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**MAMMALS AND BIRDS OF STANTHORPE SHIRE,
SOUTH-EAST QUEENSLAND**

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SUMMARY

Thirty-nine species of mammals and 171 species of birds were located during 1971-72 in the Stanthorpe Shire, an area of largely open eucalypt forest in south-eastern subcoastal Queensland. Most species recorded were those expected from such a situation, but the district harbours several species, including the common wombat (*Vombatus ursinus*) and the superb lyrebird (*Menura superba*), not known from elsewhere in Queensland.

I. INTRODUCTION

Exhaustive district surveys of the fauna of Queensland have been undertaken since 1963, usually in conjunction with other more detailed studies of particular species and habitat types (see as examples Kirkpatrick 1966, Lavery and Johnson 1974). The ultimate objective of these surveys is to provide an inventory of the fauna of the State, together with the distribution, habitat preferences and a measure of abundance of each species.

The survey described in this paper, undertaken during 1971 and 1972, is of the Stanthorpe Shire which includes the so-called 'Granite belt' of south-east subcoastal Queensland. The Shire (figure 1) is of some 2 600 km², lying between latitudes 28°20' and 29°5' S and longitudes 151°20' and 152°05' E, and bordered by the Herries Range in the north, the Great Dividing Range in the east and the Roberts Range in the south. Topography varies from rugged to undulating country, the area forms the watershed of the western-flowing Severn River and its major tributary Pikes Creek.

Soils are mainly granite in the east and south-east, and stony grey-brown clay loams known as 'traprock' in the west and south (Northcote 1965).

Climate of the district is temperate, with a mean annual rainfall of 750 mm, most of which falls in the warmer months (September-March). Rainfall and temperature records during the survey period from Wallangarra and Applethorpe are provided as representative of the district (figure 2).

The population of the district is about 9 000. The main towns are Stanthorpe, Wallangarra, Applethorpe, Ballandean and The Summit. Rural industries include fruit and vegetable growing on the granite soils, and sheep and cattle raising throughout the district. Livestock numbers are about 250 000 sheep and 10 000 cattle. Interference by man in the form of forest clearing and agriculture is evident throughout the Shire, although in much of the mountainous country clearing has been confined to the foothills.

A number of fauna sanctuaries including State Forests and National Parks have been declared, the area involved totalling some 10 000 ha (Roff 1962).

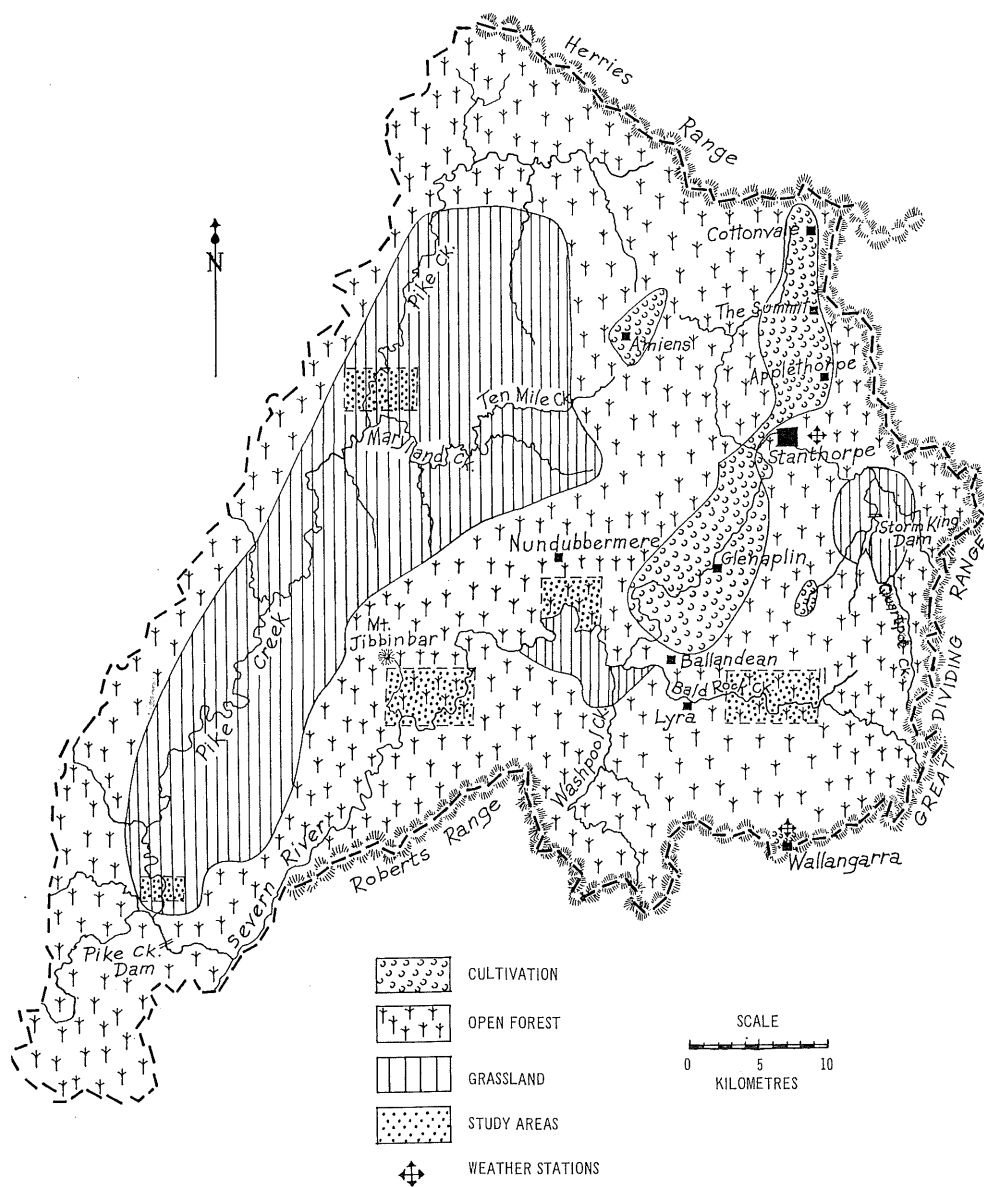


Figure 1.—The Stanthorpe Shire fauna survey area, Q., 1971-72. Areas of intensive study are stippled.

II. METHODS

For survey purposes, habitat types recognized were closed forest, open forest, grassland and cultivation, freshwaters and urban areas. The general extent of each type is indicated in figure 1. Selected areas (figure 1) representative of the district and including all habitat types recognized were subjected to regular intensive study by trapping and foot traverses. Other parts of the district were inspected, and occasionally traversed and trapped.

Traps used included cage traps of all sizes and standard break-back rat traps. Baits were linseed oil, a mixture of rolled oats, peanut butter and raisins, and fresh meat. Trapping sessions lasted from 5 to 7 days at any one site, and were repeated as often as possible in each study area but in every instance frequently enough to include each of the four seasons at least once in each year. Foot traverses were made concurrently with trapping periods, both during daylight and at night with the aid of a spotlight, when collections were made with shotguns and rifles. Observations were considered adequate for records of large, readily-identifiable and abundant species.

Abundance ratings were given following the system of Kirkpatrick (1966) based on the numbers observed and collected during any one visit to, or trapping period in, any habitat type—

Abundant: usually large numbers.

Common: always at least one, often more.

Uncommon: not every visit, but more than twice.

Scarce: not more than twice during the survey.

The rating occasional was provided for bird species which were seen at irregular intervals and in small numbers. No rating was provided for difficult-to-collect species for which the search made was considered to have been inadequate.

All collected material is housed either in the Queensland Museum or at the National Parks and Wildlife Service Southern Regional Centre, Hermitage.

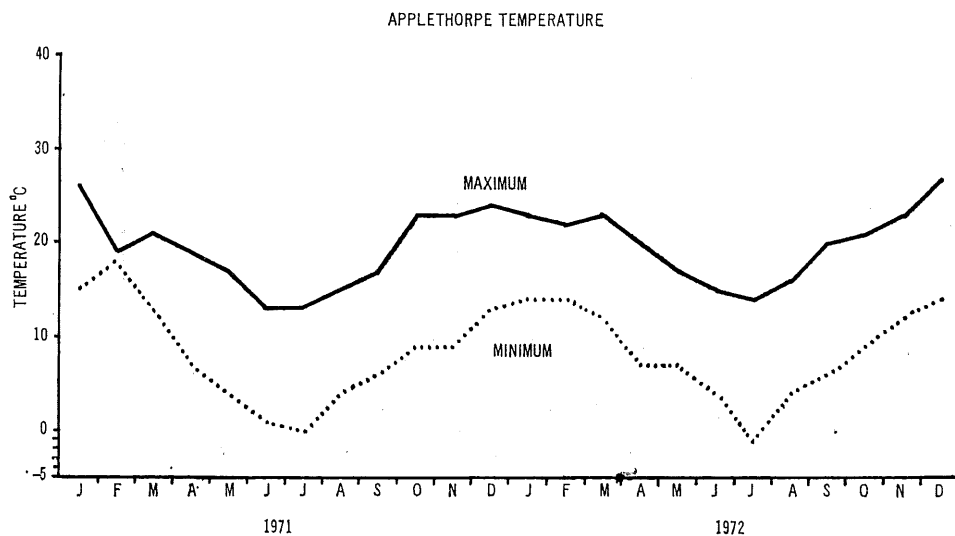


Figure 2

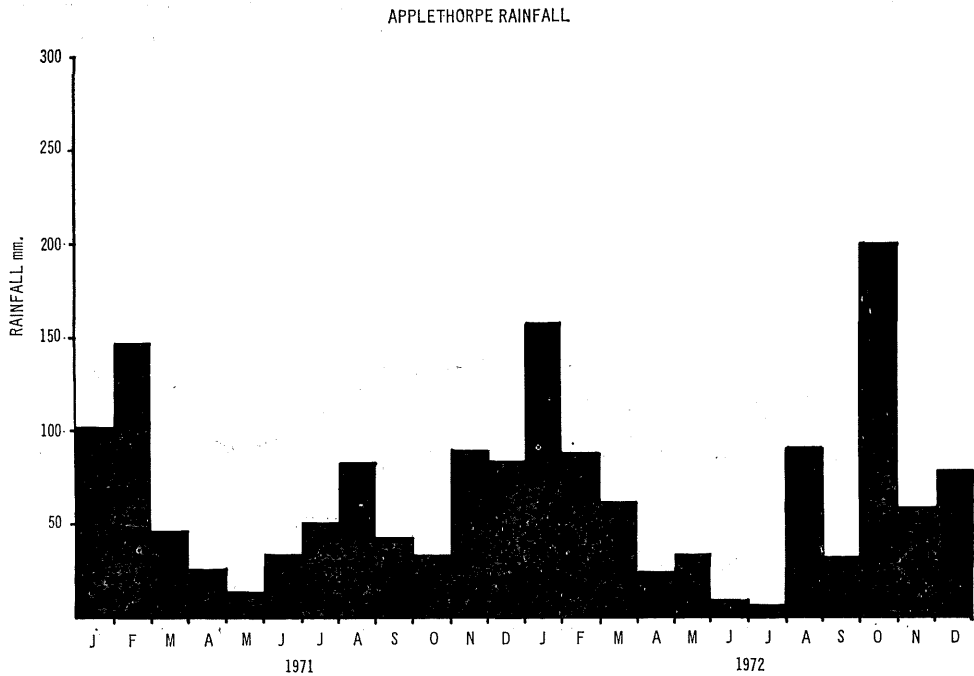
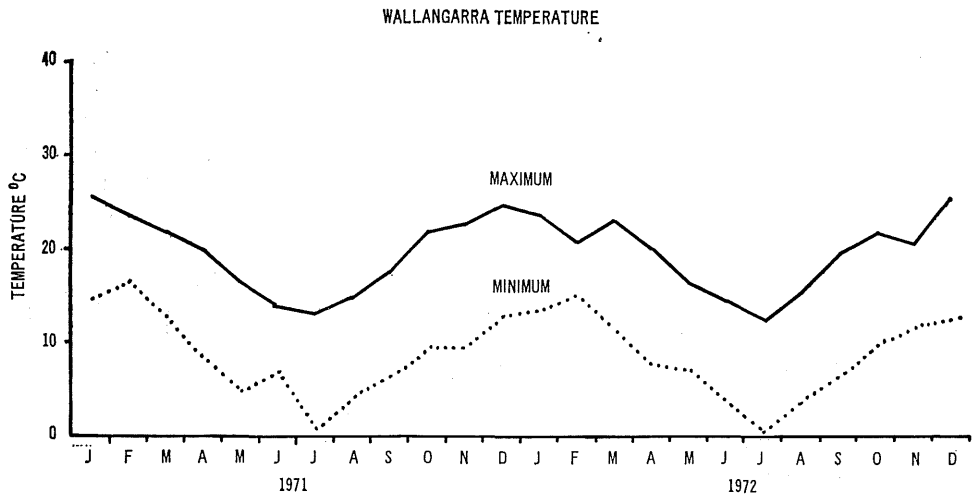


Figure 2 (Caption next page)

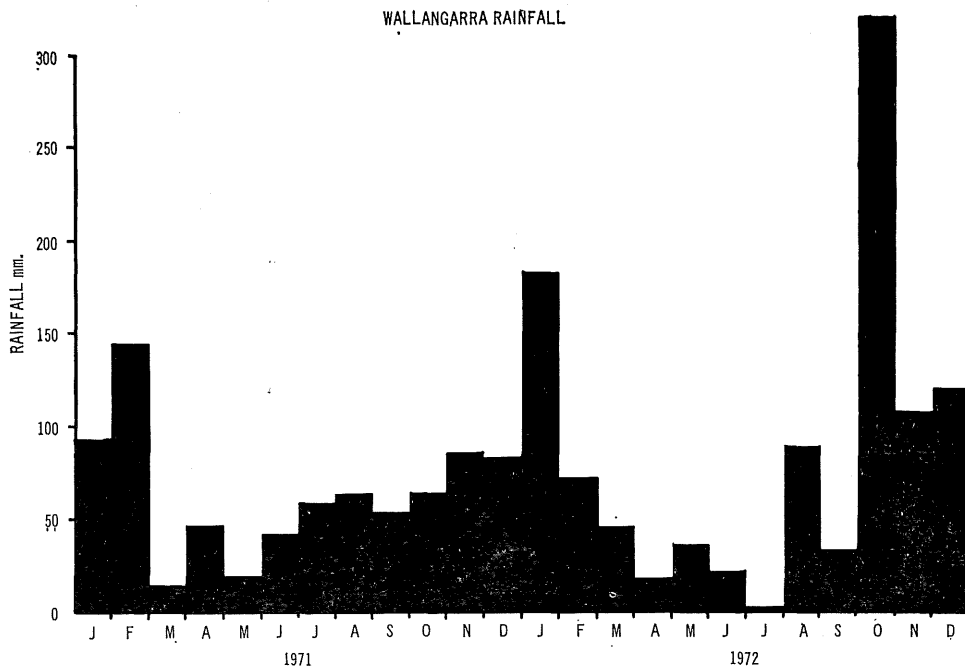


Figure 2.—Monthly mean maximum and minimum temperatures and total rainfalls recorded at Applethorpe and Wallangarra, 1971-72.

III. RESULTS

Results are presented as lists of mammals and birds recorded, together with habitat notes and abundance ratings. An asterisk against a species indicates that the record is based on sightings only.

Names for mammals mainly follow Iredale and Troughton (1934); all Chiroptera were identified by Queensland Museum. Bird names are based on Lavery (1969).

MAMMALS

Monotremata

**Ornithorhynchus anatinus* (Shaw and Nodder). Platypus. Freshwaters (rivers and streams), uncommon.

**Tachyglossus aculeatus* (Shaw and Nodder). Echidna. Open forest, uncommon.

Marsupialia

Antechinus flavipes (Waterhouse). Yellow-footed marsupial-mouse. Open forest, uncommon.

Phascogale tapoatafa (Meyer). Brush-tailed phascogale. Open forest, uncommon.

Sminthopsis ?murina (Waterhouse). Common marsupial-mouse. Open forest, scarce.

Dasyurus maculatus (Kerr). Tiger cat. Open forest, uncommon.

Acrobates pygmaeus (Shaw). Pygmy glider. Open forest, common.

Petaurus breviceps Waterhouse. Sugar glider. Open forest, common.

- Pseudocheirus peregrinus* (Boddaert). Grey Queensland ring-tail. Open forest, common.
- Schoinobates volans* (Kerr). Greater possum-glider. Open forest (on ranges), common.
- Trichosurus vulpecula* (Kerr). Common brush-tailed possum. Open forest and urban areas, abundant.
- **Phascolarctos cinereus* (Goldfuss). Koala. Open forest, uncommon.
- **Vombatus ursinus* (Shaw). Common wombat. Open forest (in granite areas in southern part of district), common.
- Petrogale penicillata* (Griffith, Smith and Pidgeon). Brush-tailed rock wallaby. Open forest (rock faces through district), uncommon.
- Wallabia bicolor* (Desmarest). Black-tailed (swamp) wallaby. Open forest, uncommon.
- Macropus rufogriseus* (Desmarest). Red-necked wallaby. Open forest, abundant.
- Macropus parryi* (Bennett). Whiptail wallaby. Open forest, scarce.
- Macropus robustus* Gould. Wallaroo. Open forest (particularly in gullies and mountainous areas), abundant.
- Macropus giganteus* Shaw. Grey kangaroo. Open forest, abundant.

Eutheria

- Pteropus poliocephalus* Temminck. Grey-headed flying-fox. Open forest and cultivation (orchards), common.
- Pteropus scapulatus* Peters. Little red flying-fox. Open forest and cultivation (orchards), abundant.
- Taphozous flaviventris* Peters. Yellow-bellied sheath-tailed bat. Open forest, abundant.
- Rhinolophus megaphyllus* Gray. Eastern horseshoe bat. Open forest (in caves and mine shafts), uncommon.
- Eptesicus pumilus* (Gray). Little bat. Open forest, abundant.
- Pipistrellus tasmaniensis* (Gould). Tasmanian pipistrelle. Open forest, uncommon.
- Chalinolobus gouldii* (Gray). Gould's bat. Open forest, abundant.
- Nycticeius greyi* (Gould). Little broad-nosed bat. Open forest, common.
- Miniopterus schreibersii* (Kuhl). Bent-winged bat. Open forest (near caves and mine shafts), common.
- Hydromys chrysogaster* Geoffroy. Water rat. Freshwaters (rivers and streams), abundant.
- Mus musculus* (L.) House mouse. All habitat types, abundant.
- Rattus rattus* L. Ship rat (all colour forms). All habitat types, abundant.
- Lepus europaeus* (L.). Hare. All habitat types, common.
- Oryctolagus cuniculus* (L.). Rabbit, All habitat types, abundant.
- Canis dingo* Meyer. Dingo. Open forest, scarce.
- Vulpes vulpes* (L.). Fox. All habitat types, common.
- Felis catus* (L.). Cat. All habitat types, uncommon.
- Dama dama* (L.). Fallow deer. Open forest and grassland (southern part of district), common.
- **Capra hircus* (L.). Goat. Open forest, uncommon.
- **Sus scrofa* (L.). Pig. Open forest, uncommon.

BIRDS

- Tachybaptus novaehollandiae* (Stephens). Little grebe. Freshwaters (open areas), abundant.
- **Podiceps cristatus* (L.). Great crested grebe. Freshwaters (open areas), uncommon.
- **Pelecanus conspicillatus* Temminck. Australian pelican. Freshwaters (open areas), common.
- **Phalacrocorax sulcirostris* (Brandt). Little black cormorant. Freshwaters, common.
- **Phalacrocorax carbo* (L.). Black cormorant. Freshwaters, common.
- **Phalacrocorax varius* (Gmelin). Pied cormorant. Freshwaters, abundant.
- Phalacrocorax melanoleucos* (Vieillot). Little pied cormorant. Freshwaters, common.
- **Anhinga anhinga* (L.). Australian darter. Freshwaters, uncommon.
- **Ardea pacifica* Latham. White-necked heron. Freshwaters, common.
- **Ardea noveahollandiae* Latham. White-faced heron. Freshwaters and cultivation, common.
- **Egretta garzetta* (L.). Little egret. Freshwaters, uncommon.
- Nycticorax caledonicus* (Gmelin). Nankeen night heron. Freshwaters (river margins), common.
- **Ixobrychus flavicollis* (Latham). Black bittern. Freshwaters (margins), scarce.
- **Threskiornis molucca* (Cuvier). Australian white ibis. Freshwaters and adjacent areas, uncommon.
- **Threskiornis spinicollis* (Jameson). Straw-necked ibis. Grassland and cultivation, abundant.
- **Cygnus atratus* (Latham). Black swan. Freshwaters (open areas), common.
- **Dendrocygna eytoni* (Eyton). Grass whistling-duck. Freshwaters, occasional birds.
- Anas superciliosa* Gmelin. Black duck. Freshwaters, abundant.
- Anas gibberifrons* Muller. Grey teal. Freshwaters, abundant.
- **Anas rhynchos* Latham. Shoveler. Freshwaters (open areas), occasional birds.
- **Malacorhynchus membranaceus*. (Latham). Pink-eared duck. Freshwaters (open areas), occasional.
- **Chenonetta jubata* (Latham). Maned wood duck. Freshwaters, abundant.
- **Aythya australis* (Eyton). White-eyed duck. Freshwaters (open areas), abundant.
- **Biziura lobata* (Shaw). Musk duck. Freshwaters, uncommon.
- **Elanus notatus* Gould. Black-shouldered kite. Cultivation and adjacent open forest, common.
- **Aviceda subcristata* (Gould). Crested hawk. Open forest (south-east corner), occasional.
- Lophoictinia isura* (Gould). Square-tailed kite. Open forest, uncommon.
- Haliastur sphenurus* (Vieillot). Whistling eagle. All habitat types including freshwaters (open areas), uncommon.
- **Accipiter novaehollandiae* (Gmelin). Grey goshawk. Open forest (south-east corner), occasional.
- Accipiter fasciatus* (Vigors and Horsfield). Australian goshawk. Open forest, uncommon.
- Accipiter cirrhocephalus* (Vieillot). Collared sparrowhawk. Open forest, uncommon.

- Hieraaetus morphnoides* (Gould). Little eagle. Open forest, uncommon.
- **Aquila audax* (Latham). Wedge-tailed eagle. Open forest, abundant.
- **Falco peregrinus* Tunstall. Peregrine falcon. Open forest, uncommon.
- Falco longipennis* Swainson. Little falcon. Open forest and cultivation, uncommon.
- Falco cenchroides* Vigors and Horsfield. Nankeen kestrel. Cultivation, abundant; open forest, uncommon.
- **Falco berigora* Vigors and Horsfield. Brown hawk. Open forest and cultivation, uncommon.
- **Alectura lathamii* Gray. Brush turkey. Open forest, uncommon.
- Coturnix ypsilophorus* Bosc. Brown quail. Grassland and cultivation, abundant.
- Turnix varia* (Latham). Painted quail. Open forest and adjacent grassland, uncommon.
- **Porphyrio porphyrio* (L.). Swampphen. Freshwaters (rivers and margins), uncommon.
- **Fulica atra* L. Coot. Freshwaters (open areas), abundant.
- Rostratula benghalensis* (Gould). Painted snipe. Freshwaters, occasional.
- **Vanellus novae-hollandiae* Stephens. Spur-winged plover. Grassland, common.
- **Vanellus tricolor* (Viellot). Banded plover. Grassland, common.
- Columba livia* Gmelin. Feral pigeon. Cultivation and adjacent open forest, and urban areas, common.
- Geopelia humeralis* (Temminck). Bar-shouldered dove. Open forest, common.
- Geopelia striata* (L.). Peaceful dove. Open forest and cultivation, uncommon.
- Geopelia cuneata* (Latham). Diamond dove. Open forest, common.
- Phaps chalcoptera* (Latham). Common bronzewing. Open forest, abundant; cultivation (adjacent to open forest), uncommon.
- Ocyphaps lophotes* (Temminck). Crested pigeon. Open forest and cultivation, abundant.
- Geophaps scripta* (Temminck). Squatter pigeon. Open forest, uncommon.
- **Leucosarcia melanoleuca* (Latham). Wonga pigeon. Closed forest (small dry area in Red Rock Gorge, the only area in the district), uncommon.
- Trichoglossus haematodus* (L.). Rainbow lorikeet. Open forest and cultivation (orchards), abundant.
- Trichoglossus chlorolepidotus* (Kuhl). Scaly-breasted lorikeet. Open forest, common.
- Glossopsitta concinna* (Shaw). Musk lorikeet. Open forest, abundant.
- Glossopsitta pusilla* (Shaw). Little lorikeet. Open forest, abundant.
- **Calyptorhynchus funereus* (Shaw). Yellow-tailed black cockatoo. Open forest, common.
- Calyptorhynchus lathamii* Temminck. Glossy black cockatoo. Open forest (on ranges), uncommon.
- Cacatua galerita* (Latham). Sulphur-crested cockatoo. Cultivation and adjacent open forest, uncommon.
- Cacatua roseicapilla* Viellot. Galah. Open forest, grassland and cultivation, abundant.
- Aprosmictus scapularis* (Lichtenstein). King parrot. Open forest, uncommon.
- Platycercus elegans* (Gmelin). Crimson rosella. Open forest (on ranges), common.

- Platycercus eximius* (Shaw). Eastern rosella. Open forest and cultivation (orchards), abundant.
- Platycercus adsцитus* (Latham). Pale-headed rosella. Open forest, uncommon.
- Psephotus haematonotus* (Gould). Red-backed parrot. Cultivation and adjacent open forest, abundant.
- Neophema pulchella* (Shaw). Turquoise parrot. Open forest, common.
- Cuculus pallidus* (Latham). Pallid cuckoo. Open forest, uncommon.
- Cacomantis variolosus* (Vigors and Horsfield). Brush cuckoo. Open forest (on ranges), uncommon.
- Cacomantis pyrrhophanus* (Vieillot). Fan-tailed cuckoo. Open forest, common.
- **Chrysococcyx lucidis* (Gmelin). Golden bronze cuckoo. Open forest, uncommon.
- **Evdynamys cyanocephala* (Latham). Koel. Open forest, occasional.
- **Scythrops novaehollandiae* (Latham). Channel-billed cuckoo. Open forest, occasional.
- Tyto alba* (Scopoli). Barn owl. Open forest and cultivation, common.
- **Ninox strenua* (Gould). Powerful owl. Open forest (gullies in south-east corner), uncommon.
- Ninox novaeseelandiae* (Gmelin). Bookook owl. Open forest and cultivation, common.
- Podargus strigoides* (Latham). Tawny frogmouth. Open forest, abundant.
- Aegotheles cristatus* (Shaw). Owlet-nightjar. Open forest, common.
- Eurostopodus mystacalis* (Temminck and Laugier). White-throated nightjar. Open forest, uncommon.
- **Chaetura caudacuta* (Latham). Spine-tailed swift. Flying above all habitat types, abundant.
- **Dacelo novaeguineae* (Hermann). Laughing kookaburra. Open forest, abundant.
- Halcyon macleayii* Jardine and Selby. Forest kingfisher. Open forest, common.
- Halcyon sancta* (Vigors and Horsfield). Sacred kingfisher. Open forest, common.
- Merops ornatus* Latham. Rainbow bird. Open forest, common.
- Eurystomus orientalis* (L.). Eastern broad-billed roller. Open forest, common.
- Menura superba* (Latham). Superb lyrebird. Open forest (in south-eastern part of district), uncommon.
- Mirafra javanica* Horsfield. Singing bushlark. Grassland and cultivation, abundant.
- Hirundo tahitica* Gmelin. Welcome swallow. Cultivation and adjacent open forest, and urban areas, abundant.
- Petrochelidon nigricans* (Vieillot). Tree martin. Open forest, common.
- Petrochelidon ariel* (Gould). Fairy martin. Cultivation and grassland (particularly near road bridges) and adjacent open forest, abundant.
- Anthus novaeseelandiae* (Gmelin). Australian pipit. Open forest, grassland and cultivation, abundant.
- Coracina novaehollandiae* (Gmelin). Black-faced cuckoo-shrike. Open forest, common.
- **Coracina tenuirostris* (Jardine). Jardine triller. Open forest, uncommon.
- Lalage sueurii* (Vieillot). White-winged triller. Open forest, abundant.
- Zoothera dauma* (Latham). Australian ground thrush. Open forest (south-east corner), uncommon.

- Cinclosoma punctatum* (Shaw). Spotted quail-thrush. Open forest, common.
- Pomatostomus temporalis* (Vigors and Horsfield). Grey-crowned babbler. Open forest, common.
- Gerygone olivacea* (Gould). White-throated warbler. Open forest, uncommon.
- Gerygone igata* (Quoy and Gaimard). Brown warbler. Open forest, uncommon.
- Acrocephalus stentoreus* (Gould). Reed-warbler. Grassland (adjacent to freshwaters), uncommon.
- Malurus cyaneus* (Latham). Superb blue wren. Open forest (particularly in areas with understorey), abundant.
- **Hylacola pyrrhopygia* (Vigors and Horsfield). Chestnut-tailed ground wren. Open forest (south-east part of district), uncommon.
- Smicrornis brevirostris* (Gould). Weebill. Open forest, abundant.
- Acanthiza lineata* Gould. Striated thornbill. Open forest, abundant.
- Acanthiza nana* Vigors and Horsfield. Little thornbill. Open forest, abundant.
- Acanthiza pusilla* (Shaw). Brown thornbill. Open forest, uncommon.
- Acanthiza reguloides* Vigors and Horsfield. Buff-tailed thornbill. Open forest, abundant.
- Acanthiza chrysorrhoa* (Quoy and Gaimard). Yellow-tailed thornbill. Cultivation and adjacent open forests, common.
- Sericornis frontalis* (Vigors and Horsfield). White-browed scrub-wren. Open forest (with understorey), uncommon.
- Chthonicola sagittata* (Latham). Speckled warbler. Open forest, common.
- Cinclorhamphus cruralis* (Vigors and Horsfield). Brown songlark. Open forest and cultivation, common.
- Cinclorhamphus mathewsi* Iredale. Rufus songlark. Cultivation and grassland, common.
- Microeca leucophaea* (Latham). Jacky winter. Open forest, abundant.
- Petroica multicolor* (Gmelin). Scarlet robin. Open forest, common.
- Petroica cucullata* (Latham). Hooded robin. Open forest, uncommon.
- Eopsaltria australis* (Shaw). Southern yellow robin. Open forest (with underbrush), uncommon.
- Myiagra rubecula* (Latham). Leaden flycatcher. Open forest, common.
- Myiagra inquieta* (Latham). Restless flycatcher. Open forest, uncommon.
- Pachycephala pectoralis* (Latham). Golden whistler. Open forest, uncommon.
- Pachycephala rufiventris* (Latham). Rufus whistler. Open forest, common.
- Colluricincla harmonica* (Latham). Grey shrike-thrush. Open forest, common.
- Falcunculus frontatus* (Latham). Shrike-tit. Open forest, uncommon.
- **Rhipidura fuliginosa* (Sparrman). Grey fantail. Open forest, common.
- **Rhipidura rufifrons* (Latham). Rufous fantail. Open forest (on range), uncommon.
- **Rhipidura leucophrys* (Latham). Willie wagtail. Open forest, common.
- Neositta chrysoptera* (Latham). Orange-winged sittella. Open forest, common.
- Climacteris picumnus* Temminck and Laugier. Brown tree-creeper. Open forest, abundant.
- Climacteris leucophaea* (Latham). White-throated tree-creeper. Closed forest and open forest, common.

- Dicaeum hirundinaceum* (Shaw and Nodder). Mistletoe bird. Open forest, common.
- Pardalotus punctatus* (Shaw and Nodder). Spotted pardalote. Open forest, abundant.
- Pardalotus substriatus* (Mathews). Striated pardalote. Open forest, common.
- Pardalotus melanocephalus* Gould. Black-headed pardalote. Open forest, common.
- Zosterops lateralis* (Latham). Grey-breasted silvereye. Open forest and cultivation (orchards), abundant.
- Melithreptus lunatus* (Vieillot). White-naped honeyeater. Open forest, abundant.
- Melithreptus gularis* (Gould). Black-chinned honeyeater. Open forest, common.
- **Melithreptus brevirostris* (Vigors and Horsfield). Brown-headed honeyeater. Open forest (on range), uncommon.
- **Acanthorhynchus tenuirostris* (Latham). Eastern spinebill. Open forest (on range), uncommon.
- Phylidonyris novaehollandiae* (Latham). New Holland honeyeater. Open forest, one specimen only.
- Lichmera indistincta* (Vigors and Horsfield). Brown honeyeater. Open forest, common.
- Meliphaga fusca* Gould. Fuscous honeyeater. Open forest, abundant.
- Meliphaga chrysops* (Latham). Yellow-faced honeyeater. Open forest, abundant.
- Meliphaga leucotis* (Latham). White-eared honeyeater. Open forest, common.
- Meliphaga melanops* (Latham). Yellow-tufted honeyeater. Open forest, common.
- Myzantha melanocephala* (Latham). Noisy miner. Open forest, abundant.
- Anthochaera chrysoptera* (Latham). Little wattle-bird. Open forest, common.
- Anthochaera carunculata* (White). Red wattle-bird. Open forest, common.
- **Entomyzon cyanotis* (Latham). Blue-faced honeyeater. Open forest, common.
- Philemon corniculatus* (Latham). Noisy friar bird. Open forest, abundant.
- Philemon citreogularis* (Gould). Little friar bird. Open forest, abundant.
- Carduelis carduelis* (L.). Goldfinch. Cultivation (orchards) and adjacent habitat types, common.
- Emblema guttata* (Shaw). Diamond firetail. Open forest, common.
- Poephila guttata* (Vieillot). Zebra finch. Cultivation, common.
- Poephila bichenovii* (Vigors and Horsfield). Branded finch. Open forest, abundant.
- Aidemosyne modesta* (Gould). Plum-headed finch. Open forest, common.
- Agintha temporalis* (Latham). Red-browed finch. Open forest, particularly adjacent freshwater (creek) margins, abundant.
- Passer domesticus* (L.). House sparrow. Cultivation and urban areas, abundant.
- Oriolus sagittatus* (Latham). Olive-backed oriole. Open forest, uncommon.
- Dicrurus hottentottus* (L.). Spangled drongo. Open forest, occasional birds.
- Grallina cyanoleuca* (Latham). Magpie lark. Open forest and cultivation, common.

- **Corcorax melanorhamphos* (Vieillot). White-winged cough. Open forest, common.
- **Struthidea cinera* Gould. Apostle bird. Open forest, abundant.
- Artamus superciliosus* (Gould). White-browed wood-swallow. Open forest, abundant.
- Artamus cyanopterus* (Latham). Dusky wood-swallow. Open forest, abundant.
- Artamus minor* Vieillot. Little wood-swallow. Open forest, uncommon.
- **Cracticus torquatus* (Latham). Grey butcher-bird. Open forest, uncommon.
- **Cracticus nigrogularis* (Gould). Pied butcher-bird. Open forest and cultivation, common.
- **Gymnorhina tibicen* (Latham). Black-backed magpie. Open forest, cultivation and urban areas, abundant.
- Strepera graculina* (White). Pied currawong. Open forest and urban areas, abundant.
- **Ptilonorhynchus violaceus* (Vieillot). Satin bowerbird. Open forest (on range), occasional.
- Corvus orru* Bonaparte. Australian crow. All habitat types, abundant.
- Corvus coronoides* Vigors and Horsfield. Australian raven. All habitat types, abundant.

IV. DISCUSSION

Most of the native species recorded in the district are those expected of a subcoastal open forest environment in southern Queensland, and the majority are at least common in their preferred habitat types. Several species, however, are of particular interest, including the common wombat which occurs in the south-east corner of the Shire and nowhere else in Queensland, the superb lyre-bird found elsewhere in the State only in the immediately adjacent coastal strip, and the turquoise parrot. For both the wombat and the lyre bird, this Queensland distribution represents the northern edge of an extensive southern range including New South Wales and Victoria; the turquoise parrot is one of the common species found throughout the district although more generally regarded as scarce. Part of the distribution of these three species includes the Girraween National Park.

Limestone caves occur at Glenlyon, on Pikes Creek, and provide shelter for the cave bats *Miniopterus schreibersii* and *Rhinolophus megaphyllus*. These caves are to be flooded soon when an irrigation dam is built across Pikes Creek. Fortunately, however, the main bat cave in this system is below the dam so that the loss of the caves is not expected to have a significant effect on these generally abundant species.

Observed numbers of both species and individuals of water-birds were low during the survey, a reflection of the lack of surface waters generally. It is reasonable to expect that a wider species' range would be recorded over a longer survey period because most water-birds' range over the Australian continent; to record such species in any district where suitable habitat may occur with prolonged rainfall is largely a matter of time. For the most part, suitable habitat available for these species has been provided artificially by man in the form of irrigation dams, farm tanks and tin-mining dredge-holes.

The influence of European settlement is marked both in the extensive alteration of forest cover to make way for pastures, orchards and agriculture and in the presence of introduced stock and other exotic animals.

The effects of these changes on the native fauna are impossible to assess in the absence of earlier surveys, although the redistribution of arboreal and

grassland species following removal of trees and development of pastures may be reasonably assumed. A number of native species, including the larger Macropodidae such as the abundant wallaroo, have acquired a 'pest' status following pasture development, and vineyards and stone-fruit orchards have provided an attractive extension of the food supply for such pest bird species as the grey-breasted silvereve and some of the parrots, particularly the eastern rosella.

It is concluded that the herbivorous ground-living fauna of the district has been impoverished by settlement; this is endorsed by the failure, despite a most intensive search, to collect any native murid except the water rat, or the rufous rat-kangaroo (*Aepyprymnus rufescens* (Gray)), which once occurred in the district (a skin dated 1921 is in the Queensland Museum). While failure to collect does not necessarily prove absence of a species, much lesser trapping effort in nearby habitat similar to that available in this district (at Warwick by Kirkpatrick 1966) resulted in the collection of the eastern swamp rat (*Rattus lutreolus* (Gray)) and the rufous rat-kangaroo was quite readily located there. Probably the most significant factor in this apparent loss of species is the presence of the rabbit. The abundant presence of the introduced ship rat may also be a factor in the non-collection of native murids; certainly both this species and the house mouse were ubiquitous during the survey.

Two other exotics are worthy of further mention, the fallow deer, which has spread over a wide area in the south of the district following an escape from captivity late last century, and the goldfinch, which is confined to orchards. Both species were liberated widely in Queensland in earlier times but have become established only in a few locations. Neither is considered to have a significant effect on native fauna. Certainly in the fallow deer areas the competing native herbivores, the grey kangaroo and the wallaroo, are abundant.

Overall, the viability of the native fauna currently present in the district appears assured; much of the terrain is rugged and uneconomic to develop beyond its present state. Provided that the current land-use programmes continue, extensive areas of relatively undisturbed and near-natural native forest and its associated fauna are expected to remain.

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REFERENCES

- IREDALE, T. and TROUGHTON, E. LE G. (1934).—A check list of the mammals recorded from Australia. *Mem. Aust. Mus.* 6:1-20.
- KIRKPATRICK, T. H. (1966).—Mammals, birds and reptiles of the Warwick district, Queensland 1. Introduction and mammals. *Qd. J. agric. Anim. Sci.* 23:591-8.
- LAVERY, H. J. (1969).—*List of Birds in Queensland*. (Winston Churchill Memorial Trust: Canberra).
- LAVERY, H. J. and JOHNSON, P. M. (1974).—Mammals and birds of the lower Burdekin River district, North Queensland. 1. Introduction and mammals. *Qd. J. agric. Anim. Sci.* 31:97-104.
- NORTHCOTE, K. H. (Ed.) (1967).—*Atlas of Australian Soils. Sheet 4 and explanatory data sheet*. (Melbourne University Press: Melbourne).
- ROFF, C. (1962).—*Queensland Fauna Sanctuaries*. (Department of Agriculture and Stock: Brisbane).

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