close, monogamous pairs. The female chooses a deep nest hollow in a suitable tree, usually high in an old-growth, living eucalypt and both sexes prepare the nest for egg-laying. The interior of the hollow is chewed, and the nest is lined with wood-chips, wood-dust and eucalyptus leaves.

Both sexes incubate the eggs, with the female primarily incubating during the night. Two, sometimes three oval eggs are laid and take about 26 days to hatch. Both sexes care for and feed the young. Chicks leave the nest about seven weeks after hatching and are further fed by their parents for around six weeks after fledging.



Three-week old Gang-gang nestlings
©Peg McDonald



Six-week old Gang-gang nestlings
©Peg McDonald

They do not become completely independent for several months and will stay close to the parents and their flock during this period.



Nestling hen emerging from hollow
©Peg McDonald



Nestlings emerging from hollow
©Peg McDonald

Family groups can be seen feeding together, and may 'crèche' multiple fledgelings from the same flock, leaving the young birds together in a suitable tree while the adults move around feeding. The young may be left alone for several hours before being collected by the flock once more; alternatively, they may be cared for by adult males in the crèche.



Newly-fledged Gang-gangs. The flock delivered them to the same tree each morning, then collected them in the afternoon.

Photo ©Emma Croker

Gang-gangs in care

The key to good management is keeping the birds as content and stress-free as possible! Wild Gang-gangs are naturally active; even when 'resting' in the middle of the day, they are preening, allopreening (where they preen each other), and nibbling idly.



Female Gang-gang with *Leptospermum* sp.
and *Petrophile* sp. in aviary ©Mark Kelly

Gang-gangs are very prone to stress-related behaviors. They are extremely predisposed to feather-plucking and can exhibit this destructive behaviour very quickly, even within hours. Mostly feathers are chewed, often to the skin, but we have seen cases where the birds have destroyed their toes.

Once past intensive care, provide the bird with an interesting native diet which includes whole branches of seeds to work on, providing stimulation and encouraging natural behaviour. Be mindful that often initially they may chew on food sources from stress alone, but not actually be consuming any nutrients.



Example of native food variety in aviary
©Peg McDonald

Provide an interesting natural environment, and change chewed/soiled branches regularly. Even a bird still in a hospital environment, but well enough to chew, may require a food source if allowed, or a branch on the ground to chew on to avoid feather-plucking.

Make sure there is plenty of room for the bird to fly and turn in the flight aviary, particularly at dusk and into the evening. Wild Gang-gangs roost communally and will call loudly when assembling at their roosting spot each night. Gang-gangs in aviaries become highly excited and agitated for an hour or so before dusk, flying vigorously and calling out before settling down.

Always provide accommodation which is appropriate to their state of health, meets or exceeds NPWS Codes (or other relevant state Codes) and offers as much room as possible for flight.

Never put adults in an aviary together, unless they are definitely from the same flock. They will most likely fight and may seriously damage themselves. Nestlings and young juveniles may be housed together after a period of introduction, and if they are expected to be in care for several weeks or more. Gang-gangs form strong bonds so should only be housed together if they are to be released together.



Never force or hurry a Gang-gang to change any habit it has developed, as this will cause stress. Rather, persist slowly. We have had many Gang-gangs come into care as 'sunflower seed addicts', usually through inappropriate human intervention. It can take many weeks to persuade them to eat a natural diet again, especially if they were taken from the wild as young birds. Let them go at their own pace but keep persisting by providing a large variety of native foods each day and gradually reducing the quantity of sunflower seeds offered until it is no longer part of their diet.



Adult female ©Amy Jo

The presence of other Gang-gangs, even at a distance, is very important. They are flocking birds and do not do as well on their own. However, if you have multiple adults in care, it is advised to keep them in separate hospital aviaries as the stress of captivity can lead to unexpected aggression. Adults may be able to share a *large* pre-release flight aviary if they are to be released together, with careful monitoring for signs of stress.

Always approach Gang-gangs slowly and cautiously. They will usually 'growl' at you when upset, but will often wait until you are quite close before suddenly flying off, sometimes crashing into the wall of the cage or flight aviary.



Juvenile male ©Peg McDonald

Food in care

For birds on post intensive-care regimens, feed whole food daily. Provide a large variety of their native foods and fresh water. Feed them whole branches with seed pods, berries and cones intact. This enables them to get exercise, provides stimulation and, in the case of young birds, essential experience. Gumnuts are their favoured food and should be fed fresh and ripe with the nuts unopened and the seeds still intact. Other natives, such as *Leptospermum* spp. and *Acacia* spp. are preferred when they are just ripe, turning from green to brown. Native foods should be gathered locally and kept in a cool shady place in buckets of water and misted daily to maintain freshness and stop the seeds from falling.



Male Gang-gang eating gumnuts. The gumnuts are fresh and still contain seeds. Note the way he holds his food, and the volume of fresh browse in his aviary.

Photo ©Peg McDonald

Make sure the size of native food you are providing is a size the bird is capable of holding! If the bird cannot pick up and hold a very large banksia pod or pine cone, for instance, it will not eat it. Do not put food dishes on the ground – place food and water dishes next to perches in the aviary.

Native and exotic foods have specific times when they are suitable for eating, and you'll find the foods change throughout the seasons of the year. For instance, *Hakea* spp. and *Allocasuarina* spp. pods are only eaten in Spring – Summer. You'll still see seed pods on these plants throughout the year, and they might look very similar to those in Spring and Summer, but they will not be eaten.



Female Gang-gang eating fresh native foods in aviary
©Peg McDonald

A range of supplementary foods may be given to birds in longer term care, including chopped green beans and pea pods, corn on the cob (cut to manageable size), pumpkin seeds, pine nuts, sprouted seeds, peanuts and almonds loose *and* in the shell, and live mealworms.

These supplementary foods may not be accepted for some time, but should be changed each day regardless to retain freshness and interest. If a bird comes to you eating only sunflower seeds, it is likely it has been in captivity for some time, or been acclimatised to a bird feeder. It is essential to dissuade this behaviour. These seeds cause the birds to lose focus on their natural, whole, local and nutritionally balanced diets and subsequently cause potentially life-threatening health problems like liver and cardiac disease, and fatty tumours (lipomas).

The bird should maintain a healthy body score on the native diet you provide.



Example of supplementary food for Gang-gangs in care. Note the fresh peas and beans, mealworms, and the choice of nuts both loose *and* shelled.

Photo ©Emma Croker

Collecting wild food

Observe your local population. What are they feeding on? What natural food sources are available where you see them?

When collecting native foods, be considerate of the area in which you are foraging. Do not over-pick from an area or specific bush or tree! We are not permitted to pick in National Parks or Nature Reserves. However, you may be able to obtain permissions or help from your local National Parks and Wildlife Service (NPWS), Forestry, Council and even arborists. We need to look after the health of the plants from which we are picking, which means only taking a small amount from each bush, and making clean cuts. Collecting natural food responsibly can be time-consuming and can involve much travelling in search of appropriate food, however it is an essential part of their care.



This was a council pruning. Do not over-pick an individual plant in this way when collecting wild food.

©Peg McDonald

The following is a visual guide to several native and introduced wild food sources for Gang-gangs. These species are all found in the Southern Highlands of NSW, but many can be found throughout the Gang-gangs' range. This is not an exhaustive list; rather, it is an example of the range of species Gang-gangs will consume in the wild and in care. Mostly, we want to show you the **genus** and the **age** of the appropriate foods so that wherever you are you can get started on observing and foraging!



Female Gang-gang eating gumnuts
©Geoff Park

Collecting Wild Foods - Correct Age



Acacia longifolia

©kaz001



Acacia terminalis

©Rachel Duckherd



Allocasuarina littoralis

©A Emmerson



Banksia spinulosa

©Emma Croker

Collecting Wild Foods - Correct Age



Callitris endlicheri
©Pete Woodall



Cotoneaster glaucophyllus
©poq



Crataegus monogyna
©Sami Tamson



Eucalyptus obliqua

Collecting Wild Foods - Correct Age



Eucalyptus radiata
©Guenther



Eucalyptus sieberi
©Pete Woodard



Gall wasp larvae
©Karl Magnacca



Hakea dactyloides
©Mark Clarke

Collecting Wild Foods - Correct Age



Hakea sericea
©Nik Adams



Isopogon anemonifolius
©Emma Croker



Lambertia formosa
©Margaret Sky



Leptospermum continentale
©insiderelic

Collecting Wild Foods - Correct Age



Liquidambar styraciflua
©Chris Jonkers



Persoonia pinifolia - purple
or green with seed ©Em Jenkins



Petrophile pulchella - also eaten
at slightly older stages ©jen_w1



Pinus radiata - will need to be cut
into smaller pieces ©rappman

Collecting Native Foods - Incorrect Age



Allocasuarina littoralis

©Tricia Stewart

Notice how the central seed pod is open on this *Allocasuarina littoralis* and the seeds have dispersed. This is not suitable for feeding! Collect *Allocasuarina spp.* in Spring and early-mid Summer for Gang-gangs.



Hakea sericea

©Emma Croker

The fruit has turned grey and is hard and woody. This is too old to feed! Collect *Hakea spp.* in Spring and early-mid Summer.

Collecting Native Foods - Incorrect Age



Banksia spinulosa

©Emma Croker

This *Banksia spinulosa* cone has not developed seeds. Check carefully along the spine of the cone for seeds!

Gang-gangs may eat several species of *Banksia* in care, but only when the seeds are fresh and light brown.



Banksia spinulosa

©Emma Croker

This *Banksia spinulosa* cone is too old! Most of the seeds have dispersed, and the cone is grey and woody.

It is possible to find ripe *Banksia* cones throughout the year, but you will need to travel about to locate them!

Collecting Native Foods - Incorrect Age



Eucalyptus sieberi
©Peg McDonald

These *Eucalyptus sieberi* nuts are too old! They have opened up and the seeds are dispersing.



Eucalyptus sp.
©bennybotany85

These gumnuts are also too old! If they are dark brown or grey, they are usually too old to feed. Gumnuts should be green to just brown, and still contain seeds!

Crop feeding

It may be necessary to crop feed a Gang-gang in care. If so, the procedure should only be undertaken by a skillful and anatomically knowledgeable cockatoo rehabilitator. These are not birds for beginners, or to practice on.

Birds too young to self feed, emaciated/dehydrated birds and birds that are too injured/unwell to self feed or drink will likely require crop feeding.

In essence, the bird should initially be wrapped securely (but not too tightly) in a thick towel. There must still be plenty of room within the wrap for the bird to breathe comfortably.



Gang-gang secured in thick towel. Handler is not squeezing tightly and there is plenty of room for the bird's body to expand and contract as it breathes, while still remaining secure.

Photo ©Peg McDonald



Locate the keel bone
and align the lower mandible
with this.

Photo ©Peg McDonald



Determine the length
of a **Vetafarm © stainless
steel, luer lock 8G long,
straight crop needle**
required. Before inserting,
measure between the top of
the oesophagus, with the
head gently extended, to the
location of the crop.

Photo ©Peg McDonald



Gently extend the head,
open the beak, locate the
oesophagus and gently insert
the needle. Do not force
entry, rather withdraw
slightly and start again.

Photo ©Peg McDonald

Gently push down on the plunger ensuring you keep an eye on the internal area of the oesophagus to be certain no food/liquid starts to come back up. If that happens there may be a blockage or injury, you may have inserted incorrectly or you may have overfilled the crop. In this case slowly withdraw the needle and allow the bird to swallow any overflow and settle.

If the bird is dehydrated and unable to drink normally the authors suggest cropping with Vetafarm Spark®.

If the bird is slightly emaciated Vetafam Polyaid Plus® may be used initially to provide energy as well as hydration.

If the bird is severely emaciated and will not survive without appropriate nutrition (that will not require it to use up valuable energy resources digesting the food) or is too young to self feed then Vetafarm Neocare® may be used.

Use these products only as instructed on the labels.



It is essential to ensure the crop is empty prior to commencing to avoid crop stasis or sour crop. Do not overfill and balloon out the crop - it must feel comfortably malleable. Be very aware of regurgitation, as inhalation pneumonia will most likely result, requiring immediate first aid procedures and resulting in possible death.

Again it must be stressed that only an experienced person carries out the procedure and determines the type and amount of fluid required for each case.



A stained bill generally indicates that the bird has been self-feeding ©Peg McDonald

Housing

Gang-gangs, being erratic flyers, need plenty of room to fly and move about, and they also need large quantities of natural browse and perches. Larger aviaries will give the birds a much better chance of achieving and maintaining flight-fitness prior to release, and can help reduce stress by affording the choice of appropriate foraging and roosting opportunities. You may find frequent refurbishing of the aviary is necessary as the birds will generally demolish whatever is placed in their housing. Whilst time-consuming, this is a necessary part of their rehabilitation as it provides enrichment and minimises stress.



Gang-gangs with variety of fresh browse in their aviary.
This bonded pair were housed together after careful
monitoring ©Peg McDonald

Intensive Care Accommodation:

You can use stainless steel or thick, durable plastic hospital cages. Provide appropriate ambient warmth (around 30°C) and humidity (around 65%), and keep the cage covered in a quiet place. The bird should be disturbed as little as possible. Line the floor with a thick towel to provide stability and to help keep the feathers in good condition. Very sick or injured birds may initially require a rolled-up towel in a donut-shape to rest in. Intensive care enclosures should be initially heated to 30°C and the temperature reduced gradually as the bird recovers and tolerates lower temperatures. Monitor for signs of overheating!



Brinsea© intensive care unit
©Peg McDonald



Supportive donut-shaped towel
©Peg McDonald

Once the bird is standing and capable of feeding, provide several branches with nuts, berries and seeds, along with water and the supplementary foods outlined in this guide. Ensure the natural perches you provide are of a suitable thickness for the size of the birds' feet, and place them at a height that keeps their tail feathers from becoming damaged by dragging on the floor of the cage.



Female in hospital cage. Note the branch and fresh browse provided ©Peg McDonald

Aviaries:

Aviaries should be in a quiet, secluded place, preferably facing north-east. They should offer protected areas where the birds can feel secure, hide, and get away from wind and rain and avian predators, but should also allow some exposure to the elements. The authors recommend pre-release flight aviaries be a *minimum* of 5 metres wide x 5 metres high x 8 metres long.

Gang-gang aviaries should be made from heavy-gauge weathered wire mesh – they can chew through fine gauge mesh! Ensure also that the wire is not newly coated or galvanised with zinc alloy as it is toxic to birds when chewed!



Aviary perches should be natural branches of varying widths with the bark intact. Some should be wide enough to allow the birds to ‘squat’ at night, fluffing their feathers out to cover their feet. Perches should be fixed at both ends of the aviary to encourage movement and allow flying room in the middle. Gang-gangs are naturally erratic flyers, so don’t put perches too close to the wire walls as the birds may crash when trying to land. Do not use rope in the aviary. It fosters bacteria and moulds, particularly when wet. It may also damage feet, and if consumed may cause impactions!

Firmly secured food branches can be placed near the perches and throughout the aviary. Gang-gangs are usually arboreal feeders, so place the food branches higher in the aviary. The birds will feel more comfortable, and we want to foster natural behaviour. Make the aviary interesting with plenty for the birds to chew on. While a stressed Gang-gang may destroy the habitat you create for it each day, keep replenishing the supplies to help prevent stress-induced feather-plucking.



Any supplementary foods which are dropped on the aviary floor should be quietly removed daily to discourage the birds from feeding on the ground, and to discourage mould, bacteria and vermin. A bathing dish should be provided, away from falling debris and droppings.

Activities undertaken in the aviary must always be completed quietly and with care not to disturb the bird, causing sudden flight.

Never talk to the birds in care - we need to keep them wild.



Gang-gangs enjoying a variety of perfectly placed and sized native foods in their aviary. Note: these birds were from the same flock and were housed together after careful monitoring for stress.

Photo ©Peg McDonald

Health

Self-mutilation:

One of the most serious problems suffered by Gang-gangs in care is the habit of feather-plucking. In most cases this is caused by boredom or stress and can be avoided with good management. A stressed Gang-gang will not only pluck body feathers, but also primary and tail feathers, sometimes causing irreparable damage to the feather follicle. They have also come into care with chewed toes and feet. If a Gang-gang in care starts feather-plucking, act very quickly! You will need to carefully assess your management or move the bird to a more experienced carer.



Stress-induced self-mutilation, caused by incorrect management. Note that the body, tail, and primary feathers have been plucked. Feather-plucking is extremely painful and is an indicator of the bird's abject stress.

Photos ©Peg McDonald

Starvation:

There can be many reasons why a bird in care isn't eating. It may be unwell, or has an injury which prevents it from eating in its usual way. It may also be because the food is not placed in an area where the bird feels comfortable eating, or that the food itself is inappropriate. If you are not providing the right, whole, seasonally correct and ripe wild foods, the birds will become stressed, will chew at the food and destroy it but will not be obtaining any nutrition. They will starve to death if this is happening and is not recognised.

Carefully monitor the colour and consistency of droppings. Bright green faeces and urates may indicate (among other problems such as compromised organs and stress) that the bird has not been eating. You can also gently feel the crop to see if it contains food.



Healthy Gang-gang droppings after eating Liquidambar. (This is an enlarged image.)

©Emma Croker

Some Gang-gangs might be still too young to eat on their own and may not beg. If you have provided the CORRECT native foods and they are ignoring it, they may require crop-feeding. Continue to provide some appropriate native food each day whilst crop-feeding, as they will suddenly eat it when they are mature enough.

Bear in mind that Gang-gangs tend to hold food in their left foot. Some may be reluctant to use their right foot to hold food, especially if the left leg is injured or there is other trauma present, such as a back or pelvic injury. This must be carefully monitored, and the feeding practice adjusted.



Immature male using left foot to hold gumnuts. Green nuts in left of picture are not yet mature. He is eating nuts at the perfect stage of maturity. ©Geoff Park

Injuries:

Many Gang-gangs come in with concussion/shock after motor vehicle accidents.

If a bird is found on or beside a road, it has most likely been hit by a car when flushed out of a nearby food source. That may give you a clue as to what the flock was feeding on. Do not assume a Gang-gang is tame simply because it is quiet. It will most likely be suffering from a severe form of head trauma, and must be treated as a stressed, wild bird. Bone, eye and internal traumas are also possible and once the bird is stabilised it should be seen by an avian-experienced veterinarian. *If the bird has suffered a severe trauma, please do not delay appropriate medical attention.*



Split lower mandible due to motor vehicle trauma

©Peg McDonald

Diseases

Psittacine Beak and Feather Disease (PBFD) / psittacine circovirus:

PBFD is a virus that can survive and accumulate in the environment, and it is shed from birds via feather dander, faeces and crop secretions, making it easily transmissible. The disease is immunosuppressive, and can cause feather deformities, feather loss, and severely abnormal growth of the beak and claws. It also causes weight loss and depression. Not all symptoms may be observed; presentations may vary between birds. Do not confuse PBFD with feather-plucking!



Juvenile male with PBFD. Note his dark, oily feathers due to lack of feather dander. His bill was not yet showing symptoms of PBFD, but he had begun self-mutilating his feet through stress.

Photos ©Peg McDonald

The authors have observed Gang-gangs showing varying symptoms, not always but sometimes including an overgrown beak. The feathers often have an oily-like appearance due to the lack of powder down (resulting in gun-metal grey feet and an inability to preen). Birds may present with secondary bacterial, fungal or parasitic infections such as scaly-mite, due to immunosuppression.

Always isolate a bird displaying any of these symptoms and seek experienced veterinary advice and pathology testing. *Birds diagnosed with PBFD must be euthanased.*



Top left:
Normal Gang-gang beak

Top right and bottom left:

Mature PBFD Gang-gang
with abnormal lower
mandible overgrowth

Photos ©Peg McDonald

Scaly-mite/Knemidokoptiasis:

A burrowing parasitic mite that causes scaly crusty lesions in non-feathered skin around the eyes, beak, cere, and feet. If PBF D is not diagnosed it may be treated with Ivermectin (such as Vetafarm Avimec Scaly Face Mite Treatment©, as instructed on the label).



Scaly-mite around beak, cere and eyes ©Peg McDonald

Internal and external parasites:

If diagnosed through microscopic examination of the faeces, Vetafarm Avian Insect Liquidator© for external parasites is suitable and Vetafarm Wormout Gel© may be suitable depending on the parasitic species identified. *Use as per label instructions.* Do not use any products without specific diagnosis. You may do the bird harm and you might also use the wrong product for the specific parasites involved.

Mycobacteriosis and *Angiostrongylus cantonensis* have also been recorded in captive Gang-gangs, but as yet we have not encountered them in wild birds.

Release

Ways in which birds are released are dependent upon their age and time in care. Those who have only been in care for a short time are released (when recovered) with their local flock as soon as possible. Being aware of exactly where the bird came from before it came into care, and of its group's present location will allow the bird to return to its flock with as little trauma as possible. Keeping track of local flocks is important while birds are in care, as you should always be considering when and where they will be released.

If a young, parent-dependent Gang-gang comes into care and will potentially only require short-term care, keep careful track of the flock's location as the parents will resume feeding and care of the young bird once it is returned to them.



Young birds who are raised in care, birds in long-term care or birds with uncertain histories should go into a large pre-release flight aviary with a good food supply and in an area known to be populated with wild Gang-gangs. These birds should be totally dehumanised, self-feeding, flying strongly (especially upwards and in circles) and used to exposure to the elements. Feathers should be clean and undamaged. The birds must always have transitioned to an exclusively, locally-available wild food diet prior to release, and have an ideal body score.



Soft-release from an aviary in an area supporting wild Gang-gangs is preferred. When this is not possible and hard-release is the only option, you must locate a flock of wild Gang-gangs and release your bird/s with them. A wild flock will indicate that the appropriate food sources are present in that area. Often this means researching well in advance of release, and consulting with local birders to help locate wild Gang-gang populations. The more details you obtain of the bird's location when it was found, the better chance it has of returning to its own flock.



This juvenile Gang-gang recovered from injuries sustained when hit by a car, and was successfully released with a local flock.

Photo ©Emma Croker

Conclusion

Gang-gangs are endearing and intelligent birds and caring for them offers you the opportunity to learn about the birds themselves and their habitat.

Rehabilitating injured and orphaned Gang-gangs contributes to the conservation of this now endangered species across their natural range.

Birds in care, however, require both diligence and dedication to keep them healthy and in good plumage. It is beyond a tragic sight to see one of these beautiful birds self-mutilate because of ignorance, neglect or inadequate management.

Gang-gang rehabilitation is a rewarding and enjoyable experience but is very time-consuming.

If you do not have the time, energy or inclination to devote to this task then please do not take on the bird.

It is a special privilege to care for a Gang-gang Cockatoo and return it to its wild home in a state fit to both survive and thrive.

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To help the Gang-gangs and to minimise costs to wildlife rehabilitators, we have elected to provide this booklet free of charge. If you have finished with it, please pass it on to someone else so that resources are not wasted.

Thank you!

Enquiries: pegmcdonald@bigpond.com



LewisWildlife was established and funded by the late Mr Tony Lewis and his wife Lisette. It is dedicated to the propagation, preservation and protection of wildlife in Australia and the conservation of its habitat.