Narrow-billed Bronze-Cuckoo (*Chalcocercus basalis*). On one occasion last season I came upon two nests on a hill, in adjacent clumps of gorse, one of which contained a Cuckoo's egg and two of the Chat's, while in the other was a well-grown Cuckoo nestling, probably of the same species. This younger, when hungry (and this is a chronic state with young Cuckoos), kept up the monotonous whining cry which is so well known in the bush. No matter how much food the two birds brought, or how long they worked, he was always ready for more, and still more, which disappeared with alarming rapidity down that cavernous yellow throat. "What an amount of insect-life must be devoured by one young Cuckoo in a single day! One of the accompanying photographs shows this young Cuckoo in the nest, with an egg of the foster-parent in the foreground. This egg had evidently been ejected by the young Cuckoo.

When nesting duties are over the White-fronted Chats associate together in small flocks or family parties, which roam the open paddocks in search of insect-life, of which they must in the year destroy an incredible amount. Thus passes a year in the life of one of our most useful birds—so familiar, yet so little known.

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**New Species of Australian Birds Since the Time of John Gould.**

BY GREGORY M. MATHEWS, F.R.S.E.

The following is of interest as showing the advance in Australian ornithology this century. From Gould's time to the end of 1869, 22 species had been added to the Australian list (see *Austral Avian Record*, vol. iii., pp. 74-77).

The following species had been added to the Australian list from Gould's time to the end of 1890:—*Corvus cecilia* (Mathews), Sharpe, "Cat. Birds Brit. Mus.," vol. iii., p. 35 (1877); *Prionodura newtoniana* (De Vis) (1883); *Bouvetia bowier* (Ramsay) (1885); *Orphrysia lorealis* (De Vis), *Sacrama haestlandi* (North) (1895); *Leucotrochus altigatus* (Collett), *Petrophassa rufipes* (Collett) (1898); *Oreoscoptes guttulatus* (De Vis) (1890).

(1896); *Tregellasia leucops* (Salvadori), Hall, "Key Birds Austral.;" p. 15 (1896). And the following to the list of birds that have occurred less than three times:—*Pseudophryne parkinsoni* (Gray), Masters, Proc. Linn. Soc. N.S.W., vol. iii., p. 21 (1878); *Cremorina* (Linné), North, Rec. Austral. Mus., vol. ii., p. 82 (1893); *Psophia smithii* (Middendorf), Sharpe, "Cat. Birds Brit. Mus." vol. xxiv., p. 555; as *Limosites damascensis* (1869); *Querquetula querquetula* (Linné), Campbell, Vict. Nat., vol. xv., p. 150, as *Querquetula circa* (1899).

Of purely Australian species we have:—*Australornis olivii* (Robinson), *Freminiornis carteri* (North), *Acanthiza tenebrosa* (Zietz) = *A. vedadai* (Mathews) (1909); *Etholopogon tenebrosus* (Hall); *Corvus bennettii* (North) (1901); *Microeca brunnicephala* (Campbell), *Magnanymus housei* (Milligan) (1902); *Miliaria rubrostriata* (Milligan) (1902); *Magnanymus woodwardi* (Hartog), *Colluricinclia woodwardi* (Hartog) (1905); *Ara amboinensis* (Mathews), *Geobasilus flavigeris* (Ashby), *Lanaiornis xanthopterus* (North) (1910); *A. leuconis* (Ashby) (1911); *Heterophrion helgerti* (Mathews), *Buderidae rogersi* (Mathews), *Geobasilus helvii* (Mathews) (1912); *Kempiella kempi* (Mathews) (1913); *Diasporula purcelli* (Mathews), *Magnanymus dorathecus* (Mathews) (1914); *Meliphaga abietina* (White) (1907).

Of regular Australian visitors or sub-species of extra-limit species we have:—*Bustes sp. mentalis* (Salvadori), Campbell, Bull. No. 2, R.A.O.U. (1911); *Lomicola falcinellus* (Brünnich), Mathews, Austral Av. Rec., vol. i., p. 31; *Subptura megalura* (Swinhoe), Mathews, ib., p. 125 (1912); *Geoffroya geoffroyi* (Bechstein), Macgillivray, *Emu*, vol. xiii., p. 153, as *Pseudopsittacus maculatus*; *Lornis bactratus* (Miller), Mathews, Austral Av. Rec., vol. ii., p. 73 (1913); *Glycichra fulva* (Salvadori), Mathews, South Aust. Ornith., vol. i., p. 113, as *Macgillivraya chloris*; *Erythra chrysea* (Kittlitz), Mathews, Austral Av. Rec., vol. ii., p. 103 (1914); *Eudyptes seosanus* (Oustalet), Mathews, *Emu*, vol. xvii., p. 184 (1917).

And the following to the list of birds that have occurred less than three times:—*Budytes fascio* (Linné); *North, Proc. Linn. Soc. N.S.W.*, vol. xxx., p. 579 (1906); *Spherotheca salvadori* (Sharpe), Ingram, Bull. Brit. Orn. Club, vol. xx., p. 200 (1908); *Aptomyloides galagonia* (Miller), Hall, *Emu*, vol. ix., p. 250; *Fregella tubulata* (Mathews), *Puffinus herminieri* (Lesson), Mathews, "Birds AustraL." vol. ii., p. 72 (1912); *Glossipara pacifica* (Gmelin), Mathews, Austral Av. Rec., vol. ii., p. 85 (1914); *Pterodroma inexpectata* (Forster), Mathews, ib., p. 125; *Dromesia chionoptera* (Salvin), Mathews, ib. (1915); *Zoonthura fuscophaga* (Thunberg), Mathews, Bull. Brit. Ornith. Club, vol. xxxvi., pp. 77, 92 (1916); *Fregella tropica* (Gould), Mathews, Austral Av. Rec., vol. iii., p. 99; *Corythara pomarina* (Temminck), Mathews, ib., p. 72 (1917); *Fregula minor* (Gmelin), Alexander, *Emu*, vol. xvii., p. 238 (1918).

In the "Birds of Australia, Supplement I." I gave the names of
those who had described the species up to the Passeriformes. I now give the names of those who have described the species in the Passeriformes.—Gould, 123; Latham, 43; Vigors and Horsfield, 17; Vieillot, 12; Mathews, Quoy and Gaimard, 11; Ramsay, 7; North, 6; Gmelin, Temminck, Shaw, and Swainson, 5; De Vis, 4; Gray, Lewin, Lesson, Linné, and White, 3; Ashby, Hartert, Jardine and Selby, Lesson and Garnot, McCoy, Milligan, Reichenbach, Salvadori, Sharpe, Shaw and Dodder, and Stephens, 2; Campbell, Castelnau and Ramsay, Heckstein, Bonaparte, Daudin, Duperre, Dumont, Hall, Hartlaub, Hombro and Jacquinot, Iredale, Jardine, King, Kittlitz, Masters, Müller, Paykull, Rüppell, Weatherill, and White, 1 each.

The following list of describers of Australian species includes about 668 species, but is subject to alteration, and is not claimed as final:—Gould, 188; Latham, 81; Gmelin, 35; Linneé, 34; Temminck, 50; Vieillot, 28; Vigors and Horsfield, 26; Mathews, 16; Gray, 14; Quoy and Gaimard, 13; Lesson and Dodder, 9; Jardine and Selby, 8; and Shaw and Selby, 8; Hecker, and Ramsay, 7; North, Shaw, Stephens, and White, 6; Horsfield, 5; Heckstein, Bonaparte, De Vis, Forster, Müller, and Pallas, 4; Collett, Eyton, Lewin, McCoy, Salvadori, Scopoli, Vrugs, and Wagler, 3; Ashley, Brunnic, Daudin, Dumont, Garnot, Hartert, Kerr, Lear, Lesson and Garnot, Lichenstein, Milligan, Raile, Reichenbach, and Sharpe, 2; Bosc, Boie, Campbell, Castelnau and Ramsay, Cuvier, Clark, Duperre, Dietriche, De Bau, Desmarest, Gueldenstädlt, Gunnerus, Hall, Hartlaub, Hombro and Jacquinot, Hilsberg, Iredale, Jardine, Johann, Jordan, King, Kittlitz, Masters, Montagn Miller, Middendorff, Oustalet, Paykull, Perry, Peale, Rüppell, Rothchild, Robinson, Smith, Swainson, Salvin, Turnstall, Thunberg, Vigors, Weatherill, Wallace, and White (H. L.), 1 each.

Breeding of Bustards.

BY A. H. CHISHOLM, STATE SECRETARY R.A.O.U., BRISBANE.

It seems a curious dispensation of Providence that the Australian Bustard (Choriotis australis) and the Native Companion (Antigone australasia) should be severely restricted in their egg-producing ability, while other large inland ground-breeding birds, such as the Emu, the Brush-Turkey, the Mallee-Fowl, and the Scrub-Fowl, are all very fertile. In the case of the Emu, and to a lesser extent in the case of the Casowary (which is protected by its jungle environment), inability to fly seems sufficient reason for prolific breeding, but this consideration does not hold good in regard to the mound-builders. And yet the large clutches of the latter birds' eggs are much more screened than the limited ones of the Plain Turkey. Certainly, at all events, Nature did not anticipate the introduction of the pestiferous fox when fixing the breeding habits of the Bustard.