Queensland Journal of Agricultural and Animal Sciences Vol. 43 (1), 55-72 (1986)
Published by the Queensland Department of Primary Industries

Mammals, birds, reptiles and amphibians of the Taroom Shire, central Queensland

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Summary

A survey of the mammals, birds, reptiles and amphibians of the Taroom Shire, central Queensland from 1977 to 1979 is described. A total of 328 species were located, including 48 species of mammals, 209 species of birds, 52 species of reptiles and 19 species of amphibians. Habitat types and estimates of abundance are given.

INTRODUCTION

The use of fauna surveys to establish the distribution and abundance of the fauna resource of Queensland is described by Kirkpatrick and Lavery (1979). This survey documents the present fauna of a region of the State that has recently been recognised as being of importance to nature conservation in the east Central Highlands of Queensland (Gasteen 1976). It is this area of central Queensland that forms a division between the marginal semiarid and arid lands to the west and the south-west and the higher rainfall semicoastal highlands and coastal lowlands to the east. The consequent overlap of eastern and western plant communities, along with this region's own specific communities gives a particularly high habitat diversity.

In response to the importance of the region to nature conservation in Queensland, and the prospective threat from future development of the immense reserves of coal and timber in the area, a detailed fauna survey was undertaken from 1977 to 1979.

THE TAROOM SHIRE

The Taroom Shire (Figure 1), lying between latitudes 25° 20′S and 26° 35′S and longitudes 149°E and 150° 35′E, covers approximately 18 650 km^2. It is bounded in the south by the Great Dividing Range and the east by the Auburn Range, while the Expedition and Bigge Ranges from natural boundaries to the west and the north-west respectively. This shire forms the southern section of the Fitzroy Basin and is drained by the Dawson River and its tributaries. Although the Dawson River rises in the Carnarvon Range to the west, its major tributaries (Robinson Creek, Eurombah Creek and Juandah Creek) rise in ranges on the southern and north-western boundaries of the shire (Figure 1).

Topography and soils vary considerably. Flat lands with extensive areas of alluvial soils are generally restricted to those areas adjacent to river and creek frontages. The remainder of the shire ranges from low gradient slopes to steep hillsides of shallow undifferentiated soils and rugged, deeply dissected sandstone cliffs and gorges in the Lynd, Bigge and Expedition Ranges. The elevation of the shire is mostly between 75 and 300 metres, with the Dawson River at Taroom being 198 metres and the highest point, Mt McConnel in the Expedition Range, being 771 metres. Detailed descriptions and maps of landforms (Galloway 1967), soils (Sweeney 1968; Gasteen 1976) and land systems (Speck 1968) have been published.

The climate of the region is essentially subtropical, subhumid with a concentration of rainfall in the warmer half of the year and a moderately high level of rainfall variability. Average annual rainfall ranges from 610 mm in the south to 710 mm in the north, with

Taroom registering a mean annual rainfall (1926–60) of 685 mm. Summer temperatures are generally high while light frosts regularly occur during winter in the lower parts of the shire. Rainfall and temperature records for Taroom during the survey period are provided (Figures 2 and 3). The Commonwealth Bureau of Meteorology (1965) describes the climate of the region in detail.

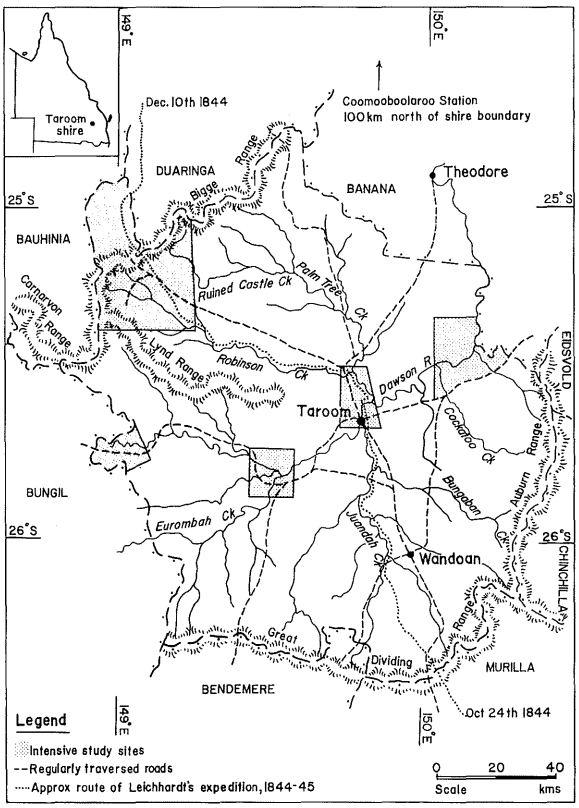

Figure 1. Taroom Shire fauna survey area. Map is based on McClement (1971).

The natural vegetation of the shire prior to European settlement was some form of eucalypt grassy woodland or forest on the coarse to medium textured soils, with closed woody communities (softwood and brigalow scrubs) on large areas of fine textured soils (Speck 1968). The brigalow (*Acacia harpophylla*) communities formed an important part of the vegetation of the southern and central sections of the shire, with the large areas of forest country found in the north and on the ranges forming the natural boundaries of the shire. Development for pastoral purposes and more recently for agriculture has resulted in the clearing of most of the brigalow and softwood communities in accessible areas. The eucalypt forests of the alluvial soils and adjacent low undulating lands have been extensively disturbed by selective thinning and ringbarking, while the large areas of tall forest (containing the occasional small closed woody community) on the deeply dissected and relatively inaccessible ranges remain largely undisturbed. Speck (1968) discusses the vegetation of the shire in detail. Gasteen (1976) has mapped the vegetation of most of the intensive study site on the headwaters of Robinson Creek.

Significant hardwood resources exist on state forest and other Crown lands within the shire. State forests covering some 125 400 ha (1971), are fauna sanctuaries under the Fauna Conservation Act 1974. National parks covering 13 213 ha (1981) have been declared. McClement (1971) provides a detailed description of physical resources, economics and rural industries.

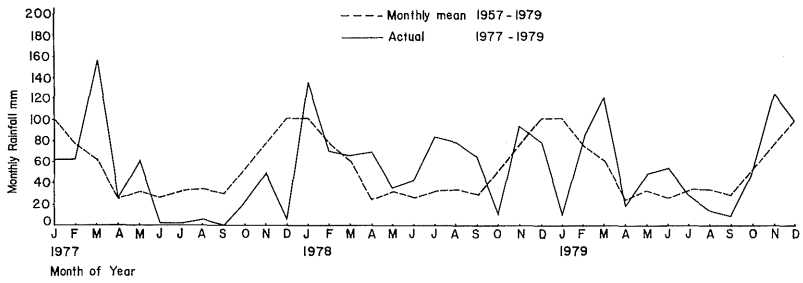

Figure 2. Mean monthly rainfall for the period 1957–79, and actual monthly rainfall 1977–79, at Taroom, Queensland.

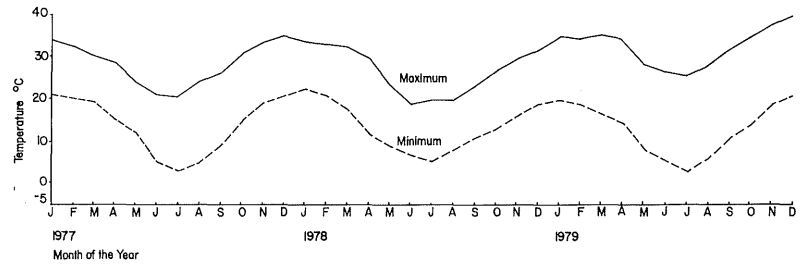

Figure 3. Mean monthly maximum and minimum temperatures, 1977–79, at Taroom, Queensland.

Fire is extensively used for forest and pasture management, and for firebreak protection of grain crops in the developed areas of the shire. Light fuel reduction burns around the edges of the state forests and national parks are occasionally undertaken in conjunction with adjacent landowners. Infrequent wildfires occur in the heavily forested north-west of the shire. The topography of this area ensures that a mosaic of burnt and unburnt forest results, thereby restricting severe damage.

Land use patterns in the shire have stabilised in the last decade following the expansion of agriculture in central Queensland in the 1960s. However, with large accessible reserves of coal and to a lesser extent oil in the Wandoan region, the potential exists for rapid and extensive change in the future.

METHODS

This survey followed the pattern established by previous fauna surveys in Queensland as detailed by Kirkpatrick and Lavery (1979). Areas of intensive study and the regularly used traverses through the shire are indicated in Figure 1.

Twenty trips averaging seven days were made involving a total of 290 mandays. Each trip visited at least one intensive study site, and random day and night traverses of the shire were made. Observation and collection techniques followed those described by Kirkpatrick and Lavery (1979). A fence (or pitfall) trap 300 metres in length comprising 30 evenly spaced containers was used at three sites and was found to be a successful method of trapping small mammals and reptiles. All collected material is registered with the Queensland Museum.

The broad habitat types recognised for the purpose of this survey are listed below. See Speck (1968) for composite floristic lists.

Closed forest.(The 'closed woody communities' of Speck 1968). Restricted to the softwood scrub and brigalow (*Acacia harpophylla*) scrub on the large areas of fine-textured soil and dense stands of an undescribed species of *Livistona* along creeks.

Open forest. Usually a eucalypt grassy woodland or forest on coarse-to medium-textured soil, but including the more open brigalow forests, and cypress pine (*Callitris columellaris*) forests on deep sandy soils.

Grassland. Open grassy plains replacing the former grassy woodland in the more developed areas of the shire.

Freshwater. The Dawson River system and isolated permanent and temporary lakes and swamps.

Cultivation. Cultivated land, crops and crop stubble.

Urban. Restricted to the townships of Taroom and Wandoan.

Estimates of abundance are given and follow the terminology of Kirkpatrick and Lavery (1979):

Abundant—Usually present in large numbers.

Common—Nearly always present, but not in large numbers.

Uncommon—Not present each visit, but more than twice during the survey.

Scarce—Not present more than twice during the survey.

No estimate of abundance is provided for some cryptic species, for species recorded by indirect methods such as the analysis of owl casts, or for 'difficult to locate' species for which the search made was considered inadequate.

RESULTS

A list of all species encountered, with associated habitat and an estimate of abundance where this could be determined is presented. Names of most mammal species follow Strahan (1983), bird species names are based on Condon (1975) and Schodde (1975) while English names follow Schodde *et al.* (1977). Reptile and amphibian names follow Ingram and Covacevich (1981).
An asterisk (*) indicates that the record is based on a sighting only.

Mammals

Monotremata

* *Ornithorhynchus anatinus* (Shaw and Nodder). Platypus. Freshwater; two records from one locality on the Dawson River.

* *Tachyglossus aculeatus* (Shaw and Nodder). Short-beaked echidna. Open forest and brigalow; uncommon.

Marsupialia

Planigale maculata (Gould). Common planigale. Open and closed forests; common. Present in owl casts.

Planigale tenuirostris Troughton. Narrow-nosed planigale. Open forest; recorded from owl casts only.

Sminthopsis murina (Waterhouse). Common dunnart. Open forest; common. One record from brigalow. Present in owl casts.

Sminthopsis macroura (Gould). Stripe-faced dunnart. Open forest; uncommon. Present in owl casts.

* *Trichosurus vulpecula* (Kerr). Common brushtail possum. Open forest adjacent to watercourses; uncommon.

Petauroides volans (Kerr). Greater glider. Open forest; common.

* *Petaurus australis* Shaw and Nodder. Yellow-bellied glider. Open forest on ranges; recorded by call and tree scarring only; uncommon.

Petaurus breviceps Waterhouse. Sugar glider. Open forest; uncommon.

Acrobates pygmaeus (Shaw). Feathertail glider. Open forest, recorded from owl casts only.

* *Phascolarctos cinereus* (Goldfuss). Koala. Open forest; uncommon.

* *Aepyprymnus rufescens* (Gray). Rufous bettong. Open forest and grassland; common.

* *Petrogale penicillata* (Griffith, Smith and Pidgeon). Brush-tailed rock-wallaby. Rocky slopes and cliff lines; common.

* *Wallabia bicolor* (Desmarest). Swamp wallaby. Open and closed forests; abundant.

* *Macropus parryi* (Bennett). Whiptail wallaby. Open forest; abundant.

* *Macropus dorsalis* (Gray). Black-striped wallaby. Open and closed forests; common. Most abundant macropod of brigalow and softwood scrubs.

* *Macropus rufogriseus* (Desmarest). Red-necked wallaby. Open forest; abundant. One record from brigalow.

* *Macropus giganteus* Shaw. Eastern grey kangaroo. Open forest and grassland; abundant.

* *Macropus robustus* Gould. Common wallaroo. Open forest; common.

Chiroptera

Pteropus scapulatus Peters. Little red flying-fox. Open forest; uncommon.

Taphozous flaviventris Peters. Yellow-bellied sheathtail-bat. Open forest; common.

Tadarida australis (Gray). White-striped mastiff-bat. Open forest; scarce.

Mormopterus planiceps (Peters). Little mastiff-bat. Open forest; common.

Mormopterus cf beccarii (Peters). Beccari's mastiff-bat. Open forest; uncommon.

Nyctophilus geoffroyi Leach. Lesser long-eared bat. Open forest; two specimens from one locality only.

Miniopterus schreibersii (Kuhl). Common bent-wing bat. Open forest; common. Closed forest; uncommon. Two records from softwood scrub.

Chalinolobus gouldii (Gray). Gould's wattled bat. Open forest; abundant.

Chalinolobus picatus (Gould). Little pied bat. Open forest; scarce.

Chalinolobus dwyeri Ryan. Large pied bat. Open forest; scarce.

Nycticeius greyii (Gould). Little broad-nosed bat. Open forest; common. One record from softwood scrub.

Nycticeius cf balstoni (Thomas). Western broad-nosed bat. Open and closed forests; one specimen only from each habitat type.

Eptesicus pumilus (Gray). Little cave eptesicus. Open forest; scarce.

Rodentia

Rattus fuscipes (Waterhouse). Bush rat. Open forest; scarce.

Rattus tunneyi (Thomas). Pale field-rat. Open forest, recorded from owl casts only.

Rattus rattus Linnaeus. Black rat. Urban and dwellings; common.

Mus musculus (Linnaeus). House mouse. Open forest, closed forest, grasslands and urban; abundant. Present in owl casts.

Hydromys chrysogaster Geoffroy. Water-rat. Freshwater streams; common.

Pseudomys delicatulus (Gould). Delicate mouse. Open forest; scarce. Recorded from cypress pine forest only.

Pseudomys gracilicaudatus (Gould). Eastern chestnut mouse. Open forest.Recorded from owl casts only.

Melomys cervinipes (Gould). Fawn-footed melomys. Closed forest, one collected from a dense *Livistona* sp. nov. (Central Highlands) thicket on Palm Tree Creek.

Lagomorpha

* *Oryctolagus cuniculus* (Linnaeus). Rabbit. Open forest and grassland. Locally abundant in restricted areas. One record from within brigalow.
* *Lepus capensis* Linnaeus. Brown hare. Open forest and grassland; common.

Carnivora

* *Canis familiaris* Linnaeus. Dingo. Open forest; abundant. Closed forest; uncommon.
* *Vulpes vulpes* (Linnaeus). Fox. Open forest and grassland; common.
* *Felis catus* Linnaeus. Feral cat. Open forest; common.

Artiodactyla

* *Sus scrofa* Linnaeus. Feral pig. Open forest and freshwater (creek and river margins, adjacent to swamps and dams); abundant.
* *Capra hircus* Linnaeus. Feral goat. Open forest, small localised population.

Birds

Struthioniformes

* *Dromaius novaehollandiae* (Latham). Emu. Grassland and open forest; common.

Podicipediformes

* *Podiceps cristatus* (Linnaeus). Great crested grebe. Freshwater, one record only.

Poliocephalus poliocephalus (Jardine and Selby). Hoary-headed grebe. Freshwater; uncommon.

Tachybaptus novaehollandiae (Stephens). Australasian grebe. Freshwater; common.

Pelecaniformes

* *Pelecanus conspicillatus* Temminck. Australian pelican. Freshwater; common.
* *Anhinga melanogaster* Pennant. Darter. Freshwater; common.
* *Phalacrocorax carbo* (Linnaeus). Great cormorant. Freshwater; scarce.
* *Phalacrocorax sulcirostris* (Brandt). Little black cormorant. Freshwater; uncommon.
* *Phalacrocorax melanoleucos* (Vieillot). Little pied cormorant. Freshwater; common.

Ardeiformes

* *Ardea pacifica* Latham. Pacific heron. Freshwater; common.
* *Ardea novaehollandiae* Latham. White-faced heron. Freshwater; common.
* *Egretta alba* (Linnaeus). Great egret. Freshwater; common.
* *Egretta garzetta* (Linnaeus). Little egret. Freshwater; scarce.
* *Egretta intermedia* (Wagler). Intermediate egret. Freshwater; uncommon.
* *Nycticorax caledonicus* (Gmelin). Rufous night heron. Freshwater; uncommon.
* *Xenorhynchus asiaticus* (Shaw). Black-necked stork. Freshwater; uncommon.
* *Plegadis falcinellus* (Linnaeus). Glossy ibis. Freshwater and grassland; uncommon.
* *Threskiornis aethiopica* (Cuvier). Sacred ibis. Freshwater and grassland; common.
* *Threskiornis spinicollis* (Jameson). Straw-necked ibis. Freshwater and grassland; common.
* *Platalea regia* Gould. Royal spoonbill. Freshwater; common.
* *Platalea flavipes* Gould. Yellow-billed spoonbill. Freshwater; common.

Anseriformes

* *Dendrocygna arcuata* (Horsfield). Wandering whistling duck. Freshwater; uncommon.
* *Dendrocygna eytoni* (Eyton). Plumed whistling duck. Freshwater; common.
* *Cygnus atratus* (Latham). Black swan. Freshwater; common.

* *Anas superciliosa* Gmelin. Pacific black duck. Freshwater, abundant.
* *Anas gibberifrons* Muller. Grey teal. Freshwater, abundant.
* *Anas rhynchotis* Latham. Australasian shoveler. Freshwater; scarce.
* *Aythya australis* (Eyton). Hardhead. Freshwater; common.
* *Chenonetta jubata* (Latham). Maned duck. Freshwater; common.
* *Nettapus coromandelianus* (Gmelin). Cotton pygmy-goose. Freshwater; uncommon.

Accititriformes

Elanus notatus Gould. Black-shouldered kite. Open forest and grassland; uncommon.
Aviceda subcristata Gould. Pacific baza. Open forest; uncommon.
* *Milvus migrans* (Boddaert). Black kite. Open forest; uncommon.
* *Haliastur sphenurus* (Vieillot). Whistling kite. Open forest; common.
* *Accipiter fasciatus* (Vigors and Horsfield). Brown goshawk. Open forest; scarce.
* *Accipiter cirrhocephalus* (Vieillot). Collared sparrowhawk. Open forest; one record only.
* *Haliaeetus leucogaster* (Gmelin). White-bellied sea-eagle. Open forest near freshwater; scarce.
* *Aquila audax* (Latham). Wedge-tailed eagle. Open forest and grassland; abundant.
* *Falco peregrinus* Tunstall. Peregrine falcon. Open forest; scarce.
* *Falco longipennis* Swainson. Australian hobby. Open forest; uncommon.
* *Falco berigora* Vigors and Horsfield. Brown falcon. Open forest and grassland; abundant.
* *Falco cenchroides* Vigors and Horsfield. Australian kestrel. Open forest, grassland and cultivation; abundant.

Galliformes

* *Alectura lathami* Gray. Australian brush-turkey. Closed forest (softwood scrub and dense brigalow); uncommon.
* *Coturnix novaezelandiae* Quoy and Gaimard. Stubble quail. Cultivation; common.

Gruiformes

Turnix varia (Latham). Painted button-quail. Open forest and grassland, one record only.
* *Turnix pyrrhothorax* (Gould). Red-chested button-quail. Cultivation; scarce.
* *Gallinula tenebrosa* Gould. Dusky moorhen. Freshwater; common.
* *Porphyrio porphyrio* (Linnaeus). Purple swamphen. Freshwater; common.
* *Fulica atra* Linnaeus. Eurasian coot. Freshwater; common.
* *Grus rubicundus* (Perry). Brolga. Freshwater; occasional.
* *Ardeotis australis* (J.E. Gray). Australian bustard. Grassland; common.

Charadriiformes

Irediparra gallinacea (Temminck). Comb-crested jacana. Freshwater; uncommon.
* *Burhinus magnirostris* (Latham). Bush thick-knee. Open forest; uncommon.
Rostratula benghalensis (Linnaeus). Painted snipe. Freshwater; scarce.
* *Vanellus miles* (Boddaert). Masked lapwing. Freshwater; common. Open forest; uncommon.
* *Vanellus tricolor* (Vieillot). Banded lapwing. Open forest; scarce.
* *Erythrogonys cinctus* Gould. Red-kneed dotterel. Freshwater; scarce.
Charadrius melanops Vieillot. Black-fronted plover. Freshwater; uncommon.
* *Himantopus himantopus* (Linnaeus). Black-winged stilt. Freshwater; common.
* *Gallinago hardwickii* (Gray). Latham's snipe. Freshwater; uncommon.

Calidris acuminata (Horsfield). Sharp-tailed sandpiper. Freshwater, one record only.
* *Larus novaehollandiae* Stephens. Silver gull. Freshwater; occasional.
* *Chlidonias hybrida* (Pallas). Whiskered tern. Freshwater; scarce.

Columbiformes

* *Columba livia* (Gmelin). Feral pigeon. Urban; uncommon.
Geopelia placida (Linneaus). Peaceful dove. Open forest; common.
* *Geopelia cuneata* (Latham). Diamond dove. Open forest; uncommon.
Geopelia humeralis (Temminck). Bar-shouldered dove. Open forest; common.
Chalcophaps indica (Linnaeus). Emerald dove. Open forest, one record only.
* *Phaps chalcoptera* (Latham). Common bronzewing. Open forest; common.
* *Ocyphaps lophotes* (Temminck and Laugier). Crested pigeon. Open forest and grassland; abundant.
Petrophassa scripta (Temminck). Squatter pigeon. Open forest; uncommon.
* *Leucosarcia melanoleuca* (Latham). Wonga pigeon. Closed forest and open forest thickets; uncommon.

Psittaciformes

Calyptorhynchus lathami (Temminck). Glossy black-cockatoo. Open forest; uncommon.
* *Calyptorhynchus funereus* (Shaw). Yellow-tailed black-cockatoo. Open forest; one record only.
* *Cacatua roseicapilla* (Vieillot). Galah. Open forest and cultivation; common.
* *Cacutua galerita* (Latham). Sulphur-crested cockatoo. Open forest; abundant.
* *Trichoglossus haematodus* (Linnaeus). Rainbow lorikeet. Open forest; abundant.
* *Trichoglossus chlorolepidotus* (Kuhl). Scaly-breasted lorikeet. Open forest; abundant.
Glossopsitta pusilla (White). Little lorikeet. Open forest; common.
Alisterus scapularis (Lichtenstein). Australian king-parrot. Open forest; common. Closed forest (softwood scrubs); uncommon.
Aprosmictus erythropterus (Gmelin). Red-winged parrot. Open forest; uncommon.
* *Nymphicus hollandicus* (Kerr). Cockatiel. Open forest; common.
Melopsittacus undulatus (Shaw). Budgerigar. Open forest, one record only.
Platycercus adscitus (Latham). Pale-headed rosella. Open forest; abundant.
* *Psephotus haematonotus* (Gould). Red-rumped parrot. Open forest, one record only.
Northiella haematogaster (Gould). Blue bonnet. Forest, one record only.

Cuculiformes

Cuculus pallidus (Latham). Pallid cuckoo. Open forest; uncommon.
* *Cuculus variolosus* Vigors and Horsfield. Brush cuckoo. Open forest, one record only.
Cuculus pyrrhophanus Vieillot. Fan-tailed cuckoo. Open forest; uncommon. One record from softwood scrub.
* *Chrysococcyx basalis* (Horsefield). Horsefield's bronze-cuckoo. Closed forest, one record only from softwood scrub.
Chrysococcyx lucidus (Gmelin). Shining bronze-cuckoo. Open and closed forest; scarce.
Eudynamis scolopacea (Linnaeus). Common koel. Open forest; uncommon.
* *Scythrops novaehollandiae* (Latham). Channel-billed cuckoo. Open forest; uncommon.
* *Centropus phasianinus* (Latham). Pheasant coucal. Open forest and grassland; uncommon.

Strigiformes

* *Ninox strenua* (Gould). Powerful owl. Open forest (dense); scarce.

Ninox novaeseelandiae (J.F. Gmelin). Southern boobook. Open forest; uncommon. Closed forest and grassland; scarce.

Tyto alba (Scopoli). Barn owl. Open forest; scarce.

* *Tyto novaehollandiae* (Stephens). Masked owl. Open forest; one record only from cave roost in sandstone cliff.

Caprimulgiformes

Podargus strigoides (Latham). Tawny frogmouth. Open forest; uncommon.

Aegotheles cristatus (J. White). Australian owlet-nightjar. Open forest; scarce.

* *Caprimulgus mystacalis* Temminck. White-throated nightjar. Open forest; one record only.

Apodiformes

* *Hirundapus caudacutus* (Latham). White-throated needletail. Open forest and grassland; uncommon.

* *Apus pacificus* (Latham). Fork-tailed swift. Open forest and grassland; uncommon.

Coraciiformes

* *Ceyx azurea* (Latham). Azure kingfisher. Open forest near freshwater; uncommon.

* *Dacelo novaeguineae* (Hermann). Laughing kookaburra. Open forest; abundant.

* *Halcyon macleayii* Jardine and Selby. Forest kingfisher. Open forest; scarce.

* *Halcyon pyrrhopygia* Gould. Red-backed kingfisher. Open forest; one record only.

Halcyon sancta Vigors and Horsfield. Sacred kingfisher. Open forest near freshwater; common.

* *Merops ornatus* Latham. Rainbow bee-eater. Open forest; common.

Eurystomus orientalis (Linneaus). Dollarbird. Open forest; common.

Passeriformes

Mirafra javanica Horsfield. Singing bushlark. Grassland; uncommon.

* *Cheramoeca leucosternum* (Gould). White-backed swallow. Open forest; scarce.

* *Hirundo neoxena* Gould. Welcome swallow. Open forest; uncommon.

Cecropis nigricans (Vieillot). Tree martin. Open forest; uncommon.

* *Cecropis ariel* (Gould). Fairy martin. Open forest and grassland; common.

Anthus novaeseelandiae (Gmelin). Richard's pipit. Grassland; common.

* *Coracina novaehollandiae* (Gmelin). Black-faced cuckoo-shrike. Open forest; abundant. One record from softwood scrub.

Coracina papuensis (Gmelin). White-bellied cuckoo-shrike. Open forest; common. Closed forest (softwood scrub); scarce.

Coracina tenuirostris (Jardine). Cicadabird. Open and closed forest; uncommon.

* *Coracina maxima* (Ruppell). Ground cuckoo-shrike. Grassland; scarce.

Lalage sueurii (Vieillot). White-winged triller. Open forest; uncommon.

Petroica rosea Gould. Rose robin. Open and closed forests; scarce.

Petroica goodenovii (Vigors and Horsfield). Red-capped robin. Open forest; scarce.

Eopsaltria australis (Shaw). Eastern yellow robin. Open and closed forests (softwood scrub); uncommon.

Microeca leucophaea (Latham); Jacky winter. Open forest; common. Closed forest; scarce.

Pachycephala pectoralis (Latham). Golden whistler. Open and closed forests; uncommon.

Pachycephala rufiventris (Latham). Rufous whistler. Open forest; common. Closed forest; scarce.

Colluricincla megarhyncha (Quoy and Gaimard). Little shrike-thrush. Closed forest; one record only.

Colluricincla harmonica (Latham). Grey shrike-thrush. Open forest; common.

Myiagra rubecula (Latham). Leaden flycatcher. Open forest; common. Closed forest; scarce.

* *Myiagra cyanoleuca* (Vieillot). Satin flycatcher. Open forest; scarce.

* *Myiagra inquieta* (Latham). Restless flycatcher. Open forest; common.

Rhipidura rufifrons (Latham). Rufous fantail. Open forest; scarce.

Rhipidura fuliginosa (Sparrman). Grey fantail. Open forest; common. Closed forest; uncommon.

Rhipidura leucophrys (Latham). Willie wagtail. Open forest; abundant.

* *Psophodes olivaceus* (Latham). Eastern whipbird. Closed forest; one record only from softwood scrub.

Pomatostomus temporalis (Vigors and Horsfield). Grey-crowned babbler. Open forest; abundant.

Acrocephalus stentoreus (Linneaus). Clamorous reed-warbler. Grassland and freshwater; common.

Megalurus timoriensis (Wallace). Tawny grassbird. Grassland; uncommon.

Cisticola exilis (Vigors and Horsfield). Golden-headed cisticola. Grassland; uncommon.

Cinclorhamphus mathewsi (Iredale). Rufous songlark. Grassland; uncommon.

Malurus cyaneus Latham. Superb fairy-wren. Open forest; uncommon.

Malurus lamberti (Vigors and Horsfield). Variegated fairy-wren. Open forest; uncommon. Closed forest; scarce.

Malurus melanocephalus (Latham). Red-backed fairy-wren. Open forest; common.

Sericornis frontalis (Vigors and Horsfield). White-browed scrubwren. Open and closed forests; common.

Sericornis sagittatus (Latham). Speckled warbler. Open and closed forests; uncommon.

Smicrornis brevirostris (Gould). Weebill. Open forest; abundant.

* *Gerygone fusca* (Gould). Western gerygone. Open forest; scarce.

Gerygone olivacea (Gould). White-throated gerygone. Open forest; common.

Acanthiza pusilla (Shaw). Brown thornbill. Closed forest; uncommon. Open forest; scarce.

Acanthiza apicalis Gould. Inland thornbill. Open forest; scarce.

* *Acanthiza uropygialis* Gould. Chestnut-rumped thornbill. Open forest; scarce.

Acanthiza reguloides (Vigors and Horsfield). Buff-rumped thornbill. Open forest; common.

Acanthiza chrysorrhoa (Quoy and Gaimard). Yellow-rumped thornbill. Grassland; scarce.

Acanthiza nana Vigors and Horsfield. Yellow thornbill. Open forest; uncommon. Closed forest; scarce.

Acanthiza lineata Gould. Striated thornbill. Open forest; uncommon.

Daphoenositta chrysoptera (Latham). Varied sittella. Open forest; common.

Climacteris leucophaea (Latham). White-throated treecreeper. Open forest; uncommon. Closed forest; scarce.

Climacteris picumnus Temminck. Brown treecreeper. Open forest; uncommon.

Acanthagenys rufogularis Gould. Spiny-cheeked honeyeater. Open forest; uncommon.

Plectorhyncha lanceolata Gould. Striped honeyeater. Open forest; common.

Philemon corniculatus (Latham). Noisy friarbird. Open forest; abundant.

Philemon citreogularis (Gould). Little friarbird. Open forest; abundant. Closed forest and grassland; uncommon.

Entomyzon cyanotis (Latham). Blue-faced honeyeater. Open forest; common.

Manorina melanocephala (Latham). Noisy miner. Open forest; abundant.

Manorina flavigula (Gould). Yellow-throated miner. Open forest and grassland; uncommon.

Meliphaga lewinii (Swainson). Lewin's honeyeater. Open forest (dense) and closed forests; uncommon.

Lichenostomus chrysops (Latham). Yellow-faced honeyeater. Open forest; uncommon.

Lichenostomus virescens (Vieillot). Singing honeyeater. Open forest; scarce.

Lichenostomus leucotis (Latham). White-eared honeyeater. Open forest; common. Closed forest; scarce.

Lichenostomus melanops (Latham). Yellow-tufted honeyeater. Open forest; uncommon.

Lichenostomus fuscus (Gould). Fuscous honeyeater. Open forest; uncommon.

Lichenostomus penicillatus (Gould). White-plumed honeyeater. Open forest; common.

Melithreptus gularis (Gould). Black-chinned honeyeater. Open forest; uncommon.

Melithreptus brevirostris (Vigors and Horsfield). Brown-headed honeyeater. Open forest; uncommon.

Melithreptus albogularis (Gould). White-throated honeyeater. Open forest; uncommon.

Melithreptus lunatus (Vieillot). White-naped honeyeater. Open forest; uncommon. Closed forest; scarce.

Lichmera indistincta (Vigors and Horsfield). Brown honeyeater. Open forest; uncommon.

Myzomela sanguinolenta (Latham). Scarlet honeyeater. Open and closed forest; scarce.

Dicaeum hirundinaceum (Shaw). Mistletoebird. Open forest; common. Closed forest; scarce.

Pardalotus punctatus (Shaw). Spotted pardalote. Open forest; uncommon.

Pardalotus striatus (Gmelin). Striated pardalote. Open forest; abundant.

Zosterops lateralis (Latham). Silvereye. Open forest; uncommon.

* *Passer domesticus* (Linneaus). House sparrow. Urban; common.

Emblema temporalis (Latham). Red-browed firetail. Open and closed forest; uncommon.

Emblema guttata (Shaw). Diamond firetail. Open forest; scarce.

Poephila guttata (Gould). Zebra finch. Open forest and grassland; common.

Poephila bichenovii (Vigors and Horsfield). Double-barred finch. Open forest; common.

Aidemosyne modesta (Gould). Plum-headed finch. Open forest and grassland; uncommon.

Lonchura castaneothorax (Gould). Chestnut-breasted mannikin. Grassland; one record only.

Sturnus vulgaris Linnaeus. Common starling. Grassland; uncommon.

Oriolus sagittatus (Latham). Olive-backed oriole. Open and closed forest; uncommon.

Sphecotheres viridis Vieillot. Figbird. Open forest; scarce.

* *Dicrurus hottentottus* (Linneaus). Spangled drongo. Open forest; uncommon. Closed forest; scarce.

Chlamydera maculata (Gould). Spotted bowerbird. Open forest (brigalow); uncommon.

* *Corcorax melanorhamphos* (Vieillot). White-winged chough. Open forest; common.

* *Struthidea cinerea* Gould. Apostlebird. Open forest; abundant.

* *Grallina cyanoleuca* (Latham). Australian magpie-lark. Open forest, freshwater, cultivation and urban; abundant.

Artamus leucorhynchus (Linneaus). White-breasted woodswallow. Open forest and grassland; uncommon.

Artamus superciliosus (Gould). White-browed woodswallow. Open forest; scarce.
Artamus cinereus Vieillot. Black-faced woodswallow. Grassland; scarce.
Artamus cyanopterus (Latham). Dusky woodswallow. Open forest; scarce.
Artamus minor Vieillot. Little woodswallow. Open forest; scarce.
Cracticus torquatus (Latham). Grey butcherbird. Open forest; common. Closed forest; uncommon.
* *Cracticus nigrogularis* (Gould). Pied butcherbird. Open forest; common.
Gymnorhina tibicen (Latham). Australian magpie. Open forest, cultivation and urban; common.
Strepera graculina (Shaw). Pied currawong. Open and closed forest; common.
Corvus coronoides (Vigors and Horsfield). Australian raven. Open forest; common.
Corvus orru Bonaparte. Torresian crow. Open forest, grassland and cultivation; abundant.

Reptiles

Chelonia

Chelodina longicollis (Shaw). Common long-necked tortoise. Freshwater; common.
Rheodytes leukops Legler and Cann. Freshwater (Dawson River system); uncommon.

Squamata

Diplodactylus steindachneri Boulenger. Open forest; two specimens collected.
Diplodactylus taenicaudus De Vis. Golden-tailed gecko. Open forest; common.
Diplodactylus vittatus Gray. Wood gecko. Open forest; common.
Gehyra australis Gray. Northern dtella. Open forest; abundant.
Gehyra catenata Low. Open forest; common.
Heteronotia binoei (Gray). Bynoe's gecko. Open forest; abundant.
Oedura lesueurii (Dumeril and Bibron). Lesueur's velvet gecko. Open forest; rocky areas, one specimen collected.
Oedura robusta Boulenger. Robust velvet gecko. Open forest; one specimen collected.
Oedura tryoni De Vis. Southern spotted velvet gecko. Open forest; common.
Phyllurus salebrosus (Covacevich). Sandstone cliff lines in open forest; common.
Underwoodisaurus milii (Bory). Thick-tailed gecko. Open forest; two specimens collected.
Lialis burtonis Gray. Burton's snake-lizard. Open forest; one specimen collected.
Amphibolurus barbatus (Cuvier). Bearded dragon. Open forest; common.
Amphibolurus muricatus (Shaw). Jacky lizard. Open forest; uncommon.
Amphibolurus nobbi Witten. Nobbi. Open forest; common.
Diporiphora australis (Steindachner). Open forest; uncommon.
Physignathus lesueurii (Gray). Eastern water dragon. Freshwater streams and waterholes; common.
Varanus gouldii (Gray). Sand monitor. Open forest; common.
Varanus tristis (Schlegel). Spotted tree monitor. Open forest, two specimens collected.
Varanus varius (Shaw). Lace monitor. All habitat types except freshwater; abundant.
Anomalopus lentiginosus (De Vis). Open forest; scarce.
Anomalopus verreauxii Dumeril. Closed forest, two specimens collected from one locality in softwood scrub.
Carlia foliorum De Vis. Open forest; common.
Carlia pectoralis (De Vis). Open forest; abundant.

Carlia schmeltzii (Peters). Open forest; common.
Cryptoblepharus virgatus (Garman). Open forest; common.
Ctenotus robustus Storr. Open and closed forests; uncommon.
Ctenotus taeniolatus (Shaw). Copper-tailed skink. Open forest; common.
Egernia modesta Storr. Open forest; one specimen collected.
Egernia rugosa De Vis. Yakka skink. Open forest; uncommon.
Egernia striolata (Peters). Tree skink. Open forest (usually open brigalow); uncommon.
Eremiascincus fasciolatus (Gunther). Banded sand swimmer. Open forest; scarce.
Lerista fragilis (Gunther). Open forest; scarce.
Lerista punctatovittata (Gunther). Open forest; one specimen collected.
Menetia timlowi Ingram. Open and closed forests; uncommon.
Morethia boulengeri (Ogilby). Open forest; common.
Morethia taeniopleura Peters. Firetail skink. Open forest; uncommon.
Sphenomorphus quoyii (Dumeril and Bibron). Eastern water skink. Freshwater streams with rocky banks; common.
Sphenomorphus tenuis (Gray). Open forest; rocky outcrops; common.
Tiliqua scincoides (Shaw). Eastern blue-tongued lizard. Open forest; one specimen collected.

Serpentes

* *Python spilotes* (Lacepede). Carpet python. Open forest; uncommon.
Amphiesma mairii (Gray). Freshwater snake. Freshwater; one specimen collected.
Boiga irregularis (Merrem). Brown tree snake. Open forest; two specimens collected from one locality.
Dendrelaphis punctulatus (Gray). Common tree snake. Open forest; uncommon.
Furina diadema (Schlegel). Red-naped snake. Open forest; one specimen collected.
Glyphodon dunmalli (Worrell). Dunmall's snake. Open forest; one specimen collected.
Hoplocephalus bitorquatus (Jan). Pale-headed snake. Open forest; uncommon.
Pseudonaja textilis (Dumeril, Bibron and Dumeril). Eastern brown snake. Open forest and cultivation; uncommon.
Simoselaps australis (Krefft). Coral snake. Open forest (open brigalow); one specimen collected.
Vermicella annulata (Gray). Bandy-bandy. Open forest; scarce.

Amphibians

Anura

Limnodynastes fletcheri Boulenger. Long-thumbed frog. Freshwater; abundant.
Limnodynastes peronii (Dumeril and Bibron). Brown-striped frog. Freshwater; uncommon.
Limnodynastes salmini Steindachner. Salmon-striped frog. Freshwater; two specimens collected.
Limnodynastes tasmaniensis Gunther. Spotted grass frog. Freshwater and adjacent open forest; uncommon.
Platyplectrum ornatus (Gray). Ornate burrowing frog. Freshwater and adjacent open forest; abundant.
Platyplectrum terraereginae Fry. Northern banjo frog. Open forest and freshwater; uncommon.
Pseudophryne major (Parker). Open and closed forests (dry watercourses); uncommon.
Ranidella parinsignifera (Main). Freshwater; four specimens from one locality.

Uperoleia rugosa (Andersson). Red-groined toadlet. Freshwater and adjacent open forest; common.

Cyclorana alboguttatus Gunther. Striped burrowing frog. Freshwater; common.

Cyclorana novaehollandiae Steindachner. Freshwater and adjacent open forest; uncommon.

Cyclorana verrucosus Tyler and Martin. Open forest; dry creek bed. Two specimens from one locality collected.

Litoria caerulea (Shaw). Green tree frog. Freshwater and adjacent open forest; abundant.

Litoria fallax (Peters). Eastern dwarf tree frog. Freshwater; abundant.

Litoria latopalmata Gunther. Freshwater and adjacent open forest; abundant.

Litoria lesueurii (Dumeril and Bibron). Lesueur's frog. Freshwater; uncommon.

Litoria peronii (Tschudi). Peron's tree frog. Freshwater; abundant.

Litoria rubella (Gray). Desert tree frog. Freshwater and adjacent open forest; common.

Bufo marinus (Linnaeus). Cane toad. Freshwater and adjacent open forest; common.

DISCUSSION

The discovery of 328 species of vertebrates during this survey indicates that at least 28% of the vertebrate species of Queensland are respresented in the Taroom Shire. Based on accepted distribution, 73% of the species expected to occur in the region was located. Of the remaining 27% most are species which by nature of their cryptic habits, highly migratory patterns or low population densities are difficult to locate within the constraints of a short term survey, but could reasonably be expected to be located in time or with intensive specific searching.

Comparison with early fauna records of the region (Gilbert 1844; Barnard 1925; Finlayson 1931, 1934) can now be made to indicate trends in the distribution and abundance of some species, and a base line for future fauna surveys of the region has been established.

Seventy-seven per cent of the mammals expected in the Taroom Shire was recorded. The most conspicuous element of the mammal fauna is the *Macropodidae*, with eight species being either common or abundant throughout the forested country. The status of these species has not changed since 1928–29 when H.H. Finlayson noted that the macropod element of the fauna was overwhelmingly dominant (Finlayson 1931). Two macropod species apparently lost from the area since European settlement are the Bridled nailtail wallaby (*Onychogalea fraenata* (Gould)) and the Brush-tailed bettong (*Bettongia penicillata* (Gray)). Finlayson (1931) found the Bridled nailtail wallaby to be absent or scarce over the greater part of the Dawson River country although he did observe it twice in the region. The four land systems with which the present distribution of the species is associated (Gordon and Lawrie 1980) are not present in the Taroom Shire. Land systems of the same group in the shire which have been extensively developed recently are separated from the present population by an extensive band of unfavourable habitat; undulating plains and deeply dissected tablelands. This species was not encountered during this survey despite specific searching and the investigation of local reports.

The Brush-tailed bettong was collected by Lumholtz in the early 1880s on Coomooboolaroo, some 100 kilometres north of the Taroom Shire boundary. Gilbert (1844) mentioned in his diary a species of Brown kangaroo rat smaller than the Rufous bettong (*Aepyprymnus rufescens* (Gray)) in the headwaters of Robinson Creek. Finlayson did not find this species in his 1928 survey and it now appears to be absent from the area.

Among the *Petauridae*, the Common ringtail possum (*Pseudocheirus peregrinus* (Boddaert)) and the Squirrel glider (*Petaurus norfolcensis* (Kerr)) were not recorded. In veiw of the security of the other members of this family and the *Phalangeridae* in the shire, this was probably fortuitous, and these species could be expected to occur. Finlayson (1934) recorded both species and commented on their low population densities.

Other notable absences from the list are the Northern quoll (*Dasyurus hallucatus* (Gould)), the Brush-tailed phascogale (*Phascogale tapoatafa* (Meyer)) and the Northern brown bandicoot (*Isoodon macrourus* (Gould)). Although not recorded during this survey, these species can be expected to occur in areas of suitable habitat remaining in the shire. The Northern quoll has been recorded as common in the range country of the Central Highlands of Queeensland (Gordon 1978).

Small mammals identified from skeletal material in casts collected from the roost of a Masked owl (*Tyto novaehollandiae* (Stephens)) are indicated in the list. Of these eight species, the presence of four was confirmed by trapping. The capture of the usually more coastal *Melomys cervinipes* (Gould) in the dense closed-canopy stands of the weeping cabbage palm (*Livistona* sp. *nov.* (Central Highlands)) on Palm Tree Creek is of note. Gordon (1978) considers the presence of this species in inland central Queensland to be as relict populations from wetter times, some ten to twenty thousand years ago, when closed-canopy forests were more widespread.

Eight species of introduced mammals have established populations in the shire and are generally restricted to disturbed areas. The least common of these is the rabbit (*Oryctolagus cuniculus* (Linnaeus)), found in a few isolated warrens in the southern section of the shire. The Feral goat (*Capra hircus* Linnaeus) is represented by a small herd which allegedly escaped into rough country from an overturned truck. Numbers are apparently low and stable and at present do not significantly threaten native flora and fauna.

The avifauna reflects both the diversity of habitat, and the geographic location of the Taroom Shire, with some species being on the margins of their accepted distribution (e.g. the Yellow-throated miner, (*Manorina flavigula* (Gould)) and the Blue bonnet, (*Northiella haematogaster* (Gould)). Eighty per cent of the species expected to occur in the shire was recorded. Most absences from the list are migratory species or species with low abundance ratings over their range.

A comparison of this list with records from the diary of ornithologist John Gilbert (1844) reveals that ten of the 58 species recorded by Gilbert were not encountered during this survey. Of these species, the Paradise parrot (*Psephotus pulcherrimus* (Gould)), the Turquoise parrot (*Neophema pulchella* (Shaw)), the Star finch (*Neochmia ruficauda* (Gould)), and the Crimson finch (*Neochmia phaeton* (Hombron and Jacquinot)) are no longer expected to occur in this region. There have been no confirmed sightings of the Paradise parrot since 1922, although unconfirmed sightings are occasionally reported. The Crimson finch and the Star finch have undergone contractions of range to the north, and the Turquoise parrot to the south-east since European settlement (Pizzey 1980). Failure to record the other six species was probably fortuitous as they are species with accepted distributions including the Taroom Shire.

Barnard (1925) lists 230 species occurring on Coomooboolaroo over a fifty year period (1875–1925) including 39 species not recorded during this survey. This difference reflects the long period of Barnard's observations which would enhance the chances of encountering scarce species and also cover extremes of weather including the severe drought of 1902. This survey recorded 25 species not found by Barnard. Of these the three introduced species, the Feral pigeon (*Columba livia* (Gmelin)), the House sparrow (*Passer domesticus* (Linnaeus)) and the Common starling (*Sturnus vulgaris* Linnaeus) are recent arrivals following European settlement, while the Stubble quail (*Coturnix novaezelandiae* Quoy and Gaimard) and the Galah (*Cacatua roseicapilla* (Vieillot)) have responded to the spread of agriculture with extended ranges and increased abundance ratings. The Blue bonnet is at the northern margin of its accepted distribution and would not be expected to occur at Coomooboolaroo, while Latham's snipe (*Gallinago hardwickii* (Gray)) and the Sharp-tailed sandpiper (*Calidris acuminata* (Horsfield)) are highly migratory species.

The paucity of marsh and waterbirds recorded relates to the paucity of suitable habitat within the shire. The only extensive area of waterbird habitat is Lake Murphy (25° 29′S, 149° 39′E). This ephemeral lake was essentially dry during the survey, but has since been

one-third filled, and waterbird species have responded with greatly increased abundance ratings. The Red-necked avocet (*Recurvirostra novaehollandiae* Vieillot) is the only additional species to be located.

Reliable local residents report the Pink-eared duck (*Malacorhynchus membranaceus*) (Latham)) and the Magpie goose (*Anseranas semipalmata* (Latham)) as regular breeding birds of the district in the late 1920s. Neither species was recorded during this survey, the former being nomadic and the Taroom Shire being well outside the present accepted range of the latter. A solitary Red-tailed tropicbird (*Phaethon rubricauda* Boddaert) was found near Moorabinda (25° 53′S, 149° 20′E) by a local grazier. This bird was released on a farm dam and was not seen again. This record followed a period of severe stormy weather from the east and is considered that of a storm blown vagrant. An unconfirmed sighting of the Red-tailed black-cockatoo (*Calyptorhynchus magnificus* (Shaw)) was also reported.

The list of herpetofauna presented includes 50% of the reptiles and 80% of the amphibians expected to occur in the Taroom Shire, based on the distributions given by Cogger (1975). Of note amongst the reptiles are *Rheodytes leukops* Legler and Cann, a recently described genus of freshwater tortoise from the Dawson River system and *Glyphodon dunmalli* Worrell, an infrequently encountered snake from the region. The low percentage of expected reptiles recorded reflects the difficulties of adequately surveying this diverse group. To locate many of the nocturnal, cryptozoic and fossorial species demands a disproportionately high percentage of survey effort. Unconfirmed reports of the Death adder (*Acanthopis antarcticus* (Shaw)) and the Shingle-back (*Tiliqua rugosa* (Gray)) were received.

Two amphibians are of note, the Long-thumbed frog (*Limnodynastes fletcheri* Boulenger) which represents a northern extension of the range given by Cogger (1975), and the introduced Cane toad (*Bufo marinus* (Linnaeus)) which has recently arrived in the Taroom Shire apparently using the Dawson River as a corridor. The Taroom Shire is largely outside the 1974 distribution mapped by Sabath *et al.* (1981), however, the range of the Cane toad within the shire at the conclusion of this survey included lagoons on the Dawson River floodplain, upper reaches of creeks in the catchment of the river (Robinson and Tommy Creek, Glenhaughton) and temporary roadside pools.

Development of the Taroom Shire over the past 130 years has essentially divided the shire into two vastly differing sections, the less developed and consequently more diverse lands to the north of the Dawson River, and the extensively cleared and cultivated land to the south. Early development for grazing (sheep initially, followed by cattle) was light and widespread, the only probable impact being on small ground dwelling fauna by removal of cover and subsequent soil erosion. With the advent of mechanisation and the recent conversion of grazing land to marginal agricultural land extensive development of the more suitable soils, (mostly on the Wandoan and Eurombah land systems) in the more closely settled southern sections of the shire has occurred. While this development has resulted in local contractions of range for many species, it cannot be blamed wholly for the loss of any species from the region. Some native herbivorous and graminivorous species have obviously benefited from these changes, and certainly the presence of most of the introduced species is a direct result of them.

The vegetation types that have been most extensively cleared are the brigalow and softwood scrubs. While extensive areas have been lost, the impact on the fauna of the shire has been limited. Of the species encountered during the survey, only three, the Australian brush-turkey (*Alectura lathami* (Gray)), the Little shrike-thrush (*Colluricincla megarhyncha* (Quoy and Gaimard)) and the Eastern whipbird (*Psophodes olivaceus* (Latham)) can be associated primarily with these vegetation types. The Australian brush-turkey, although being forced to contract its range locally, is still secure in the region. The Little shrike-thrush and the Eastern whipbird, both recorded once only from one location, do not appear to be resident birds of the region and should be considered vagrants rather

than extensions to the ranges of Storr (1973). Although important habitat, often supporting a diverse fauna, these scrubs are not faunistically unique and should not be considered in isolation from the associated eucalypt communities to which the diversity and abundance of the fauna actually relates. Gordon (1978) found a similar lack of brigalow or softwood scrub adapted fauna in a mammal survey further north in the Central Highlands.

Although the pre and early European settlement fauna records are far from complete and give no clear indication of relative abundance, it would appear that the diversity of species currently found in the region has not been grossly disturbed. The loss of those species previously mentioned cannot be attributed to any single cause. It is significant that no species appears to have been lost during the recent more aggressive development phase. This reflects to a large degree the fortunate geographic and demographic structure of the shire.

Fire has played an important role in the evolution of eucalypt forests and the associated fauna. The fire regime to which the forests of this area were subjected pre-European settlement is not clearly understood. However, it is generally accepted that Aboriginals skilfully used fire for a variety of cultural and food gathering purposes. This fire regime resulted from centuries of experience of living within the constraints of the natural system which supplied his needs. Gilbert (1844) noted several fires which he related to Aboriginal activity and described 'large extensive flats having Corojong, Apple tree, Box etc., and in places thickly timbered, these flats where they were not burned by the native fires showed very little grass but an abundance of fern and other little bushy plants usually growing with it'. European settlement has resulted in a changed fire regime. The developed pastoral and agricultural lands receive regular (often annual) low intensity burning for pasture management or grain protection. The effect on fauna of this burning is not considered significant, and is secondary to the disturbance already created by the alteration to habitat brought about by land clearing itself. The undeveloped areas of the shire are not regularly burnt. Occasional restricted wildfires do not have a significant impact on fauna in the long term and there is no evidence of fire damage to the larger and more isolated softwood scrubs. With the possibility of future public usage of these forests, particularly the national parks, a planned fire management programme will be needed to ensure the protection of public facilities without compromising the complete protection of biologically important or fire sensitive areas such as the softwood scrubs and the interface with surrounding eucalypt forests.

Whilst the loss of large tracts of brigalow and softwood scrubs cannot go unmentioned, specific conservation measures directed solely towards these vegetation types are of little value to fauna conservation. Reservation of these habitat types must occur within large areas of the associated open eucalypt communities rather than as isolated remnants in predominantly cleared agricultural landscapes.

The ranges forming the natural boundary of the shire and the extensive area of rugged country in the north-west corner are largely unsuitable for intensive grazing or agriculture and are currently under little threat from development. It is from these areas that the fauna conservation needs of the region can be satisfied without the need to alienate large tracts of arable land, provided that the future management of land not reserved for conservation purposes is guided to contribute towards fauna conservation without undue compromise, and the management of conservation reserves in this region immediately excludes grazing by domestic livestock.

While the future pressures that will inevitably be imposed on the wildlife of this region by development of rural lands for increased food production and utilisation of the timber and energy resources are difficult to predict, the careful management of reserves and the acceptance by both the rural community and developers of their role in conservation will ensure the continued diversity and abundance of the wildlife populations of this region.

ACKNOWLEDGEMENTS

Mr B. C. Lawrie Queensland National Parks and Wildlife Service, interpreted the fauna records of Gilbert's diary, used with the permission of the Mitchell Library, State Library of New South Wales. Mr S. J. Tickler assisted with collecting, the Queensland Museum provided some identifications, and many landholders in the Taroom Shire allowed access to their properties. This assistance is gratefully acknowledged.

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(Accepted for publication 22 January 1986)

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