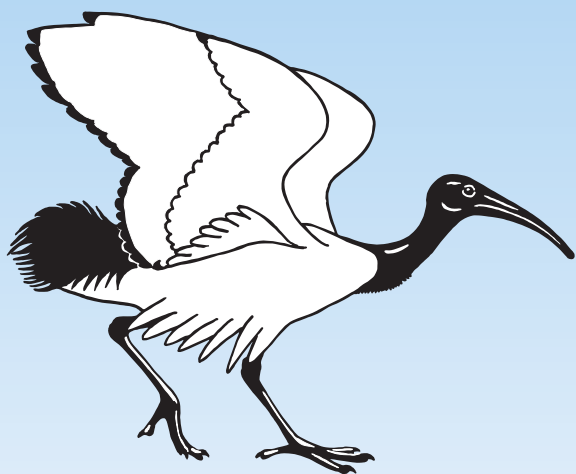


Bulletin of the British Ornithologists' Club



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FORTHCOMING MEETINGS

See also BOC website: <http://www.boc-online.org>

BOC MEETINGS are open to **all**, not just BOC members, **and are free**.

Evening meetings are in an **upstairs room at The Barley Mow, 104, Horseferry Road, Westminster, London SW1P 2EE**. The nearest Tube stations are Victoria and St James's Park; and the 507 bus, which runs from Victoria to Waterloo, stops nearby. For maps, see http://www.marketaverns.co.uk/the_barley_mow.html or ask the Chairman for directions.

The cash bar opens at **6.00 pm** and those who wish to eat after the meeting can place an order. **The talk will start at 6.30 pm** and, with questions, will last c.1 hour.

It would be very helpful if those intending to come can notify the Chairman no later than the day before the meeting.

25 February 2014—6.30 pm—Richard Porter—Birds of Socotra: populations and distribution

Abstract: The Socotra archipelago lies in the Arabian Sea, c.350 km south of the Yemen mainland. Ecologically heavily influenced by the dry south-west monsoon that batters the islands in May–September, it boasts high endemism in plants, reptiles, insects and birds, which I will summarise. Whilst its avifauna is species-poor, with just 42 regular breeders, 11 are endemic, making it the richest area of avian endemism in the Middle East (along with the highlands of south-west Arabia). From 1999 to 2011, I have been engaged in mapping the distribution and determining the populations of the breeding species and I will present some of my findings. I will also talk briefly about the migrants that visit the islands and recent taxonomic studies that have added Socotra Buzzard *Buteo socotraensis*, Abd Al Kuri Sparrow *Passer hemileucus* and Socotra Golden-winged Grosbeak *Rhynchostruthus socotranus* to the species list. My talk will end with my thoughts on future research and conservation.

Biography: Richard Porter has had a continuing involvement in bird research and conservation in the Middle East since 1966, when he spent the autumn studying soaring bird migration over the Bosphorus. Whilst his early exploits were largely in Turkey, since 1979 most of his visits have been to Yemen, particularly Socotra, and Iraq, where he is the bird and conservation adviser to Nature Iraq. Richard, who is author of *Birds of the Middle East*, advises BirdLife International on their Middle East programme.

20 May 2014—5.30 pm—Annual General Meeting, followed at 6.30 pm by Guy Kirwan—Cuban birds at home and abroad, in the field and museum

Abstract: This talk will provide an introduction to the birds of the largest Caribbean island, Cuba, which despite boasting the most speciose avifauna in the West Indies supports fewer endemics than either Hispaniola or tiny Jamaica. Nevertheless, depending on taxonomy, at least seven avian genera occur only on Cuba, as well as the world's smallest bird, Bee Hummingbird *Mellisuga helenae*, while the country might yet prove to be the last bastion of one of the planet's most mythical birds, Ivory-billed Woodpecker *Campephilus principalis*. Despite >150 years of ornithological exploration, our knowledge of Cuban birds is still advancing comparatively rapidly, especially with respect to their ecology and conservation, largely via the efforts of a few dedicated researchers, both Cuban and foreign. My talk will focus on the taxonomy, ecology and conservation of some of the most special of Cuba's birds, as well as providing an introduction to travel in what was very briefly part of the British Empire!

Biography: Guy Kirwan has been a regular visitor to the Greater Antilles since the mid-1990s and is a co-author of a forthcoming checklist to Cuban birds. He is a freelance ornithologist and editor, notably of *Bull. Brit. Orn. Cl.*, with strong interests in avian taxonomy and the breeding biology of birds in the New World tropics. A Research Associate at the Field Museum of Natural History in Chicago, he recently joined the BOU's Taxonomic Subcommittee and currently works for Lynx Edicions on the HBW Alive project.

23 September 2014—6.30 pm—Dr Andrew Gosler—Ethno-ornithology

22 November 2014—Joint meeting with the Oriental Bird Club and the Natural History Museum

A one-day meeting in the Flett Theatre, Natural History Museum, South Kensington, London SW7 5BD starting at 10.30 am. Details to be announced

The Chairman: Chris Storey, 22 Richmond Park Road, London SW14 8JT UK. Tel. +44 (0)208 8764728. E-mail: c.storey1@btinternet.com

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CLUB ANNOUNCEMENTS

Chairman's message

I am delighted to say that Robert Prýs-Jones has assembled an excellent series of talks for the 2013/14 meetings programme. We began with an overview of the birdlife of the Malagasy region by Dr Roger Safford, outstanding both in exposing the extraordinary biodiversity of this region and in the innovative nature of its presentation. It was based on the magisterial new book that he has recently co-edited (Safford, R. J. & Hawkins, A. F. A. 2013. *The birds of Africa*, vol. 8. Christopher Helm, London), which should be of great interest to most Club members. At the meeting on 19 November, Dr Christina Ieronymidou discussed the effects of land use and agricultural change on the birds of Cyprus, providing a fascinating insight into an issue that all of us were familiar with but from an environment that most of us were not. During the first half of 2014, Richard Porter will bring many years of research to his talk on the birds of the beguiling island of Socotra on 25 February and Guy Kirwan will do likewise when he discusses the taxonomy, ecology and conservation of the birds of Cuba at our AGM on 20 May. All will be in the upstairs room at the Barley Mow (see opposite): the venue provides an agreeable lecture space plus good food and drink at reasonable prices. I very much hope that as many as possible will join us there for what are very enjoyable evenings.

Chris Storey

The 974th meeting of the Club was held on Tuesday 24 September 2013 in the upstairs room of the Barley Mow, 104 Horseferry Road, Westminster, London SW11P 2EE. Eleven members and five non-members were present. Members attending were: Miss H. BAKER, Mr K. F. BETTON, Cdr. M. B. CASEMENT, Mr K. HERON JONES, Mr G. M. KIRWAN, Mr D. MONTIER, Mr R. PRICE, Dr R. PRÝS-JONES, Mr N. REDMAN, Mr P. RUDGE and Mr C. STOREY (*Chairman*).

Non-members attending were: Dr R. CHARLES, Mrs J. HERON JONES, Mrs M. MONTIER, Mr W. PRICE and Dr R. SAFFORD (*Speaker*).

Dr Roger Safford spoke on *Recent advances in the knowledge of Malagasy region birds*. The Malagasy region comprises Madagascar, Seychelles, the Comoros, the Mascarenes (Mauritius, Réunion and Rodrigues) and a small number of other isolated, coralline islands. Madagascar and the granitic Seychelles formed part of the supercontinent of Gondwana; with the latter's break-up, they have been separated from Africa for well over 100 million years, but remained connected to India somewhat longer. More recent volcanic activity created the Mascarenes and Comoros, while periodic sea level lows added more islands, most not currently exposed, between Asia and the Malagasy region.

Molecular and other techniques have permitted the arrival time and phylogeny of most bird lineages in the region to be assessed. The seven oldest groups are the elephant birds (Aepyornithidae; extinct), cuckoo rollers (Leptosomidae), mesites (Mesitornithidae), asities (Philepittidae), ground rollers (Brachypteraciidae), tetrakas (Bernieridae) and vangas (Vangidae). These are the endemic families as currently recognised, although the first three may merit treatment as orders, and the vangas cluster among a group of Asian and African shrike-like birds of long-uncertain affinities and their status as a family may be questionable. The Bernieridae are a newly recognised family numbering at least 11 species formerly placed among the bulbuls (Pycnonotidae), babblers (Timaliidae) and warblers (Sylviidae). The Vangidae embrace an extraordinary diversity of morphologies including genera closely resembling Sittidae (*Hypositta*), babblers (*Mystacornis*), bulbuls (*Tylas*), Platysteiridae (*Pseudobias*) and Muscicapidae (*Newtonia*), and arguably rate as the finest example of adaptive radiation among all birds.

All of the endemic families would be restricted to Madagascar but for the recent colonisation of the Comoros by a vanga and the Cuckoo Roller *Leptosomus discolor*. Endemic genera, arriving more recently, are mainly found in Madagascar, and include many ancient or basal lineages among such families as starlings (Sturnidae), African warblers (Cisticolidae) and estrildids. Some have arisen on, or colonised, the smaller islands but sadly many of these (and other species), mainly on the Mascarenes, were wiped out by human colonists. Most of the islands' extant avifaunas comprise genera shared with Africa and Asia, although many species are highly distinct. Much current ornithological work is focused on taxonomy, systematics and phylogeography; many gaps in knowledge remain and studies on, for example, Rallidae, *Zoonaavena*, *Upupa*, *Copsychus*, *Tylas*, *Ploceus*, *Humblotia*, *Amphilais* and Banded Kestrel *Falco zoniventris* (to name just a

few) would be of great interest. Palaeontological studies continue to yield remarkable findings, despite the poor prospects for fossil preservation in many areas. Study of the conservation biology of the many rare and endangered species is and must remain a priority, with common species such as the vasa parrots *Coracopsis* having astonishing life histories. Indeed, regrettably little attention is given to natural history and ecology, to the extent that even the extraordinary Cuckoo Roller is very poorly known. Finally, recent years have seen a rapid increase in raptor and especially seabird tracking studies, particularly on Seychelles and the Mascarenes.

Alexander (Alec) David Forbes-Watson 1935–2013

Born at Wylam in Northumberland, UK, on 26 February 1935, Alec came to Kenya as a child and spent much of his early years at the family home first at Kitale, and later at Ruiru near Thika. He was educated at the Prince of Wales School in Nairobi and, following a short period of military service with the Kenya Regiment, he spent four years at the University of Cape Town. His interest in birds started as a very young boy and was greatly influenced by such well-known ornithologists as Charles Belcher, Myles North, John Williams and Leslie Brown.

On his return from Cape Town in 1959, Alec joined the Kenya Game Department and for the next four years until 1963 was stationed at Kapenguria near Kitale, and at Kilgoris in the Trans-Mara District of south-west Kenya. In late 1966 he was fortunate to follow in John Williams' footsteps as head of the Ornithology Department at the National Museums of Kenya in Nairobi where he and his trusted assistant Joseph Mwaki added several hundred important specimens to the Nairobi collection, which at the time was on a par with those in the Bulawayo and Durban museums as important repositories of Afrotropical bird specimens.

Alec's reputation as an extraordinary ornithologist was recognised by everyone who came in contact with him, particularly those of us who spent time with him in the field. From March 1964 to February 1966 he made a series of collections for the Smithsonian Institution in Washington, the most notable of which was his 1964 Socotra collection that included the discovery of *Apus berliozi*, described and named Forbes-Watson's Swift by Dillon Ripley in 1966. Later, while still working for the Smithsonian, on the Kenya coast in January 1966, Alec collected two additional swifts flying over Gedi Forest near Malindi, described by Richard Brooke as a new subspecies (*A. b. bensoni*) of his Socotra birds. The following year he was engaged by the Mount Nimba Research Committee to make a collection of birds from the Nimba region of northern Liberia. During his two years there (May 1967–December 1968 and January–April 1971) Alec made one of the most important collections of birds from a hitherto little-known area of West Africa, including the discovery of Nimba Flycatcher *Melaenornis annamarulae*, which he described and named after his wife Anna in 1970.

On his return from Nimba, Alec soon turned his attention to the birds of Madagascar and the Malagasy region, and for the next few years he and I made several visits to the Comores, Seychelles, Madagascar, Réunion and Mauritius, while in 1976 we were able to resuscitate the Pan African Ornithological Congresses (PAOC) with a very successful and well-attended fourth PAOC in the Seychelles. By the time of PAOC5 in Lilongwe, Malaŵi, in 1980 and PAOC6 in Francistown, Botswana, in 1985, Alec was one of only a handful of individuals fortunate to have attended all of these gatherings up to that time, such was his passion for Africa and its unparalleled birdlife. Later, in 1993, he co-authored with Bob Dowsett a *Checklist of the birds of the Afrotropical and Malagasy regions*.

During a visit to Tsavo West National Park in November 1969, Alec noticed that large numbers of Palearctic migrant birds were attracted to the floodlights of Ngulia Lodge, and so alerted Daphne & Graeme Backhurst, Hazel & Peter Britton and David Pearson, all experienced ringers, to witness for themselves the opportunity to ring hundreds of migrants on their southward passage. This phenomenon has now been studied in some detail, and since the mid 1970s huge numbers of migrants have been ringed annually by both local and overseas ringers, and the Ngulia Ringing Group, now in its 37th year of operation, has ringed well over 500,000 birds to date, all due in part to Alec's timely observations back in 1969.

With a long outstanding commitment to write up his field work at Mount Nimba, Alec resigned his position at the National Museums of Kenya and in 1978 sent his specimens to the British Museum where Peter Colston and Kai Curry-Lindahl were able to start work on the entire Mt Nimba collection. After several delays the report itself (*The birds of Mount Nimba, Liberia*) was finally published by the British Museum (Natural History) in 1986.

In 1979 Alec traveled to the USA where long-time friend and colleague Frank Gill arranged for him to work on the VIREO photographic project at the Academy of Natural Sciences Philadelphia. Alec remained in the USA for a few years before going to England in 1983, then back to the USA in 1985–86. He returned to East Africa in 1988 and in 1990–92 participated in bird surveys of several Uganda Forest Reserves under the auspices of the IUCN Tropical Forest Programme. However, his health was deteriorating badly and, following a minor stroke, he was forced to move into the Nanyuki Cottage Hospital in 2003 where, under excellent medical supervision and care, he remained until his death on 16 September 2013.

Alec's commitment to African birds and his enthusiasm for birding was palpable at all times. He was also a talented artist and some of his many line drawings adorned the book *Oh Quagga* published in 1983 by

Ian Parker and Alan Root. He was constantly the life and soul of many parties and impromptu get-togethers, so much so that he will be fondly remembered by many friends and colleagues in the USA, the UK, as well as in Kenya, Uganda, Tanzania and several other African countries, as a fount of knowledge on not only birds, but on all aspects of natural history. With no surviving next of kin, his two brothers having been killed under tragic circumstances several years earlier, Alec Forbes-Watson, an extraordinarily talented individual, will be long-remembered by many of us who were so fortunate to know him as a true friend and colleague.

Don Turner

REFEREES

I am grateful to the following, who have reviewed manuscripts submitted to the Bulletin during the last year (those who refereed more than one manuscript are denoted by an asterisk in parentheses): Fernando Angulo, Wayne Arendt, Bas van Balen, Richard C. Banks, Brett Benz, Don Buden, Robert Cheke, David Christie, Nigel Cleere, Pierre-André Crochet, Marco Crozariol, Sidnei M. Dantas, Edward C. Dickinson (*), Coleen Downs, Robert J. Dowsett (*), Françoise Dowsett-Lemaire, Guy Dutton, James Eaton, Knut Eisermann (*), Steven Emslie, Jeremy Flanagan, Juan F. Freile, Errol Fuller, Steven Gregory, Steve N. G. Howell, Julian Hume (*), Morton L. Isler, Helen F. James, Leo Joseph, Krys Kazmierczak, Robert Kennedy, Alan Knox, Oliver Komar, Neils Krabbe, Frank Lambert, Daniel F. Lane, Alexander C. Lees, Mary LeCroy, Huw Lloyd, Wayne Longmore, Michel Louette, Jen Mandeville, Clive Mann, Gerald Mayr, Robert McGowan, Gerardo Obando, José Fernando Pacheco, Alan Peterson, Doug Pratt, Thane K. Pratt, Robert Prÿs-Jones, Robin Restall, César Sánchez, Richard Schodde (*), Thomas S. Schulenberg, Frederick Sheldon, Alejandro Solano-Ugalde, Frank Steinheimer (*), David Steadman, Joseph Tobias, Colin Trainor, Dick Watling, Andrew Whittaker (*), Iain Woxvold and Kevin J. Zimmer.—THE HON. EDITOR

A new tapaculo related to *Scytalopus rodriguezi* from Serranía de los Yariguíes, Colombia

by Thomas M. Donegan, Jorge E. Avendaño & Frank Lambert

Received 15 February 2013

SUMMARY.—Upper Magdalena Tapaculo *Scytalopus rodriguezi* was described (in 2005) as restricted to the headwaters of the Magdalena Valley in dpto. Huila, Colombia. Here we describe a new but related taxon from the Serranía de los Yariguíes, dpto. Santander, Colombia, c.580 km to the north, which differs in its darker dorsal coloration, shorter tail, smaller body, lower mass and lower pitched song with reduced frequency bandwidth in its notes.

Scytalopus tapaculos are small, primarily montane suboscines that inhabit the understorey of Neotropical forests. Species limits within the genus are problematic because of the morphological homogeneity of different populations, which masks a rich diversity, only detected in recent decades via vocal and genetic studies. Since vocalisations are believed to be innate and distinctive among genetically divergent *Scytalopus* species, and vocal differentiation tracks molecular differentiation more so than morphology (Arcander & Fjeldså 1994), the number of recognised species of *Scytalopus* has increased dramatically from ten in the mid 1990s to more than 40 today (Krabbe & Schulenberg 1997; see also, e.g., Krabbe & Schulenberg 2003, Krabbe & Cadena 2010, Hosner *et al.* 2013). Four new *Scytalopus* taxa have been described from Colombia since the late 1990s: Chocó Tapaculo *S. chocoensis* (Krabbe & Schulenberg 1997), Upper Magdalena Tapaculo *S. rodriguezi* (Krabbe *et al.* 2005), Stiles' Tapaculo *S. stilesi* (Cuervo *et al.* 2005) and a subspecies of Pale-bellied Tapaculo *S. griseicollis gilesi* (Donegan & Avendaño 2008). Various other undescribed populations were discussed and illustrated (but not named) by Donegan & Avendaño (2008) and McMullan *et al.* (2010, 2011).

In January 2003, TMD observed tapaculos on the west slope of Serranía de los Yariguíes, a western spur of the East Andes of Colombia. Their song comprised a series of simple, frog-like notes, repeated relatively slowly, while their plumage was typical of the '*S. femoralis*' group (*sensu* Hilty & Brown 1986), being generally dark grey with a brown-barred vent. The species involved was reported as '*Scytalopus* sp.' (Donegan *et al.* 2003) or *S. viciniior* (Donegan & Huertas 2005) in expedition reports. Subsequently, *S. rodriguezi* was described from pre-montane forests of the upper Magdalena Valley, dpto. Huila (Krabbe *et al.* 2005). During 2006, JEA obtained specimens from both slopes of the Yariguíes massif and FL made sound-recordings in 2006–07. Donegan *et al.* (2007) then considered the Yariguíes population to represent an undescribed taxon that is vocally distinct from *S. viciniior*, *S. rodriguezi* and other species. A detailed study of Colombian and Venezuelan *Scytalopus* (Donegan & Avendaño 2008), using sound-recordings and specimens, clarified the application of several names and discussed the existence of four undescribed populations in the northern Andes. Among these were 'a presumably undescribed taxon related to *S. rodriguezi*' from Serranía de los Yariguíes.

Methods

Methods undertaken in connection with this research and details of localities appear in Donegan *et al.* (2003), Donegan & Huertas (2005) and Huertas & Donegan (2006). The new

taxon was initially recorded at 1,700–2,100 m at: (i) Alto Siberia (a property subsequently purchased by Fundación ProAves and now the main part of Reserva Natural de Aves (RNA) Reinita Cielo Azul); and (ii) El Talismán, an adjacent property at higher elevation than RNA Reinita Cielo Azul owned by the municipality of San Vicente de Chucurí (effectively a nature reserve, but now also part of Parque Nacional Natural [PNN] Serranía de los Yariguíes). JEA collected two males and a female at El Talisman in 2006, and J. C. Luna *et al.* mist-netted five individuals in RNA Reinita Cielo Azul, which were measured (wing and mass), photographed and released. FL visited RNA Reinita Cielo Azul for ten days in 2007 and made recordings of the tapaculo's vocalisations on 4–5 May 2007 using a Sennheiser ME66 microphone and Sony TCM5000. In total, at least 19 sound-recordings were obtained by FL & D. Willis in 2006–07 and others subsequently (see Appendix). The Yariguíes population was subjected to *ad hoc* playback of songs of *rodriguezi* from Huila (in Álvarez *et al.* 2007).

We compared specimens from Serranía de los Yariguíes with the type series of nominate *rodriguezi* and an apparent *rodriguezi* at the Natural History Museum, Tring. Measurements were taken with callipers to the nearest 0.1 mm for bill length (skull to tip of maxilla) and tarsus length, and with a metal ruler to the nearest 0.5 mm for tail length and wing chord. Body mass (g) was taken from specimen labels and in the field using a 30 g pesola. We also include measurements from the ProAves database of five *S. rodriguezi* mist-netted by J. C. Luna *et al.* (e.g. Fig. 7), following the same protocols. These data were treated both separately and combined with specimen data to produce two sets of analyses, one excluding potentially incomparable data and the other based on higher degrees of freedom (Table 1). Specimens examined by the authors personally or via photographs are listed in Donegan & Avendaño (2008) and include the type series of *S. rodriguezi*, the specimens detailed below and types of all names described from East Andes localities.

Vocal analyses evaluated level of diagnosability in songs and calls between the new subspecies and the nominate. We analysed seven acoustic variables for songs (examples appear in Figs. 3–4) as follows: (i) total number of notes; (ii) total song duration; (iii) song speed or pace (mean number of notes per second, by dividing number of notes in song

TABLE 1

Biometric differences between *S. r. rodriguezi* and *S. r. yariguiorum*. Raw data are presented in the form: mean \pm standard deviation (lowest value–highest value) (n = no. of specimens). Differences are based on statistical tests set out in Methods. Data combined for males and females owing to small sample sizes when treating sexes separately.

Biometric variable	Wing chord (mm)	Tail length (mm)	Tarsus length (mm)	Bill length (mm)	Mass (g)
<i>S. r. rodriguezi</i> specimens	54.8 \pm 1.9 (52.0–56.0) (n = 4)	45.8 \pm 2.1 (44.0–48.0) (n = 4)	22.3 \pm 0.9 (21.5–23.5) (n = 4)	14.8 \pm 0.3 (14.5–15.0) (n = 3)	21.6 \pm 0.3 (21.4–21.9) (n = 3)
<i>S. r. yariguiorum</i> all	55.0 \pm 2.1 (52.0–57.0) (n = 9)	39.2 \pm 1.8 (36.0–40.2) (n = 5)	20.8 \pm 0.5 (20.0–21.5) (n = 5)	14.1 \pm 0.8 (13.5–15.0) (n = 3)	17.1 \pm 1.1 (15.2–19.0) (n = 9)
<i>S. r. yariguiorum</i> specimens	56.3 \pm 0.6 (56.0–57.0) (n = 3)	38.6 \pm 2.27 (36.0–40.2) (n = 3)	21.1 \pm 0.4 (20.8–21.5) (n = 3)	13.5 (n = 1)	17.4 \pm 0.6 (16.8–18.0) (n = 3)
Differences based on 'all' data	N/A	Levels 1, 2 and 4.	N/A (note: level 1 p = 0.04)	N/A	Levels 1–5
Differences based solely on specimen data	N/A	Levels 2 and 4 (note: level 1 p = 0.011).	N/A (note: level 1 p = 0.07)	Level 4	Levels 2–5 (note: level 1 p = 0.003)

by song duration); (iv) max. acoustic frequency of the lowest harmonic (undertone) of the lowest note (kHz); (v) max. frequency of the lowest harmonic of the highest note (kHz); (vi) variation in frequency (difference between the latter two measurements) (kHz); and (vii) frequency bandwidth of the lowest harmonic of the third note (kHz) (the difference between the max. and min. frequency of the lowest harmonic; third note chosen because some but not all recordings, especially after playback, attain higher frequencies towards the song's terminus and the first 1–2 notes are sometimes atypical). In songs, several overtones are present. Measures of max. frequency are of the max. peak point of the lowest undertone (shown as a continuous form on a sonogram) and not of any overlapping or other harmonics. We also considered note shape (viii). For calls, only recordings that increased in acoustic frequency over time were considered (examples in Fig. 5: 'call'). In some recordings of calls for both groups, a fast, scolding rasp followed the initial note, which was ignored for purposes of analysis. For calls, we measured only the following, for the rising note or initial rising note only: (i) length (seconds); (ii) max. frequency of the second-lowest harmonic (kHz); (iii) min. frequency of the second-lowest harmonic (kHz); and (iv) frequency variation (difference between the latter two measurements) (kHz). Note shape (v) was also considered. The second-lowest harmonic was stronger in calls (in contrast to songs), so this and not the lowest harmonic was measured. A max. 3 vocalisations per assumed individual were included in analyses. Recordings both with and without playback were included for both taxa, to ensure that a full range of variables was analysed. Sonograms were produced in Raven Lite 1.0 (sometimes adjusted for brightness, expanded to show up to c.5 kHz and 2–5 seconds). For a list of sound-recordings analysed, see the Appendix. We assessed level of diagnosability in biometrics and vocalisations between the Yarigués and Huila populations using various tests presented in Donegan & Avendaño (2008, 2010) and Donegan (2008, 2012), as follows.

LEVEL 1: statistically significant differences at $p < 0.05$. A Bonferroni correction was applied for both vocal data and biometrics with the number of variables treated separately for each different call type (songs: eight variables, $p < 0.0002$; calls and biometrics: five variables, $p < 0.01$). An unequal variance (Welch's) t -test was used to compare datasets; for song speeds, a two-sample Kolmogorov-Smirnov test was applied as an additional test that must be satisfied for Level 1, to account for the possibility of a non-normal distribution. These calculations assess the statistical significance of differences between the means of populations, but do not address diagnosability, as they tolerate considerable overlap.

Further calculations, described below, were undertaken to measure inter-population differences in the context of various species and subspecies concepts. In the formulae used below, \bar{x}_1 and s_1 are the sample mean and sample standard deviation of Population 1; \bar{x}_2 and s_2 refer to the same parameters in Population 2; and the t value uses a one-sided confidence interval at the percentage specified for the relevant population and variable, with t_1 referring to Population 1 and t_2 referring to Population 2.

LEVEL 2: a '50% / 97.5%' test, following one of Hubbs & Perlmutter's (1942) subspecies concepts, which is passed if sample means are two average standard deviations or more apart controlling for sample size, i.e. the sample mean of each population falls outside the range of 97.5% of the other population: $|\bar{x}_1 - \bar{x}_2| > (s_1(t_{1@97.5\%}) + s_2(t_{2@97.5\%}))/2$.

LEVEL 3: The traditional '75% / 99%' test for subspecies (Amadon 1949, Patten & Unitt 2002), modified to control for sample size, which requires both the following tests to be passed: $|\bar{x}_1 - \bar{x}_2| > s_1(t_{1@99\%}) + s_2(t_{2@75\%})$ and $|\bar{x}_2 - \bar{x}_1| > s_2(t_{2@99\%}) + s_1(t_{1@75\%})$.

LEVEL 4: diagnosability based on recorded values or, for plumage and note shape, subjective diagnosability (the first part of Isler *et al.*'s 1998 diagnosability test).

LEVEL 5: 'Full' statistical diagnosability (where sample means are four average standard deviations apart at the 97.5% level, controlling for sample size). This is the second part of Isler *et al.*'s (1998) diagnosability test: $|(\bar{x}_1 - \bar{x}_2)| > s_1(t_{1 @ 97.5\%}) + s_2(t_{2 @ 97.5\%})$.

The method for ranking species based on scores using a range of characters developed by Tobias *et al.* (2010) was also applied, subject to the modifications for more rigorous statistical tests applied here, as set out in Donegan (2012). The authors do not necessarily endorse any species concept or statistical approach applied here for assessing species rank.

Results

Morphological and vocal comparisons suggest that the Yariguíes population is related to *S. rodriguezi* but differs sufficiently to be recognised as a new taxon, which we name:

Scytalopus rodriguezi yariguiorum, subsp. nov.

Holotype.—Adult male (Instituto de Ciencias Naturales, Universidad Nacional, Bogotá, Colombia, no. ICN 36178), collected by Jorge E. Avendaño on 18 November 2006 (field no. JEA 391) on the 'Camino del Lenguerke' above Finca El Talimán, Vereda El Centro, San Vicente de Chucurí municipality, west slope of the Yariguíes massif, dpto. Santander, Colombia (06°50'N, 73°21'W; 2,100 m). Tissue sample (heart, Andes-BT 513) and skeleton deposited at the Banco de Tejidos, Universidad de los Andes, Bogotá.

Paratypes.—ICN no. 36179 / Andes BT-514 (male, collected by Jorge E. Avendaño at the type locality on 19 November 2006); ICN 35821 / Andes BT-512 (female, collected by Jorge E. Avendaño at Cerro La Luchata, Finca El Cerro, Vereda El Alto, Galán municipality, east slope of the Yariguíes massif, dpto. Santander, Colombia [06°34'N, 73°18'W; 2,100 m], on 18 April 2006).

Diagnosis.—Exhibits all characteristics of the genus *Scytalopus* (Ridgway 1911, Krabbe & Schulenberg 1997, Donegan & Avendaño 2008) and resembles *S. r. rodriguezi* in the general structure, note shape and sound of its song and calls. Distinguished from *S. r. rodriguezi* by its shorter tail (Table 1, Figs. 1–2A), reduced mass (Table 1, Fig. 2A), smaller body (Fig. 1), darker mantle (Fig. 1), lower pitched song with reduced frequency bandwidth within individual notes (Table 2, Figs. 2B–4) and more 'squashed' note shape (with flattish area of sound towards end of individual notes in the most similar songs) (Figs. 3–4). However, perhaps influenced by the sample size, despite a lack of recorded overlap in vocal variables (Fig. 2) and statistically significant differentiation, the two taxa fall marginally short of the level 5 statistical test of vocal or biometric diagnosis. Differs from *S. vicinior* by its shorter tail and tarsi, and by different note shapes to its songs and calls. Vocally very different from Stiles' Tapaculo *S. stilesi* and Ecuadorian Tapaculo *S. robbinsi* (which Cuervo *et al.* 2005 considered to be related to *S. rodriguezi*) in the note shape of its songs and calls (as for *S. rodriguezi*: see Krabbe *et al.* 2005).

Description of the holotype.—See Fig. 1. Colour nomenclature follows Munsell (1977), except for soft parts. Bill black; irides dark brown; tarsus dark brown, yellowish on front of toes and brown on soles. Crown, upperparts, tail and wings dark grey brown (10YR 2/1) becoming browner (10YR 3/4) on barred rump, with brownish tinge to greater wing-coverts. Tertiaries narrowly tipped brownish (10YR 3/3). Underparts grey (Gley 1, 3.5/N), vent and flanks brown (10YR 3/6) barred black (10YR 2/1). No moult noted. Left testis 2.7 × 1.7 mm. Stomach contents not determined. Measurements (mm): wing chord (skin) 56.0, tail 40.2, tarsus 20.9, total culmen 13.7, mass 18.0 g.

The holotype was not sound-recorded but was heard giving the vocalisation type shown in Fig. 4. Except for the vocally and morphologically distinctive Blackish Tapaculo *S. latrans*,



C

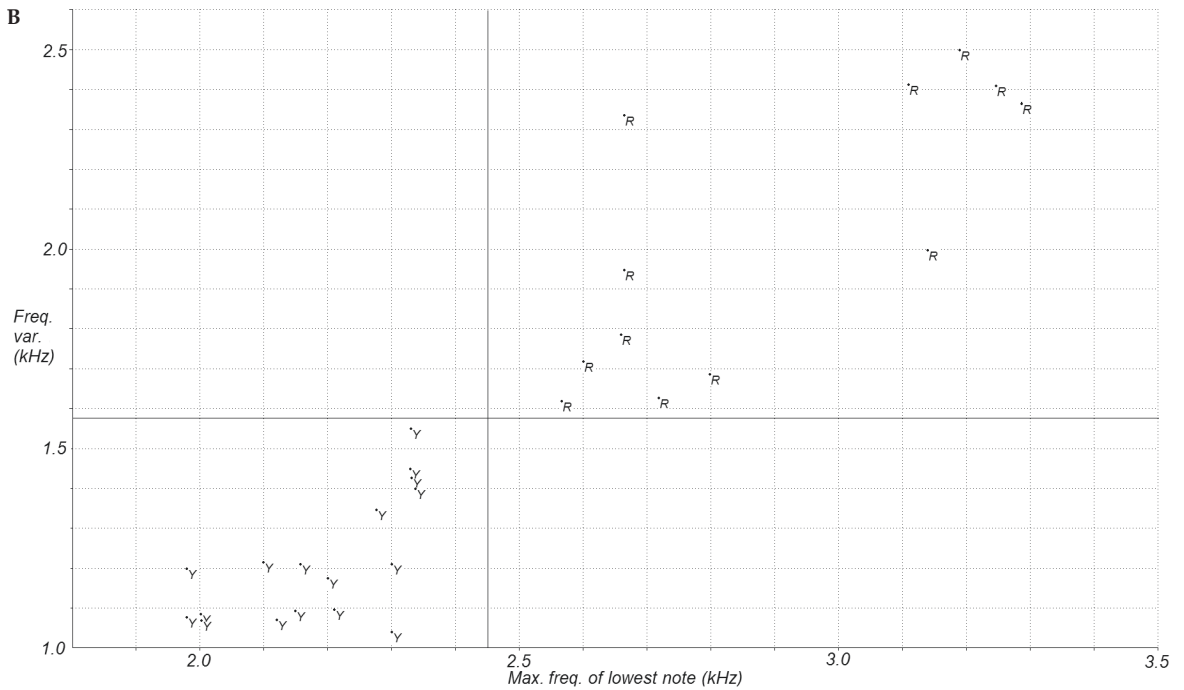
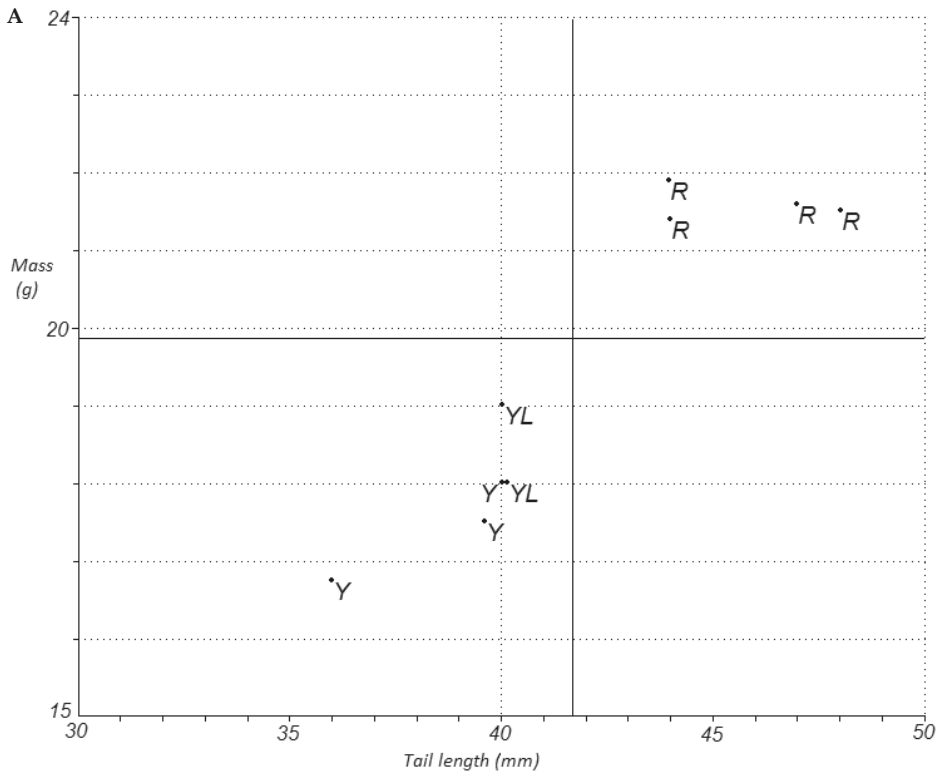


Figure 1 (facing page and above). Left to right, three *S. r. yariguiorum* (ICN 36179 paratype, 35821 paratype and 36178 holotype, see text) and two *S. r. rodriguezi* (ICN 35234, 34845, both paratypes, see Donegan & Avendaño 2008) (Thomas Donegan)

TABLE 2

Vocal differences in songs between *S. r. rodriguezi* and *S. r. yariguiorum*. Data presented in form: mean ± standard deviation (lowest value–highest value) (*n* = no. of recordings). N/A = no statistical differentiation. *n_{ai}* = no. of assumed individuals, whilst *n* refers to nos. of different actual vocalisations included in the sample.

Vocal variable / No. of notes Taxon		Song length	Song speed (notes / second)	Max. acoustic frequency of highest frequency note's lowest harmonic (kHz)	Max. acoustic frequency of lowest frequency note's lowest harmonic (kHz)	Variation in acoustic frequency of song, between frequencies of lowest harmonics of highest and lowest notes (kHz)	Acoustic frequency bandwidth of lower harmonic in third note (kHz)
<i>S. r. rodriguezi</i> (<i>n_{ai}</i> = 6)	96.17 ± 70.81 (10.00–252.00) (<i>n</i> = 12)	20.98 ± 14.80 (2.11–53.74) (<i>n</i> = 12)	4.54 ± 0.24 (4.14–4.87) (<i>n</i> = 13)	3.35 ± 0.38 (2.88–3.92) (<i>n</i> = 13)	2.96 ± 0.37 (2.57–3.79) (<i>n</i> = 13)	0.39 ± 0.23 (0.13–0.89) (<i>n</i> = 13)	2.10 ± 0.42 (1.62–2.95) (<i>n</i> = 13)
<i>S. r. yariguiorum</i> (<i>n_{ai}</i> = 6)	77.59 ± 68.15 (5.00–285.00) (<i>n</i> = 17)	16.07 ± 13.19 (1.01–54.69) (<i>n</i> = 17)	4.89 ± 0.53 (4.10–5.75) (<i>n</i> = 17)	2.44 ± 0.18 (2.15–2.78) (<i>n</i> = 17)	2.18 ± 0.13 (1.98–2.34) (<i>n</i> = 17)	0.26 ± 0.14 (0.04–0.50) (<i>n</i> = 17)	1.22 ± 0.16 (1.04–1.55) (<i>n</i> = 17)
Differences	N/A	N/A	N/A	Levels 1, 2 and 4	Levels 1, 2 and 4	N/A.	Levels 1,2 and 4



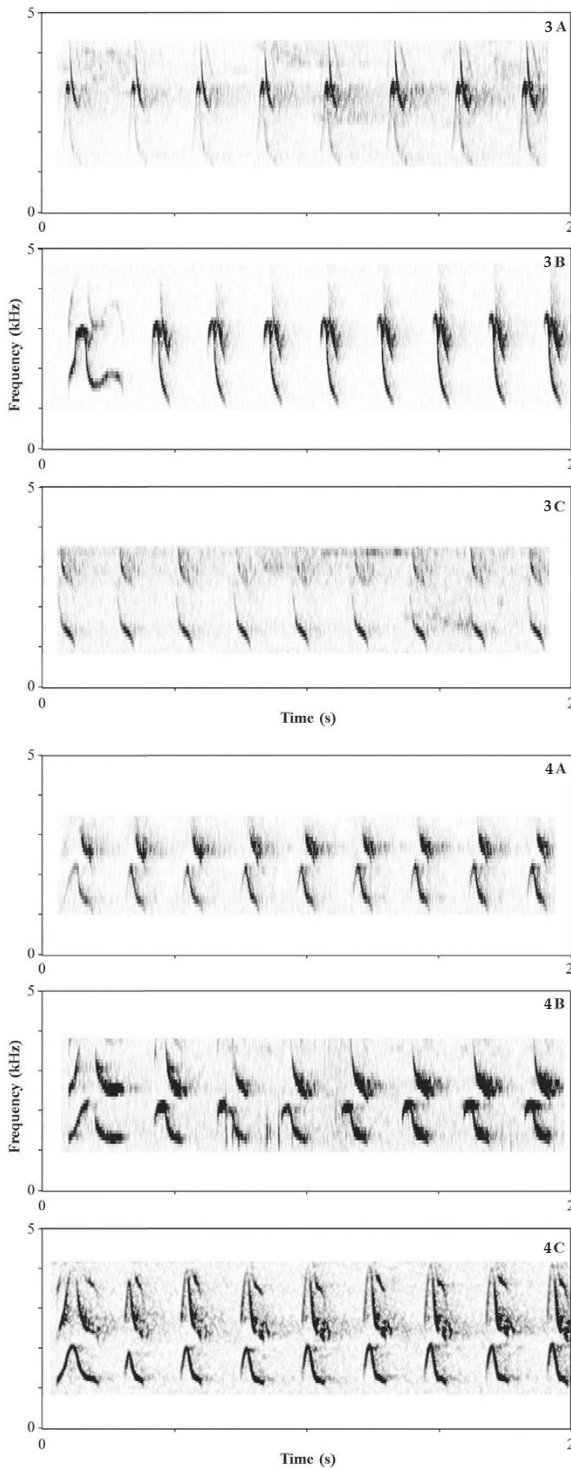


Figure 2 (facing page). Scatter graphs created using PAST showing differentiation: (A) tail length (x -axis) and mass (y) of *S. rodriguezi* populations. Y = Yariguíes specimens, YL = Yariguíes live capture data and R = nominate *S. rodriguezi* specimen data; (B) max. acoustic frequency of lowest note (x) and individual note frequency variation in acoustic frequency (y). Y = Yariguíes recordings, R = nominate *S. rodriguezi* recordings. Note diagnosability based on actual data for all four biometric and vocal variables plotted, denoted by horizontal or vertical lines on the graphs.

Figure 3. Extracts of songs of *S. r. rodriguezi* at the dpto. Huila type locality. A: natural song of the type specimen, XC27395, N. Krabbe, 24 February 2003. B: male song after playback, XC27399, N. Krabbe, 22 February 2003. C: male song after playback, XC27398, N. Krabbe, 22 February 2003. Sonograms here and in Figs. 4–5 produced using 512 frequency bands in Syrinx V2.6h (Burt 2006).

Figure 4. Extracts of songs of *S. r. yariguiorum* all recorded at RNA Reinita Cielo Azul, municipality of San Vicente de Chucurí, Serranía de los Yariguíes, Santander. A: natural song, XC16701 by F. Lambert, 4 May 2007. B: song by P. Boesman (Boesman 2012, track 1695-1), 31 January 2011. C: natural song by D. Willis, unarchived, April 2007.

no other *Scytalopus* was recorded at the type locality. The holotype was collected within 200 m straight-line distance of birds whose sound-recordings are used here, which together with preliminary results of mitochondrial DNA analysis (which will be published elsewhere) leave no doubt that it is representative of birds that give the vocalisations shown in Fig. 4.

Variation in the type series.—See Fig. 1. Both paratypes are apparently subadults. Compared to the holotype, ICN 36179 has a browner back (averaging 10YR 2/2) due to more brownish tips to its mantle feathers. All wing-coverts have brown (10YR 3/4) subterminal marks, forming two wingbars. Flight feathers have a brown (10YR 3/3) tinge to the outer remex. The tertials and secondaries

each have a buffy (10YR 4/3) tip on the outer feather. The barring on the underparts and rump is paler brown (10YR 3/6). ICN 35821 has similar back and underparts colour to the holotype, but also has two brown wingbars, as did an individual trapped by J. C. Luna at

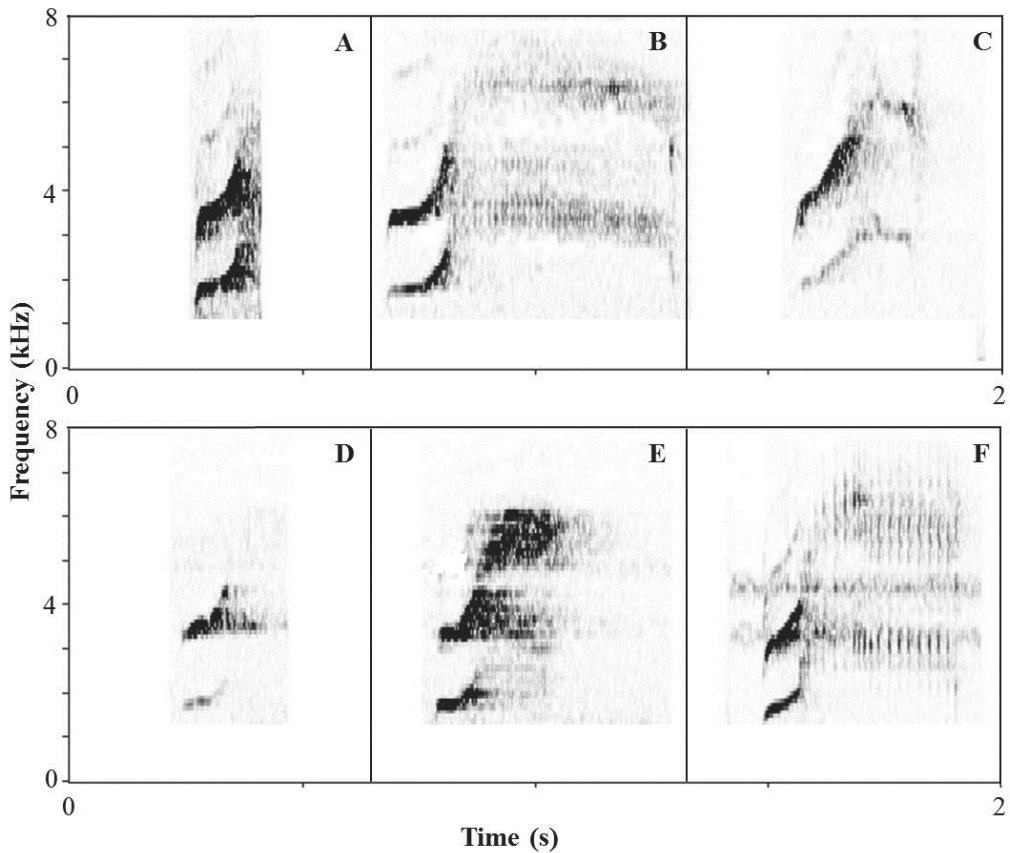


Figure 5. Calls of *S. r. rodriguezii* (A–C) and *S. r. yariguiorum* (D–F). A: call after playback, XC27396, at dpto. Huila type locality by N. Krabbe, 24 February 2003. B: call after playback, XC102442, same locality by J. King, 23 February 2011. C: apparently natural call, XC54842, at Vereda La Argentina, Quebrada Negra, Huila, 2,300 m, by P. Flórez, 18 March 2010. D–F all at RNA Reinita Cielo Azul, San Vicente de Chucurí, dpto. Santander, Colombia: D–E calls of the same individual by Boesman (2012, track 1695-3), 31 January 2011. F: natural call, XC95396 by F. Lambert, 5 May 2007.

TABLE 3

Differences in calls between *S. r. rodriguezii* and *S. r. yariguiorum*. For further information, see Table 2.

Vocal variable / Taxon	Call length	Min. acoustic frequency of second-lowest harmonic (kHz)	Max. acoustic frequency of second-lowest harmonic (kHz)	Variation in acoustic frequency within second-lowest harmonic of call (kHz)
<i>S. r. rodriguezii</i> ($n_{\text{ind}}=3$)	0.12 ± 0.01 (0.10–0.14) ($n = 7$)	2.74 ± 0.21 (2.32–3.01) ($n = 7$)	5.01 ± 0.29 (4.70–5.47) ($n = 7$)	2.27 ± 0.31 (1.81–2.64) ($n = 7$)
<i>S. r. yariguiorum</i> ($n_{\text{ind}}=2$)	0.10 ± 0.01 (0.08–0.11) ($n = 6$)	2.38 ± 0.40 (1.99–2.77) ($n = 6$)	4.43 ± 0.15 (4.24–4.61) ($n = 6$)	2.05 ± 0.28 (1.74–2.37) ($n = 6$)
Differences	N/A (note: level 1 $p = 0.014$)	N/A	Levels 1, 2 and 4.	N/A

the type locality (Fig. 7). The brown barring on the rump extends up the central belly to the lower breast, with more extensive buffy spots on the ear-coverts, neck and face.

Etymology.—The name *yariguiorum* ('of the Yarigui people') is a plural possessive form based on the stem 'yarigui', which need not agree in gender with the generic name in combination under Art. 31.1.2 of the *International code of zoological nomenclature* (ICZN 1999). The name honours the extinct Yariguíes indigenous people and the massif that bears their name, the only region in which *S. r. yariguiorum* has been recorded. Further details of the Yariguíes as a region and people appear in Donegan & Huertas (2006) and Donegan & Avendaño (2010). In these descriptions, *yariguierum* was chosen as the epithet, based on the genitive plural of a fictitious Latin fifth declension noun 'yariguies'. Choice of *yariguiorum* here follows input from N. David & E. C. Dickinson (*in litt.* 2013) and is more consistent with other names such as those for the beetle *Epilachma incaorum* Gordon, 1975, and fungus *Psilocybe aztecorum* Heim, 1957. Neither of the names *yariguierum* Donegan & Huertas, 2006, nor *yariguierum* Donegan & Avendaño, 2010, are incorrect or require emendation.

Distribution.—*S. r. yariguiorum* has been recorded at three localities on both slopes of the Serranía de los Yariguíes at 1,700–2,200 m (Donegan *et al.* 2010; FL unpubl.). Its range and that of nominate *S. rodriguezi* are separated by c.580 km (Fig. 6). The number and concentration of localities (Appendix 1, Fig. 6) suggest that the two populations are presently isolated, but available distributional data preclude accurate niche modelling analysis (Pearson *et al.* 2007). White-crowned Tapaculo *S. atratus confusus* and Long-tailed Tapaculo *S. micropterus* replace *S. rodriguezi* below at least 1,650 m, whilst Spillmann's Tapaculo *S. spillmanni* replaces it at least above 2,400 m on the western slope. *S. latrans* is sympatric with both *S. spillmanni* and *S. r. yariguiorum* in the Yariguíes Mountains. *S. atratus* and *S. spillmanni* both range up to the treeline at 2,900 m in the region (Donegan & Avendaño 2008, Donegan *et al.* 2010).

There are no records of *S. rodriguezi* in dptos. Meta, Caquetá, Cundinamarca, Boyacá or Santander (Krabbe *et al.* 2005, McMullan *et al.* 2010, 2011; Fig. 6). Nominate *S. rodriguezi* has been recorded only in the southernmost part of the head of the Magdalena Valley in dpto. Huila, where it is known from several localities (Fig. 6, Appendix 1). We have searched forested localities at c.1,700–2,000 m on the west slope of the East Andes in dpto. Cundinamarca (e.g. Parque Nacional Chicaque and Pedro Palo: TMD) and dpto. Santander (14 localities at 1,000–2,100 m: Avendaño 2005, 2006, 2007), and higher elevations of Serranía de las Quinchas in dpto. Boyacá have also been worked (e.g. Laverde *et al.* 2005). However, *S. atratus*, *S. latrans*, *S. spillmanni* and *S. griseicollis* are the only *Scytalopus* recorded to date in the region, with *S. micropterus* recently sound-recorded in the lower part of RNA Reinita Cielo Azul below the range of *S. rodriguezi* (T. Ellery *in litt.* 2013; recordings on www.xeno-canto.org). Other observers (see Acknowledgments) who have studied birds in the central East Andes have similarly failed to record *S. rodriguezi*.

Several lines of evidence suggest that the two disjunct populations of *S. rodriguezi* are historical. First, collecting efforts over the past 200 years at several pre-montane sites in dptos. Cundinamarca, Boyacá and Santander, when forest cover was greater, resulted in tens of specimens of *S. griseicollis* and *S. latrans*, as well as a handful of *S. spillmanni* and *S. atratus* (Donegan & Avendaño 2008) but no *S. rodriguezi*, which is known from older skins also only from dpto. Huila. Second, despite extensive deforestation on the west slope of the East Andes, some remnant patches of pre-montane forest in dptos. Cundinamarca, Boyacá and Santander have been visited by many ornithologists but support only *S. atratus*, *S. spillmanni* and *S. latrans*. Among established geographic or environmental barriers that coincide with the range limits of several Andean birds are the Horta and Opón depressions (which isolate Serranía de los Yariguíes from the rest of the East Andes and south of which

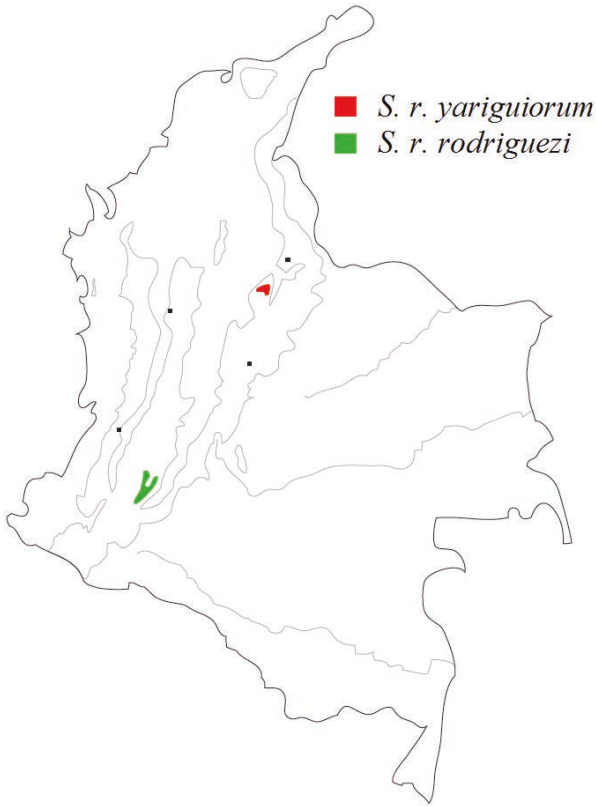


Figure 6 (left). Distributions of *S. rodriguezi yariguiorum* and *S. r. rodriguezi* in Colombia. Narrow lines show major eastern rivers and the 1,000 m contour. Small squares denote major Colombian cities.

Figure 7 (below). Immature *S. rodriguezi yariguiorum*, RNA Reinita Cielo Azul, dpto. Santander, Colombia, 2005 (Juan Carlos Luna / ProAves)



the west slope is considerably less humid: Donegan & Avendaño 2010) and Las Cruces pass in PNN Serranía de los Picachos (at c.1,210 m) in the East Andes (Graham *et al.* 2010). Our explorations of Serranía de los Yariguíes in the mid 2000s led to the discovery of several new taxa endemic to the range among birds (Donegan 2008, Donegan & Avendaño 2008, 2010) and other groups (Huertas & Arias 2007), and which are represented by other subspecies in the adjacent East Andes, although these have tended to be higher elevation taxa than *S. r. yariguiorum*.

Conservation.—*S. rodriguezi* has an apparently restricted and fragmented range, and its only localities are in primary forest. It is therefore probably affected by habitat loss and is presently treated as Endangered. However, this assessment was made based on the upper Magdalena distribution, pending a review by BirdLife's taxonomic committee on whether to treat the Yariguíes population within *S. rodriguezi* or as a separate species (BirdLife International 2012). The east slope of the Yariguíes massif has been extensively deforested mainly between 400 m and 2,000–2,400 m. On this slope, only a single mist-net capture and no sound-recordings were made at La Luchata in two weeks of observations. La Luchata constitutes probably the largest remaining fragment of forest at c.2,000 m in the central to southern section of the east slope of the Yariguíes, but it is small and the habitat degraded. There is also some forest above Zapatoaca on the northernmost part of the east slope, mostly above 2,300 m, which may support *S. rodriguezi* in its lowest part. On the west slope, pre-montane forests have been cleared to 1,700–1,900 m in the north (in San Vicente de Chucurí municipality), to just below the lower altitudinal limit of *S. r. yariguiorum*. Forests of suitable elevation are largely intact in the more inaccessible central to southern regions on the west slope of the range, which were surveyed aerially (Donegan & Huertas 2005). Whilst deforestation has continued apace in the lowlands around the Yariguíes massif since 2004, Google Earth® maps suggests that higher elevations on the west slope remain relatively intact. As a result, conservation efforts should focus on the west slope of the Yariguíes where suitable elevations for the new taxon are largely protected within PNN Serranía de los Yariguíes and RNA Reinita Cielo Azul. *S. r. yariguiorum* is probably best treated as Endangered based on IUCN criteria B1ab(i,ii,iii) and A2c+3c+4c;B1ab(i,ii,iii).

Vernacular names.—'Yariguíes Tapaculo' would be an appropriate English name for *yariguiorum*. If it is lumped with *rodriguezi* then Magdalena Tapaculo, rather than Upper Magdalena Tapaculo, may be a more appropriate name for the combined species, given its broader distribution.

Ecology.—Typical of *Scytalopus*, the new taxon occurs in forest undergrowth, taller scrub at forest borders and in regenerating forest. It is skulking, virtually flightless and retiring like all congeners. Based on stomach contents it is insectivorous.

Taxonomic rank.—*S. r. yariguiorum* should be treated as meeting the requirements of subspecies concepts for allopatric populations (Remsens 2010) on account of its different biometrics, plumage and song from nominate *S. rodriguezi*. Isler *et al.* (1998) and Helbig *et al.* (2002) suggested treating distinctive allopatric populations as species or subspecies depending on the degree of differentiation compared to that between related species that are sympatric. Adopting such an approach, there is a reasonable case to rank *S. r. yariguiorum* as a species.

A benchmark comparison for *rodriguezi* vs. *yariguiorum* is fraught with difficulty because there are inconsistencies concerning the use of differences in songs and calls to rank allopatric species in *Scytalopus*. Andean forms differing principally in their calls (e.g. Páramo Tapaculo *S. opacus* and *S. (o.) androstictus*: Krabbe & Cadena 2010) or which show substantial but incomplete differentiation in songs (e.g. populations of *S. spillmanni*: Donegan & Avendaño 2008) are presently treated as subspecies (or, in the case of *spillmanni*,

monotypic) by most authorities (e.g. Remsen *et al.* 2013). In contrast, some Brazilian taxa have been ranked as species based on differences only in calls and juvenile plumages (e.g. Bornschein *et al.* 2007, Remsen *et al.* 2013). In the case of Brazilian taxa, although morphological differentiation is similar to or less impressive than that between some Andean subspecies, molecular distance is greater. No attempt at a phylogeny for Andean *Scytalopus* has been published since Arctander & Fjeldså (1994), whose taxon sampling, especially for northern Andean populations, was incomplete and based on a now much-revised taxonomy. This complicates the identification of related sympatric species pairs with which comparisons should be made.

Nevertheless, examples exist of Andean species with similar vocal differentiation to that between *rodriguezi* and *yariguiorum*. Donegan & Avendaño (2008) found *S. griseicollis* and the undescribed East Andes population of *S. spillmanni* to have more or less similar vocalisations and to replace one another by habitat and elevation in Serranía de los Yariguíes. They exhibit diagnostic differences in only a single variable in song, among those measured, although differences in the opening notes and in timbre were not studied in detail. In contrast, *S. rodriguezi* populations show two quantitative and one subjective differences in song (Table 2, Figs. 2B–4), although the former narrowly miss our statistical test of diagnosability.

The Tobias *et al.* (2010) test of species rank is another method for ranking allopatric populations. *S. r. yariguiorum* would attain 3 points vis-à-vis *rodriguezi* for biometrics (mass being strongest; but potentially could be scored 4 due to differences being in proportion, not just general size, on account of the similar wing but differing tail size: N. J. Collar *in litt.* 2013), 2 points for voice (2 for frequency, ‘note shape’ potentially scored 3 but subjective), 1–2 for plumage (darker mantle), giving a total of 6–9 points, with 7 being the recommended minimum for species rank, illustrating the borderline status of this case.

However, there are some negative factors against treating *yariguiorum* specifically. First, while there is no measured overlap in voice and the differences are statistically significant and statistically differentiated, the level 5 test of diagnosis was not met for any quantitative vocal variable, perhaps due to sample size. Second, these differences in songs are for two measures of acoustic frequency, which was the most plastic of acoustic variables studied by Donegan & Avendaño (2008) for *Scytalopus* and capable of being influenced by environmental factors in suboscines (Kroodsma 2005, Saranathan *et al.* 2007). Finally, *S. r. yariguiorum* responds to playback of *rodriguezi* (Álvarez *et al.* 2007). This could be an aggressive territorial response, given that suboscine congeners will respond to playback of related species (e.g. Donegan 2012), or could mean that they would not be reproductively isolated in the unlikely event of contact.

S. r. yariguiorum, being a geographically isolated and morphologically diagnosable population, appears to be an ‘incipient species’ (Patten 2010) but whether it should be ranked as a subspecies or species is a question of species concept and approach. Some recently described new bird taxa from the Neotropics which could be considered similar cases have been described as species (e.g. Freitas *et al.* 2012, Lara *et al.* 2012, Seeholzer *et al.* 2012). However, we adopt a more conservative approach to bring the long-overdue naming of *yariguiorum* to conclusion. Its proposed rank here should not be taken as representing any of the authors’ views as to the more appropriate taxonomic treatment.

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Addresses: Thomas M. Donegan, ProAves Foundation, Southmead, The Vale, London N14 6HN, UK, e-mail: tdonegan@proaves.org. Jorge Enrique Avendaño, Programa de Biología y Museo de Historia Natural, Universidad de los Llanos, sede Barcelona, km 12 vía Puerto López, Villavicencio, Colombia, e-mail: jorgeavec@gmail.com. Frank Lambert, e-mail: flambertemail@yahoo.co.uk

Appendix: list of sound-recordings used in vocal analyses.

S. r. rodriguezi.—COLOMBIA. Huila. Songs: Finca Merenberg (02°12'N, 76°06'W; 2,200 m) (XC27394–95 (type specimen of nominate *rodriguezi*, treated as same individual); as previous but two different individuals at 2,235 m (XC27398–99: N. Krabbe); as previous (Álvarez *et al.* 2007 track 34: P. Salaman, treated conservatively as same individual as one of Krabbe's recordings); as previous, 2,320 m (XC102441–12: J. King, treated as same individual). Cordillera de las Minas (02°05'N, 76°02'W; 2,000 m) (XC27397: N. Krabbe). La Argentina, Verena, Quebrada Negra (coordinates unknown; 2,350 m) (XC54841, 55220: P. Flórez). Calls: XC27393 (as XC27394). XC27396 (as 27398, but 2,300 m). XC54842 (as XC54841), XC102441 (as above).

S. r. yariguiorum.—COLOMBIA. Santander, Serranía de los Yariguíes, RNA Reinita Cielo Azul, San Vicente de Chucurí. Songs (XC16701 and two unarchived recordings, all treated as same individual): F. Lambert; XC143847–50, treated as same individual: D. Calderón; eight unarchived recordings, treated as three individuals: D. Willis; Boesman 2012, tracks 1695-1–2, treated as same individual). Calls (XC95396: F. Lambert; Boesman 2012, track 1695–3).

New distributional records from forgotten Banda Sea islands: the birds of Babar, Romang, Sermata, Leti and Kisar, Maluku, Indonesia

by Colin R. Trainor & Philippe Verbelen

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SUMMARY.—Many of the Banda Sea islands, including Babar, Romang, Sermata and Leti, were last surveyed more than 100 years ago. In October–November 2010, birds were surveyed on Romang (14 days), Sermata (eight days), Leti (five days) and Kisar (seven days), and on Babar in August 2009 (ten days) and August 2011 (11 days). Limited unpublished observations from Damar, Moa, Masela (off Babar) and Nyata (off Romang) are also included here. A total of 128 bird species was recorded (85 resident landbirds), with 104 new island records, among them five, 12, 20, four and three additional resident landbirds for Babar, Romang, Sermata, Leti and Kisar, respectively. The high proportion of newly recorded and apparently overlooked resident landbirds on Sermata is puzzling but partly relates to limited historical collecting. Significant records include Ruddy-breasted Crake *Porzana fusca* (Romang), Red-legged Crake *Rallina fasciata* (Sermata), Bonelli's Eagle *Aquila fasciata renschi* (Romang), Elegant Pitta *Pitta elegans vigorsii* (Babar, Romang, Sermata), Timor Stubtail *Urosphena subulata* (Babar, Romang), the first sound-recordings of Kai Cicadabird *Coracina dispar* (Babar?, Romang) and endemic subspecies of Southern Boobook *Ninox boobook cinnamomina* (Babar) and *N. b. moae* (Romang, Sermata?). The first ecological notes were collected for Green Oriole *Oriolus flavocinctus migrator* on Romang, the lowland-dwelling Snowy-browed Flycatcher *Ficedula hyperythra audacis* on Babar, the endemic subspecies of Yellow-throated (Banda) Whistler *Pachycephala macrorhyncha par* on Romang, and Grey Friarbird *Philemon kisserensis* on Kisar and Leti.

The Banda Sea Endemic Bird Area is rich in endemic species with at least 41 restricted-range birds (Stattersfield *et al.* 1998). Babar (Babber), Romang (Roma), Damar, Kisar (Kisser), Leti (Letti), Moa and Lakor, and Sermata (Sermatta) are often referred to as the south-west islands. They lie in one of the most ornithologically neglected regions of South-East Asia; biogeographically, the avifauna is closely linked to Timor. For most islands the only primary information is from historical collections (Finsch 1901, Hartert 1900, 1904, 1906a) with recent avifaunal data only from Damar (Trainor 2002, 2007a,b) and Kisar (Trainor 2003, Trainor & King 2011). Apart from Damar, none of the south-west islands is known to host single-island endemic bird species, but Grey (Kisar) Friarbird *Philemon kisserensis* is endemic to Kisar, Leti and Moa, and there are many endemic subspecies including Banded Fruit Dove *Ptilinopus cinctus lettiensis* and *P. c. ottonis*, Southern Boobook *Ninox boobook moae* and *N. b. cinnamomina*, Little Bronze Cuckoo *Chrysococcyx minutillus rufomerus* and *C. m. salvadorii*, Cinnamon-banded Kingfisher *Todiramphus australasia dammerianus*, Elegant Pitta *Pitta elegans vigorsii*, Green Oriole *Oriolus flavocinctus migrator*, Rufous-sided Gerygone *Gerygone dorsalis fulvescens* and *G. d. kuehni*, Pied Bush Chat *Saxicola caprata cognatus*, Yellow-throated Whistler *Pachycephala macrorhyncha par*, *P. m. compar*, *P. m. dammeriana* and *P. m. sharpei*, Wallacean Whistler *P. arctitorquis kebirensis*, Arafura Fantail *Rhipidura dryas elegantula* and

R. d. reichenowi, Northern Fantail *R. rufiventris hoedti* and Red-chested Flowerpecker *Dicaeum maugei salvadorii*.

The collecting era in the south-west islands ended around 1906, with the exploration of Sermata (Hartert 1911a). The four most important collectors (with their assistants) were J. G. F. Riedel (August 1883: Leti, Moa, Lakor and Babar, and November 1883: Babar, Sermata [no birds known to have been collected], Luang, Leti, Kisar, Romang, Damar), D. S. Hoedt (1863–68: Romang [no birds collected], Kisar, Leti, Damar and Babar), H. Kühn (Romang, Damar, Kisar, Leti, Moa, Babar and Luang) and K. Schädler (Kisar and Babar) (van Steenis-Kruseman 1950, White & Bruce 1986). A major review of collections by Riedel, Hoedt and Schädler was published by Finsch (1901), and nine papers by Hartert (e.g. 1900, 1904, 1906a,b, 1911a–c) on the collections by Kühn and his native or local collectors. Additional bird species collected on these islands may exist in the Leiden or Dresden museums, but most were probably documented in publications by Hartert, Finsch and other authors (M. D. Bruce *in litt.* 2011). These list species and describe differences in bird morphology between the island populations, but there are few ecological data and these are primarily limited to location and date of collection for a small percentage of specimens.

Kühn's local workers visited Babar on c.12 August–29 September 1905 (Hartert 1906a; extreme dates of specimens); Kühn visited Romang on 14 July–20 August 1902 (Hartert 1904; extreme dates). Kühn's local workers visited Sermata ('Sermatta') on c.14–23 June 1906 collecting 114 specimens of 45 bird species (Hartert 1911a). Collecting effort on Babar 'does not seem to be a complete one, as the work ... had suddenly to be terminated, on account of the hostile behaviour of some of the natives' (Hartert 1906a). Effort on Sermata also disappointed Hartert. On Luang Island, adjacent to Sermata, a total of 47 species was previously recorded (Hartert 1906b, 1911c). Hartert (1911a) knew that the number of species on islands was related to land area, and because Sermata is larger than Luang (c.103 km² vs. 5 km²) he could not '...help thinking that an island like Sermata must have more species. There is no *Corvus*, *Pachycephala*, *Myzomela*, or *Dicaeum* in this collection'. Avifaunal composition on Sermata proved most similar to the 'western islands'—the south-west islands then considered to include Wetar, Romang, Luang, Kisar, Leti, Moa and Kisar—and in some cases different from neighbouring Babar, but with no endemic forms (Hartert 1911b). There appears to have been no other ornithological investigation of the island, with one additional bird (Red-tailed Tropicbird *Phaethon rubricauda*) noted in the literature off south-west Sermata (Coates & Bishop 1997).

From the 16th century, the south-west islands formed part of the powerful Sultanate of Makassar, with Makassarese traders (up to 200 boats / *perahu* p.a.) visiting Arnhem Land in northern Australia in c.1720–1920 (Russell 2004) and establishing trading posts in the south-west islands (de Jong 2013). Islands such as Lakor and Luang were important fishing grounds for trepang (de Jong 2013) which was traded to Makassar. Kisar was an important regional harbour, hosted a Dutch fort and was a colonial outpost until c.1940 (de Jonge & van Dijk 1995). Colonial history was dominated by resistance from local islanders, with the last Dutch administrator of the south-west islands fleeing Kisar during 1810–17, after which the position was abolished (de Jong 2013).

PV visited Babar for ten days on 17–26 August 2009. CRT visited Romang (and the associated islet of Nyata), Sermata, Leti and Kisar in 2010, and Babar in 2011, with the aim of improving knowledge (avifaunal composition, habitat use, vocalisations and taxonomic status) of the avifauna, especially landbirds, in this remote corner of Indonesia. CRT transited several islands en route to Damar in August–September 2001 (Kisar, Leti, Moa and Masela off Babar), and during a visit to Wetar in 2008 (Leti and Damar) with some additional records from these periods included here. In September 2008, B. F. King visited

Kisar en route to Wetar and his records are also noted here. A Birdtour Asia party visited Leti and Babar in October 2011 (Eaton & Hutchinson 2011), from which some photographs, videos and sound-recordings have been archived at the Internet Bird Collection (IBC: <http://ibc.lynxeds.com>).

Study area and Methods

The name 'south-west' (Moluccan) islands is confusing because of their location in southern Maluku, but this terminology is used in modern-day Indonesia (the administrative district of 'Maluku Barat Daya' or south-west Maluku), historically in Dutch ('Zuid Wester Eilanden') and German ('Südwest Inseln', e.g. Finsch 1901).

Babar Island (620 km², 835 m elevation) is a limestone Outer Arc island 71 km north-east of Sermata and 132 km west of the Tanimbar Islands. Five satellite islands (Dai, Wetan, Masela, Dawera and Daweloor) cover an additional c.200 km². Romang (184 km², 747 m) is volcanic and lies in the Inner Banda Arc. It is one of the most isolated islands in the Banda Sea and lies 55 km east of Wetar, 66 km north-west of Leti and Moa, 78 km north-east of Timor and 122 km south-east of Damar (Fig. 1). At least seven satellite islands cover c.21 km². The largest are Moapora (c.14 km², 257 m) and Nyata (c.4 km², 277 m) (Fig. 1). Romang is dominated by two roughly circular peninsulas that comprise uplifted volcanic calderas that mineralised underwater. The southern peninsula consists of gently undulating land at 200–350 m (including uplifted coralline limestone), while the larger northern peninsula has many steep-sided hills above 500 m of which Mount Taur is the highest. Tropical evergreen forest dominates (c.80% of the island), but extensive areas near villages and much of the southern peninsula have been converted to swidden agriculture, now in various stages of regeneration. Patches of *Eucalyptus alba* woodland (c.10–15%) with a tall-grass understorey typically occur on ridges.

Sermata (c.105 km², 340 m), Leti (c.100 km², 370 m) and Kisar (117 km², 270 m) are Outer Banda Arc islands dominated by Quaternary limestone plains. On Sermata and Leti low-grade metamorphic rocks including various schists and metachert dominate the central inland hills. All three islands were raised above sea level by the collision of the Australasian and Eurasian continental plates. Sermata is 2.9 km east of the large atoll complex comprising Luang Island and Kelapa Island (c.4 km²), as well as extensive reef and sand spits (Fig. 1). Sermata is 167 km south-east of Romang and 117 km east of Leti. Leti lies 38 km east of Timor and 42 km south-east of Kisar. Leti is weakly isolated (<10 km) from Moa and Lakor, and together these are known locally as the 'Leti Islands'.

Original vegetation on Sermata would have comprised tropical forest with small patches of Lontar palm *Borassus flabellifer* savanna woodland on coasts and ridges, but most of the narrow (<300 m wide) coastal plain on Sermata has been converted to garden plots and coconuts. Inland areas are dominated by secondary tropical evergreen forest (to 40 m tall), with occasional gardens and coconut plantations. The coastal lowlands of Leti mostly comprise gardens and savanna woodland dominated by Lontar palm and *Eucalyptus alba*, with tropical forest in gullies and on hills in the island's central spine. Kisar is dominated by savanna woodland and gardens, with some larger forest trees in the valleys, but no forest patches greater than 2–5 ha remain.

PV visited Babar on 17–26 August 2009 exploring within a 10-km radius of Tapa on the west coast. CRT accessed Babar by *perintis* boat from Saumlaki, in the Tanimbar Islands, and surveyed birds within 5 km of Tapa (7–8 and 14–17 August) and Letwurung village on the east coast (9–14 August). Around Tapa, birds were surveyed in secondary coastal forest, beaches, mangroves, a river estuary (*air besar*), *Melaleuca* woodland, Lontar palm savanna and gardens. At Letwurung, CRT walked a river valley (*air besar*) c.10 km to the

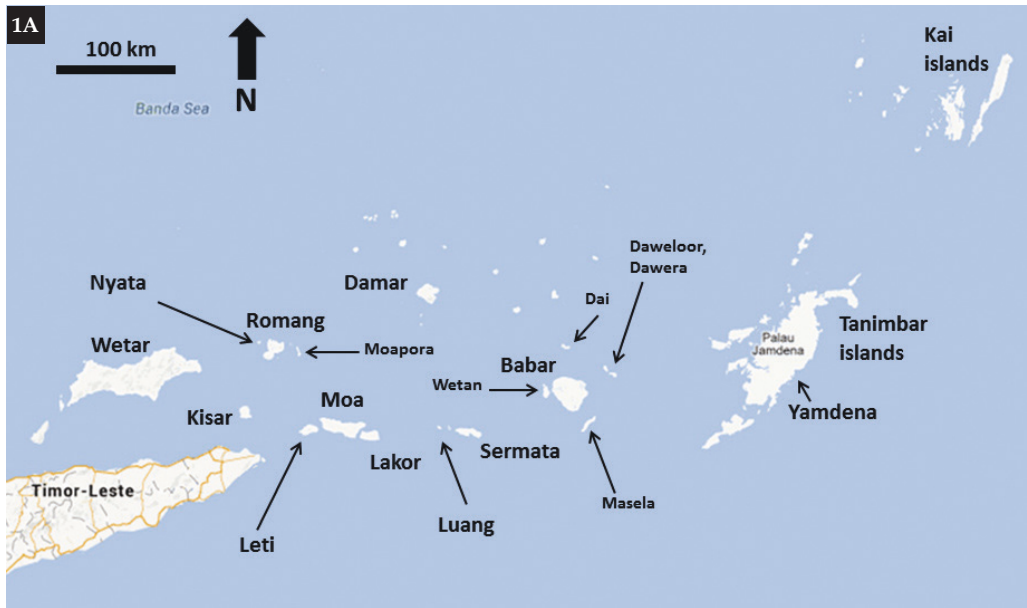
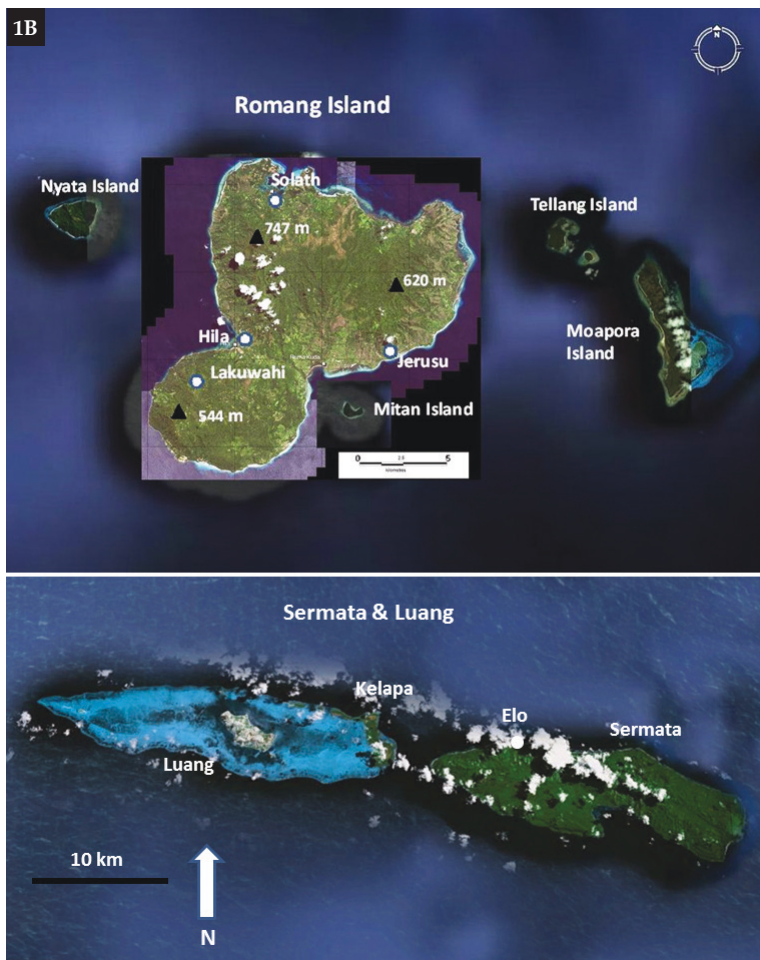


Figure 1A. Regional map of islands mentioned in the text; (B) Satellite map views of the complex island groups of Romang and associated islands (scale bar = 5 km), and Sermata, Luang and associated islands (scale bar = 10 km) (© Google Maps).



north-west and camped at 'Liliana' for two nights (9–11 August). The camp was at 240 m in a teak *Tectona grandis* plantation, within a landscape of extensive secondary and primary evergreen forest (up to 30 m tall) at 200–700 m. Beaches, gardens and two brackish lakes were also surveyed around Letwuring.

CRT used Kisar as a base over a two-month period and travelled to Romang by boat. Romang was surveyed on 13–26 October 2010, mostly within 5 km of the main village of Hila (Fig. 1b). Included was coastal lowland habitat (13–14 and 18–19 October; to 100 m elevation), mixed vegetable gardens, *Eucalyptus alba* woodland and primary evergreen forest (to 40 m tall) on the lower slopes of Mount Taur (15–18 October; to 550 m), and gardens, *E. alba* woodland and secondary evergreen forest (up to 25 m tall) at Lakuwahi (20–26 October; to 320 m). Nyata Island was visited late on 20 October with only *c.*2 hours along the coast before nightfall and at dawn on the following day.

Sermata was accessed on the *KM Bandaneira* (en route landing at Leti, Moa, Lakor and sailing past Metimeriang, Luang and Kelapa). Birds were surveyed mostly within a 3-km radius of the village of Elo in the north-west, on 1–9 November 2010. Habitats visited were village, coastal and inland gardens, coastal shrubland and strand, tropical dry forest on the coast and tropical evergreen forest at 60–200 m. CRT travelled to Leti on 10 November and spent five days (10–14 November 2010) within *c.*3 km of the main towns of Tombra and Serwaru, mostly in village, savanna woodlands and secondary forest. CRT contracted malaria on Sermata and was hospitalised on Leti, which reduced effective survey effort to *c.*2 days and nights, before returning to Kisar on 15 November by boat. He spent *c.*7 days on Kisar (11–12 October, 27–29 October and 16–17 November 2010) mostly around the airport and a nearby forested valley, in Wonreli town and a well-forested valley east of Wonreli.

To support identifications, and descriptions, we took photographs using a Canon 40D (PV) or 7D (CRT) digital camera with a Canon 100–400 mm lens. Photographs will be uploaded to the IBC. Sound-recordings were made with Olympus LS-10 (CRT) and Sony Minidisk Walkman (PV) recorders, and ME-66 Sennheiser directional microphones. Sonograms were prepared using Raven Lite 1.0 (www.birds.cornell.edu). Accession numbers for sound-recordings uploaded to the Avian Vocalisations Centre (<http://avocet.zoology.msu.edu>) are cited as AV0000 and those uploaded to www.xeno-canto.org are cited as XC000000. Taxonomy and nomenclature follow Gill & Donsker (2013).

Climatically, the survey period (in 2009–10) coincided with the transition from the late dry to early wet season, but because of a particularly notable La Niña event there was substantial unseasonal rainfall (in 2010) on all islands, including arid Kisar. Babar probably has moderate rainfall (1,500–2,000 mm / p.a.), Romang and Sermata are high rainfall areas (>2,000 mm / p.a.), but Leti and Kisar are typically dry (900–1,400 mm / p.a.). The 2011 visit was during the middle of the dry season with typically dry and fine conditions.

Species accounts

A total of 127 bird species (85 resident landbirds) was recorded on Babar, Masela, Romang, Sermata, Leti, Kisar, Moa and Damar, including 104 new island records (46 of them resident landbirds; Table 1). Although Sermata was relatively well surveyed, ten previously listed resident landbirds went unrecorded, but a further 20 resident landbirds were added to the island list. Ecological notes are presented for 58 bird species below, and brief notes appear in Appendix for the other 70 species recorded. Seventeen species were recorded during a brief visit to Damar, near Wulur village, in September 2008 (three new island records), six species on Moa Island (one new island record) in 2001 and two species on Masela (both new) in 2001 (see Appendix 1). One provisional record is included in square brackets.

TABLE 1

Bird composition on islands visited including the total number of species recorded during the survey, the number of species unrecorded since the collecting era and (in parentheses) the number of new island records.

Groups	Babar	Romang	Sermata	Leti	Kisar
Total	76/23(18)	68/16(24)	52/28(32)	44/31(15)	43/12(9)
No. resident landbirds	45/6(5)	51/6(12)	36/10(20)	30/10(5)	32/6 (3)
No. resident waterbirds	4/2(1)	6/2(4)	6/2 (3)	2/2(1)	2/2(1)
No. migrants / visitors	9/15(12)	11/9(8)	11/15(9)	12/19(9)	9/5(5)
No. other migrants / visitors	0/4(7)	5/3(4)	4/3 (4)	6/4(5)	3/3(3)
No. shorebird visitors	6/6(5)	5/2(4)	6/6(4)	4/11(2)	2/0(0)
No. Australian visitors	3/5(0)	1/4(0)	1/6(1)	2/4(2)	4/2(2)

AUSTRALASIAN GREBE *Tachybaptus novaehollandiae*

Sermata Adult photographed on a pond near Elo at 120 m on 4 October 2010. **Leti** Adult with four stripe-headed chicks photographed on a small (0.5-ha) pond at 110 m on 13 October 2010. Small numbers in much of Wallacea (Kai, Tanimbar, Timor, Alor, Roti, Flores, Ternate, Sangihe and Talaud) except Sulawesi. Breeding records from Java and Timor generally considered as vagrants, rather than reflecting presence of tiny resident populations (White & Bruce 1986). Our records are significant because of the regional dominance of Tricoloured Grebe *T. tricolor* (e.g. flocks of >80 on Timor). Six *T. tricolor* were seen on Babar (Appendix 1). Published records of Australasian Grebe for Bali, Alor and Flores all involve singles (Mees 2006) and the breeding records on Timor (Trainor 2005a) and now Leti, refer to single adults with chicks. Two adults and a juvenile were on Ambon on 17 November 2012 (Robson 2013). Two recent records of larger groups: in June 2009, 37 were at Ujung Pangka, East Java, including one on eggs and another adult with two young (van Balen *et al.* 2011), and at least five active nests and 20–30 birds on Ternate, May 2012 (van Balen *et al.* 2013).

VARIABLE GOSHAWK *Accipiter hiogaster polionotus*

Babar Relatively common with 1–3 observed daily, being sound-recorded (XC138363, 18364) and photographed near Tepa and Letwurung (PV & CRT). Commonest in coconut groves and degraded agricultural areas, with unconfirmed vocal records (possibly Brown Goshawk *A. fasciatus*, which is known from the island) in secondary forest to 300 m. Recorded at most sites on Damar (Trainor 2007b), moderately common on Tanimbar (Bishop & Brickle 1998) but possibly absent from Romang and Sermata.

BROWN GOSHAWK *Accipiter fasciatus wallacii*

Romang Immature in secondary forest at *c.*300 m, photographed and sound-recorded, is the first Romang record. The call was a low-pitched (1,600–2,600 Hz) bout of 10–15 nasal (tonally complex) *hi-hi...* notes, with bouts given *c.*10 seconds apart (XC138953). Another goshawk seen in flight over Hila village was seen too briefly for positive identification. *A. f. wallacii* occurs from Lombok to Wetar, Moa, Leti, Sermata, Babar and Damar (White & Bruce 1986). Although collected on Babar, Leti and Sermata, there were no confirmed

records in 2009–11, and it appears to be relatively rare in the region. Only one or two recent Wetar records (Trainor *et al.* 2009) but frequent on Damar (Trainor 2007b).

BONELLI'S EAGLE *Aquila fasciata renschi*

Romang Singles photographed in flight at the mine camp and in *Eucalyptus* woodland below Mount Taur. **Sermata** One photographed at Elo village on 6 November 2010. The Lesser Sunda endemic *A. f. renschi* was collected on neighbouring Luang (Hartert 1906b) and occurs from Lombok to Yamdena (Trainor *et al.* 2013); the Romang and Sermata records fill important distributional gaps. *A. f. renschi* is isolated from the nearest resident population (Vietnam) by c.2,500 km and is typically one of the commonest large raptors resident in the Lesser Sundas (Trainor *et al.* 2013).

BROWN QUAIL *Coturnix ypsilophora raaltenii*

Romang One heard (*berip*) once in regenerating garden, while a single egg (28.0 × 22.5 mm) was found on the ground at the Lakuwahi mine camp on 25 October 2010. It was identical to published photographs of the species' eggs (Johnstone & Storr 1998; R. Johnstone *in litt.* 2011). **Kisar** Heard a few times in open savanna near the airport on 12 October 2010. **Leti** One heard once in grassy savanna. Widespread in the Lesser Sundas and expected for Romang. Historically, collected on Kisar, Moa, Leti, Luang and Tanimbar (Coates & Bishop 1997). On Kisar, villagers considered the species abundant, with quail eggs regularly sold in markets and to restaurants in Wonreli.

MALAYSIAN PLOVER *Charadrius peronii*

Romang Two pairs seen and one male photographed with white hindneck collar (thereby excluding Red-capped Plover *C. ruficapillus*) on Nyata Island on 20 October 2010. **Kisar** A pair photographed (white hindneck collar and male with black patch below hindneck collar) on the beach east of the airport on 12 October 2010. This Near Threatened beach-dwelling plover is widespread through western Indonesia and the Lesser Sundas to Alor and Timor, being frequent in Timor-Leste (Trainor 2005a, 2011), and these two new island records marks the species' south-easternmost limits.

RUDDY-BREASTED CRAKE *Porzana fusca*

Romang Incidentally sound-recorded before dawn in evergreen forest at 300 m on 18 October 2010, and at 17.50 h in secondary forest. The call is a rapid low-pitched trill over five seconds (XC137915, 137913). The same call type was heard at dusk on Nyata Island on 20 October 2010. Compared to Red-legged Crake *Rallina fasciata*, the trill is faster, higher pitched, somewhat wavering, and not usually preceded by introductory notes (e.g. XC138533; B. van Balen *in litt.* 2013). Rails are poorly known in Wallacea, with knowledge of vocalisations slowly improving via sound depositories such as www.xeno-canto.org. *P. fusca* occurs on Sulawesi, Flores and Sumba (Coates & Bishop 1997), with recent new records from Timor (Trainor 2011) and Alor (XC105146; J. Hornbuckle *in litt.* 2013).

RED-LEGGED CRAKE *Rallina fasciata*

Sermata A rail sound-recorded (XC138533) at and after dusk, but not seen, in shrubby gardens behind the beach was subsequently identified as this species on the basis of recordings at www.xeno-canto.org. The call commences with a brief introductory *e-yeck* followed by a rapid low-pitched trill (1,040–2,500 Hz) comprising c.30 notes over 3.3 seconds that descends from an initial high of 2,500 Hz to 1,780 Hz, and is identical to recordings made on Romang. *R. fasciata* is poorly known in Wallacea. It was recently found

to be a breeding visitor to West Timor (Dymond 2010, Trainor 2011) and otherwise is known from Lombok, Sumbawa, Flores, Alor and Kisar in the Lesser Sundas (White & Bruce 1986). Recordings from Singapore and Kalimantan (www.xeno-canto.com) are similar to that made on Sermata, but differ from the *go-go...* notes of birds described for Flores (Schmutz 1977, Hutchinson *et al.* 2006). Taylor & van Perlo (1998) stated that Red-legged Crake and Ruddy-breasted Crake *P. fusca* have similar vocalisations. The recent Timor records confirm that Red-legged Crake does breed in the Lesser Sundas, and presumably the records for Romang, Nyata and Sermata are of wet-season visitors, suggesting that it occurs more frequently than suspected. Two records of vagrants to Australia in late May and July (Christidis & Boles 2008).

[PALE-VENTED BUSH-HEN *Amaurornis moluccana*]

Sermata Contact notes (XC137917–918) initially presumed to be of White-breasted Waterhen *A. phoenicurus* were a low-pitched (900–1,400 Hz) and persistent single *duk, duk...* repeated for minutes at night, perhaps sometimes for hours. They differ from alarm notes (strong *ook* at 700–1,600 Hz) of White-breasted Waterhen sound-recorded on Lembata (XC102911–912) and to alarm notes reported for Red-legged Crake on Timor (Dymond 2010). They also differ from contact notes of Ruddy-breasted and Red-legged Crakes (www.xeno-canto.com). The vocalisations best match the persistent calls of Pale-vented Bush-hen in eastern Australia (L. Neilson & M. Cachard *in litt.* 2013) and Wallacea (R. Hutchinson & J. Eaton *in litt.* 2013). In Wallacea, widespread on Sulawesi and in the Maluku region with recent records on Tanimbar and Kai, and co-occurs with *A. phoenicurus* on Talaud and Taliabu (Coates & Bishop 1997, Taylor & van Perlo 1998).

WHITE-BREASTED WATERHEN *Amaurornis phoenicurus leucomelana*

Romang Frequently heard giving a monotonous cluck or raucous squabbling calls in secondary and primary forests, and the edge of gardens, to at least 400 m, and also recorded on Nyata Island (XC137916). On Romang one was photographed by a spring in the late afternoon. **Sermata** Heard at dusk and shortly afterwards on most evenings in gardens, forest edge and shrubland, with sound-recordings of the raucous squabbling given by 2+ birds (XC138531–532). Initially, it was assumed that a trill was also produced by White-breasted Waterhen, but this was subsequently identified as Red-legged Crake (above). The species appears to be absent from the dry island of Kisar. Subspecific variation clarified by Hartert (1904): Sulawesi and west Nusa Tenggara populations up to Sumbawa were included in *A. p. phoenicurus*, with *A. p. leucomelana* listed for Flores, Timor, Wetar, Romang and Tukangbesi. On Romang, six specimens including a juvenile were collected (Hartert 1904). Our Sermata record is the south-easternmost. No rails were confirmed during our visits to Babar, where White-breasted and Pale-vented Bush-hens might be expected (although calls probably attributable to an *Amaurornis* were heard by PV). White-breasted Waterhen has been collected on Damar, but was not recorded during the recent dry-season visit (Trainor 2007b).

METALLIC PIGEON *Columba vitiensis metallica*

Babar A few heard calling (deep *woo-ahh* double notes, similar to Timor recordings: AV8866) above Liliana at 550 m, but none observed. **Romang** Singles flushed at the edge of secondary forest overlooking gardens at c.300 m, and one photographed in the canopy. Distributed from Lombok to Moa, Damar and Babar, the Romang record fills a gap in the species' range. None observed on Sermata or Leti, but presumably present on both; local people stated that they occasionally saw 'black' pigeons in forest on Leti Island.

BAR-NECKED CUCKOO-DOVE *Macropygia magna magna*

Romang One of the commonest pigeons on the island, the characteristic three-note call of *M. m. magna* was heard regularly and sound-recorded in secondary and primary forests and old gardens, and one was photographed. Also heard on Nyata Island. An undescribed two-note call (XC139671–672) was recorded at c.430 m in evergreen forest. It commences with an upslurred note increasing in intensity, a pause of c.0.5 seconds before a quieter, low-pitched *waruk-woo*, similar to the first part of the three-noted *warack woo-woo* call but with substantially less energy. This call is dissimilar to the two-note call given by *M. m. timorlaeensis* (XC37868) of Tanimbar. The most common vocalisation was a three-note call (XC139675, 137677) typical of *M. m. magna*, at 600–1,000 Hz and similar to but less energised than Timor birds (e.g. XC32991). Common in forest on most islands including Timor, Alor, Atauro and Wetar (Trainor & Soares 2004, Trainor *et al.* 2008, 2009). Surprisingly, none was heard or seen on Sermata, although an adult was collected there historically (Hartert 1911a), or on Kisar or Leti. Any Kisar population might have been extirpated, as the recent visit covered parts of the best remaining forest, and it was not seen in 2001 (Trainor 2003) or 2008 (B. F. King *in litt.* 2009). Differences in vocalisations among the subspecies suggest that at least three species might be recognised within this complex (Eaton & Hutchinson 2011). The absence of this dove on Babar is notable.

BANDED FRUIT DOVE *Ptilinopus cinctus*

Babar (*ottonis*) Frequently heard in primary and secondary forest near Tapa (PV) and at Liliana up to 400 m (CRT). **Romang** (*cinctus*) Common in primary and secondary forest at 0–550 m. Nest with one egg photographed at 450 m. The nest was 4 m above ground in a *Myristica* sp. tree and comprised c.40 thin twigs (c.2–3 mm wide). A second nest was found nearby, and courtship behaviour by adult birds (noisily chasing each other through the canopy) seen on several occasions. A squab in pin was found on the ground by local people near the mine camp on 22 October 2010. Song is a low-pitched (230–430 Hz) *woo* (XC139670, 139698), as described on Timor (Coates & Bishop 1997). **Sermata** (*lettiensis*) Regularly heard in forest and at edges. A flock of >30 observed flying into a fruiting tree at the edge of evergreen forest, and one photographed nearby. Common throughout much of its range (Coates & Bishop 1997), including on Romang, Sermata and Damar (Trainor 2007b). Some 30 specimens were collected by Kühn on Romang (Hartert 1904). *P. c. lettiensis* of Leti, Moa, Luang and Teun appears weakly differentiated from other forms, having the ‘tail tip whiter and broader’ (White & Bruce 1986), but also has a substantially broader black breast-band than *P. c. cinctus* on Romang (Fig. 2a–c). *P. c. otonis* of Babar, Damar and Nila also appears weakly differentiated from other forms, and vocalisations on Babar and Damar are almost identical, a slow low-pitched *woo* at 180–450 Hz (XC140167). A recording from Damar appears to be a duet between a pair, with one bird’s calls at slightly higher frequency (200–500 Hz: XC66901). *P. c. lettiensis* on Sermata also gives a slow *wu* repeated at c.1-second intervals, like other subspecies (Coates & Bishop 1997).

ROSE-CROWNED FRUIT DOVE *Ptilinopus regina*

Babar (*xanthogaster*) Widespread and frequently heard (XC138366) in secondary and primary forest up to c.650 m above Liliana, and occasionally seen and photographed (PV & CRT). **Romang** (*roseipileum*) Frequently heard in secondary forest and garden edge at Lakuwahi, and heard on Nyata Island, but unrecorded below Mount Taur. Call a series of accelerating slurred *woo* notes (XC140168) that varies little between different subspecies, or islands. Low-pitched (400–600 Hz) ‘seesaw notes’ (XC139697) given in contact, as described by Coates & Bishop (1997). **Sermata** (*xanthogaster*) One photographed in scrub behind the



Figure 2. Banded Fruit Dove *Ptilinopus cinctus* is represented by three subspecies in the south-west islands: (A) *P. c. cinctus* of Romang has narrow white tail tip and thin black breast-band; (B) *P. c. lettiensis* of Sermata has extensive white tip to tail and broad black breast-band; and (C) *P. c. ottonis* on Babar has indistinct tail pattern (Colin R. Trainor)

Figure 3. Two subspecies of Rose-crowned Fruit Dove *Ptilinopus regina* occur in the south-west islands: (A) male *P. r. xanthogaster* on Sermata has pale grey head (puffed-up after heavy rain); (B) male *P. r. roseipileum* on Romang has white forehead and blackish rather than green primaries; and (C) first-year female *P. r. xanthogaster* from Tapa, Babar, with grey cap, but green head- and neck-sides, and scalloped coverts (Colin R. Trainor)

beach and one seen flying over, with a few voice-only records (similar to calls on Romang). **Leti** One in Tombra village, but not heard, on 13 November 2010. **Kisar** One in flight and heard calling three or four times. Common in lowland habitats in the Lesser Sundas and Banda Sea islands, except on Flores, where there is just one recent record (Lesmana *et al.* 2000). *P. r. roseipileum* (Romang, Moa, Leti, Kisar, East Timor and Wetar) differs little from *P. r. xanthogaster* (Fig. 3a–c) (Damar, Kai, Tanimbar, Babar and Luang) and all of the subspecies appear to differ little in vocalisations. Johnstone (1981) proposed to unite *flavicollis* (Flores,

Sawu, Roti, Semau and West Timor) and *roseipileum* with *ewingii* (of Western Australia and Northern Territory, Australia) mostly because of perceived overlap in crown colour. However, on Timor *flavicollis* (mostly in West) and *roseipileum* (in East Timor) have strikingly different crown colours, and these may be species-level taxa.

ELEGANT IMPERIAL PIGEON *Ducula concinna*

Babar Common in primary and secondary forest at Liliana to c.650 m, and occasional in degraded secondary forest near Tapa (PV & CRT); several shot by hunters (PV). **Damar** Two heard near Wulur on 24 September 2008. **Romang** Abundant in primary forest at 200–550 m below Mount Taur, but more local and less common in secondary forest on the southern peninsula. Call a raucous *urauw* at 800–1,400 Hz, over 0.8 seconds, often preceded by a rapid single or repeated *buk* note that carries hundreds of metres in forest. **Sermata** Small numbers in tall evergreen forest at 100–200 m, but absent from secondary forest near the coast. Widespread in the Banda Sea region including on Moa, Romang, Babar and Damar, Teun, Kai and Tanimbar (White & Bruce 1986) and was expected on Sermata. Heavily hunted on Damar impacting populations close to villages at least (Trainor 2007b). None recorded on Leti, but could be present in better quality forest that was not visited.

PINK-HEADED IMPERIAL PIGEON *Ducula rosacea*

Babar Uncommon, with singles or small groups occasionally heard in primary forest around Liliana at 200–400 m, but none recorded in coastal gardens or secondary forest. **Romang** Noted on the coast on 13 August 2001; in 2010 this small-island pigeon was common at 0–550 m in primary and secondary forest, and at edge of gardens, and heard in forest on Nyata Island. **Sermata** Fairly frequent at the edge of secondary forest with c.10 heard per day and two photographed in evergreen forest at 150 m. This Near Threatened pigeon is much sought-after by hunters, but is common in forest in Timor-Leste (heavily hunted in the West), abundant on Wetar and Damar (Trainor 2007b, Trainor *et al.* 2009) and some other islands in the Banda Sea visited recently (Bishop & Brickle 1998). It was collected on Kisar (Hartert 1904) and recorded again in 2001, but not in 2008 (B. F. King *in litt.* 2009) or 2010, perhaps suggesting a decline, or that the species only visits the island. Status on Babar unclear, but might have been heavily impacted by hunting.

MARIGOLD LORIKEET *Trichoglossus capistratus flavotectus*

Romang Apparently uncommon, with only a few sightings of pairs or threes flying past camp at 320 m, and over primary forest at 490 m. A few calling in secondary forest near the mine camp on 24 October: a series of high-pitched, harsh shrieks, typical of the Rainbow Lorikeet *T. haematodus* superspecies and at similar frequency to Olive-headed Lorikeet *T. euteles*. On Wetar *T. c. flavotectus* is common (Trainor *et al.* 2009), but there is no recent information on Red-collared Lorikeet *T. rubritorquis* (recognised at species level by Gill & Donsker 2013), of which a specimen is available from Romang and two from Kisar (Hartert 1904, Coates & Bishop 1997). *T. rubritorquis* occurs naturally in northern Australia and its presence in the south-west islands perhaps reflects trade during Makassar–Aboriginal interactions (*cf.* Russell 2004). Twenty-seven specimens of *T. c. flavotectus* were collected on Romang by Kühn (Hartert 1904) perhaps indicating that it was formerly more common.

OLIVE-HEADED LORIKEET *Trichoglossus euteles*

Babar Uncommon with small numbers (groups of 1–5) heard most days, feeding in coastal *Casuarina* sp. and *Erythrina variegata*, and seen occasionally over gardens and secondary forest (PV & CRT). **Romang** Frequently heard and seen in pairs or small flocks of up to ten,

in all habitats including *Eucalyptus* woodland, flying over villages, primary and secondary forest, at 0–550 m. **Sermata** Common in pairs and threes in all habitats including village, and regularly seen feeding in coconut palms up to 150 m. **Leti** Common with birds visiting the main villages to access Lontar palm flowers, usually as singles, pairs or threes. **Damar** Two perched in mangrove and heard *c.*6 times in three hours, flying over the village. Regionally, known from Wetar, Timor, Kisar, Luang, Leti, Babar, Romang and Damar (White & Bruce 1986) and was expected for Sermata. Common on most islands except Kisar, where none recorded in 2001 and 2010, but one was seen in 2008 (B. F. King *in litt.* 2009). Possibly occasionally visits Kisar from neighbouring islands, as there appears to be no resident population (Trainor 2003).

BLUE-STREAKED LORY *Eos reticulata*

Babar Uncommon, with a few vocal-only records of 2–3 birds overflying tropical forest at Liliana (XC144149). Uncommon on Damar (Trainor 2007) but relatively common on the Tanimbar Islands (Bishop & Brickle 1998) and presumably declining due to the cagebird trade, although recent broad-scale data are unavailable. Introduced historically to the Kai Islands, where only two recent records, of one and two birds (Johnstone & van Balen 2013).

GREAT-BILLED PARROT *Tanygnathus megalorhynchos subaffinis*

Babar Single heard in flight over tropical forest near Liliana at 300 m on 11 August 2010. Seven collected near Tapa by Kühn (Hartert 1906a). Restricted to Babar and the Tanimbar Islands. On Yamdena, also apparently uncommon, with ones or twos heard overflying semi-evergreen forest, day and night (Bishop & Brickle 1998). One of the most localised resident landbirds in the Lesser Sundas, with few recent records from Timor or Flores, perhaps due to loss of *Canarium*-dominated coastal swamp forest and captures for the cagebird trade (Butchart *et al.* 1996, Coates & Bishop 1997). A population of *c.*1,500 birds was estimated on Sumba, where it is the least abundant parrot on the island (Linsley *et al.* 1998).

LITTLE BRONZE CUCKOO *Chrysococcyx minutillus*

Babar (*minutillus* & *salvadorii*?) Moderately common in coastal mixed gardens and secondary forest at Tapa (PV & CRT), and frequent in evergreen forest at Liliana. **Romang** Frequently heard in regenerating gardens, primary and secondary forest, at 0–550 m, and on Nyata Island. Those observed were *C. m. minutillus* (*cf.* Erritzøe *et al.* 2012: 372). A long trill of 3.5 seconds, starting at 3,070 Hz, rising to 3,400 Hz, then accelerating down to 2,900 Hz (XC139669, 139694) recorded on Romang was almost identical in length and pitch to recordings of *C. m. rufomerus* from Damar (Trainor 2007b). The whistled song of *kiri* notes (XC139665, 139667, 139693), with or without a gargled terminus, was similar to that recorded on Damar (XC66889, 66907; Trainor 2007b). **Sermata** The *c.*3-second descending trill and *kiri kiri* song was heard seven times over three or four days, but was not sound-recorded, although they sounded similar to calls heard on Romang, Damar and Kisar. At least two were heard adjacent to coastal gardens on 5 November 2010, but none was seen. Only *C. m. rufomerus* has been collected on Sermata. **Leti** The long trill was heard in Serwaru village on 25 September 2008, and heard (once) in open savanna woodland on 13 November 2010. Both *C. m. minutillus* and *C. m. rufomerus* have been collected on Leti. **Kisar** The long trill was sound-recorded (XC138464) and a series of three notes recorded near the airport on 12 October 2010, but none was seen. The trill was of similar pitch and length (3.3 seconds) to recordings from Romang. Only *C. m. rufomerus* has been collected on Kisar.

Taxonomy of Banda Sea forms, including the distinctive *C. m. salvadorii*, unclear. Based on vocalisations, *C. m. rufomerus* on Damar was included within Little Bronze Cuckoo

(Trainor 2007b), rather than as a distinct species (Coates & Bishop 1997). There appear to be at most minor vocal differences between the various forms on Timor, Wetar and the south-west islands. Erritzøe *et al.* (2012), and Gill & Donsker (2013) retained *rufomerus* and *crassirostris* (Babar, Tanimbar, Kai and Maluku) as subspecies of *minutillus*. Further work on the genetics of these forms is required, as well as improved vocal sampling throughout the islands. Only *C. m. salvadorii* previously known on Babar, but none observed by us, and typical *C. m. minutillus* (previously unrecorded there) photographed during the Birdtour Asia visit (<http://ibc.lynxeds.com>).

LESSER COUCAL *Centropus bengalensis sarasinorum*

Babar Heard once briefly in gardens south of Letwuring and once in secondary forest south of Tepa. **Romang** Frequently heard in *Eucalyptus alba* woodland with a grassy understorey and in shrubby regenerating gardens. Six juveniles collected in July–August 1902 (Hartert 1906a). **Sermata** Although not previously recorded, frequently heard in shrubland adjacent to gardens near the coast, and in garden mosaics at the edge of evergreen forest to 200 m. A fledgling and heavily moulting adult were photographed near Elo village. Call a typical accelerating series of low-pitched (*c.* 1,000 Hz) *tek, tuk, buk* or *toto* notes (XC138524, 138526) as described for Sulawesi (Coates & Bishop 1997). **Kisar** Occasionally heard in grassy savanna and at Wonreli town. **Leti** Heard in grassy savanna and secondary regrowth. One of the most widespread birds in the Lesser Sundas, with exceptional colonising abilities (Trainor 2010) and was expected for Sermata and Babar, near the south-east limits (Yamdena) of its distribution (Coates & Bishop 1997).

EASTERN BARN OWL *Tyto delicatula delicatula*

Babar Seen and frequently heard (AV9066) in woodland near Tepa (PV). **Romang** Drawn-out shrieks heard frequently after dusk and before dawn, with a few recordings (XC138614–615). The silhouette of one flying *c.* 40 m above ground seen over a garden surrounded by primary forest at 320 m. **Sermata** Heard most nights (XC138613). Common in gardens and evergreen tropical forest, with up to three audible simultaneously. Screeches similar on Romang and Sermata, low-pitched (1,600–3,160 Hz) lasting 0.7–0.8 seconds with 0.6–2.1 seconds between notes. Widespread in the Lesser Sundas including on Wetar, Kisar, Damar (Coates & Bishop 1997, Trainor 2007b) and the Flores Sea islands, these three new island records help to define its regional distribution. In the absence of masked owls *Tyto* spp. (except Tanimbar), apparently common in a variety of habitats on the Lesser Sundas including tropical evergreen forest and mangroves (Trainor 2007b, Trainor *et al.* 2012; F. R. Rheindt *in litt.* 2007). On Kisar, they roost and breed on coastal cliffs and overhangs (Hartert 1904) but none was recorded in 2008 (B. F. King *in litt.* 2009) or during limited nocturnal observations in 2010.

SOUTHERN BOOBOOK *Ninox boobook*

Babar (*cinnamomina*) Several heard and photographed (Fig. 4) in woodland near Tepa (PV), forest at Liliana (CRT) and a juvenile begging in woodland near *air besar* (PV). **Romang** (*moae*) Widespread at 0–400 m at the edge of gardens, primary and secondary forests, and according to local people occasionally in Hila village. Small increase in rate of vocalisations after dusk, but generally called irregularly until 01.00 h, typically for brief periods of 2–5 minutes. The local name ‘cuck-oo’ describes the call—two level notes over 0.65 seconds. No duets heard, though up to two or three birds called simultaneously or in turn. **Sermata** (*cf. moae*) First island records from gardens and edge of tropical forest, where it called each night after dusk until at least 23.00 h. Call comprises either two or four throaty *cook* and

cuck coo notes, similar to those of Sunda Cuckoo *Cuculus lepidus*. Song places Sermata birds within, or close to, subspecies *moae*. **Leti** (*moae*) At least one heard at the edge of Serwaru village at 03.00 h on 10 November 2010, and sound-recorded on 14 November. Well known to local people and presumably common (PV). Call a two-note *wo-hoo* at 600–760 Hz (or sometimes a pair of double notes), the first note an overslur, rising to 760 Hz then falling and the second level at 670 Hz.

Southern Boobook is widespread in the central Lesser Sundas including Alor (*plesseni*), Roti (*rotiensis*), Timor (*fusca*), Romang (*moae*), Leti (*moae*), Moa (*moae*) and Babar (*cinnamomina*) (White & Bruce 1986, Johnstone & Darnell 1997). The new Sermata record might represent an undescribed subspecies. Apparently absent on Kisar, as none was recorded over c.4 nights in 2008 (B. F. King *in litt.* 2009) or on one night in 2010 in some of the best-quality forest remnants (CRT unpubl.). Both *cinnamomina* and *moae* have two-note calls, typical of the species in Australia, but some inter-island vocal differences exist. A thorough review of these taxa is now underway using genetics and vocalisations (Verbelen 2010, Trainor *et al.* 2012). The Roti taxon *rotiensis* (Johnstone & Darnell 1997, Verbelen 2010) and *plesseni* on Alor (Trainor *et al.* 2012) appear to be vocally distinct and might be recognised specifically.

LARGE-TAILED NIGHTJAR *Caprimulgus macrurus schlegelii*

Babar Sound-recorded near Tapa (PV) and heard twice in degraded coastal forest south of Tapa on 14 and 16 August 2011. Call a *tok* or *chok* typical of the species. There are few recent published records from the Tanimbar Islands (Coates & Bishop 1997, Robson 2010).

SAVANNA NIGHTJAR *Caprimulgus affinis timorensis*

Leti (subspecies?) One gave the characteristic *schleip* call at 20.00 h on 14 November 2010 in savanna woodland. **Kisar** Several heard above a well-forested ravine south-east of Wonreli on 29 October 2010; 13 recorded in 2008 (B. F. King *in litt.* 2009). Widespread on Sulawesi and most of the drier Lesser Sundas (White & Bruce 1986). Song remarkably uniform throughout mainland and insular South-East Asia (www.xeno-canto.org). The Leti record marks the species' south-eastern limits, with four specimens taken on Kisar (Hartert 1904). The Leti bird presumably is close to *C. a. timorensis*, described from Timor, with Kisar included in this subspecies' range based mostly on geography (Mayr 1944). Expected for Moa and Lakor. Surprisingly, it appears to be absent on Wetar (Trainor *et al.* 2009; CRT unpubl.). On Babar unidentified nightjars were flushed from open woodland with a grassy understorey (PV) but the absence of vocalisations suggested that these might have been migrants (possibly Spotted Nightjar *Eurostopodus argus*).

CINNAMON-BANDED KINGFISHER *Todiramphus australasia*

Babar (*dammerianus*) Frequently heard (AV8917, XC138365) in degraded secondary forest at Tapa (PV & CRT) and Letwurung, and primary evergreen forest to c.650 m above Liliana. Those photographed near Tapa (PV & CRT) had the all-rufous crown characteristic of this subspecies. **Romang** (*australasia*) Recorded frequently, mostly by voice (XC139696), at 0–550 m, in secondary and primary forest. Two photographed in secondary forest on the slopes of Mount Taur. **Sermata** (*dammerianus*) The distinctive *ch-w'wee* notes described by Coates & Bishop (1997) heard three times in evergreen forest at 150 m on one day, but none seen and no subsequent records. Represented on Moa, Leti, Damar and Babar by *T. a. dammerianus*, which was expected for Sermata, but was not collected in 1906 (Hartert 1911a). Occurs from Lombok to Tanimbar (absent between Sumbawa and Alor), with little vocal variation between subspecies. Has been considered Near Threatened because of expected rates of



Figure 4. The Babar endemic subspecies of Southern Boobook *Ninox boobook cinnamomina* is deep cinnamon dorsally, with brown crown and cinnamon streaking on underparts (Philippe Verbelen).

Figure 5. Wallacean Cuckooshrike *Coracina personata* on Romang, Timor and Wetar is represented by *C. p. personata*, but those on (A) Romang appear darker slaty grey than on (B) Timor (Mount Ramelau, East Timor) or (C) Wetar, but this is probably caused by canopy shading and reduced light in the photographs (Colin R. Trainor); (D) Comparison of specimens from, left to right, Romang, Timor and Alor (*C. p. alfrediana*), with female left of male in each pairing (Colin R. Trainor / © Natural History Museum, Tring).

forest loss, but this seems too pessimistic as it maintains healthy populations throughout many areas (e.g. Trainor 2007b, Trainor *et al.* 2009, Trainor 2010).

SWIFTLET spp.

Babar Although previously unrecorded, swiftlets were frequently observed in groups of up to 10–20 over villages, gardens, secondary and primary forest (PV & CRT). Those photographed were similar to Uniform Swiftlet *Aerodramus vanikorensis* (J. Eaton & P. Morris *in litt.* 2013) but conclusive identification must await specimens and perhaps molecular work. Edible-nest Swiftlet *A. fuciphagus* was observed and photographed in October 2011 (J. Eaton *in litt.* 2013); **Romang** Glossy Swiftlet *Collocalia esculenta* was frequent in small numbers over villages and forest. **Sermata** Either Glossy or Uniform Swiftlets were frequently observed over gardens and forest. **Leti** A few (Glossy) seen at the harbour on 25 September 2008, with one in 2010. **Kisar** At least 30 (Glossy). Swiftlets are poorly known in the region, but Uniform Swiftlet is known from Tanimbar, while both Glossy and Edible-nest Swiftlets are widespread in the Lesser Sundas (White & Bruce 1986), although there were no historical swiftlet records from Babar or Sermata.

ELEGANT PITTA *Pitta elegans vigorsii*

Babar (*vigorsii*) Heard and seen near *air besar* inland of Tapa (PV) and at least ten called at dusk and dawn at Liliana—one or two introductory notes followed by two slow-paced notes over 1.3 seconds at 1,300–2,600 Hz, and atypically a bird was sound-recorded (not in response to playback) giving a three-note call (XC138343). **Romang** (*vigorsii*) Two-note calls heard twice at dusk in coastal strand and tropical dry forest on Nyata Island, but not on mainland Romang. **Sermata** (*vigorsii*) First island records: up to seven heard shortly after dusk each night in forest edge and gardens, between sea level and 150 m, but none observed.

Call on Sermata a two-note slurred *wuu-whi* at 1,550–2,300 Hz with 0.4 seconds between notes (XC138520) similar to *vigorsii* on Damar (XC66888), Babar and Tanimbar. The two-note song of Lombok birds (*concinna*) has a similar minimum frequency (but higher maximum) compared to *vigorsii*. The main difference between *vigorsii* and *concinna* (based on recordings from Lombok, Flores, Pantar and Alor) is that the two notes are on even pitch in the former (0.2 kHz difference in *concinna*) and their slower pace creates a longer gap between notes (*c.*0.2–0.3 seconds in *vigorsii* vs. *c.*0.1–0.15 seconds in *concinna*) and an overall less-energised sound. Gill & Wright (2006) recognised *vigorsii* at species level (Double-striped Pitta) but most current authorities including Gill & Donsker (2013) consider it conspecific with Elegant Pitta. Morphological and vocal variation in *P. elegans* appears conservative and limited, but the three-note call of Sumba birds (*maria*), slow-paced calls of Banda Sea *vigorsii* and presence of migratory populations (*elegans*) on West Timor and Roti indicate noteworthy variation worthy of further taxonomic consideration. Vocal diversity consistently reflects subspecific limits. A recent molecular treatment that recognised up to 17 distinct species among populations of Red-bellied Pitta *Erythropitta erythrogaster* (Irestedt *et al.* 2013) highlights the capacity of insular *Pitta* taxa to speciate. New island records on Nyata and Sermata help define the Banda Sea distribution of *vigorsii*. The lack of records on Romang is surprising, although *vigorsii* has been suggested to prefer small islands in the Kai group (Johnstone & van Balen 2013). On nearby Timor, published records are all from the West. Birds on Damar and Tanimbar apparently resident (Bishop & Brickley 1998, Trainor 2007b) but those on Kisar pertain to the migratory *P. e. elegans* (White & Bruce 1986).

WALLACEAN CUCKOOSHRIKE *Coracina personata personata*

Romang Frequently heard from sea level to at least 400 m in gardens, *Eucalyptus* woodland, secondary and primary forest. Several photographed, including a pair on 17 October 2010, which appeared to be feeding juveniles. No nest observed, but the male held a large grub in its bill for *c.*6 minutes, before flying into a dense leafy canopy, indicating either that chicks were being fed or courtship behaviour (Fig. 5a). Song a sweet polyphonic whistled

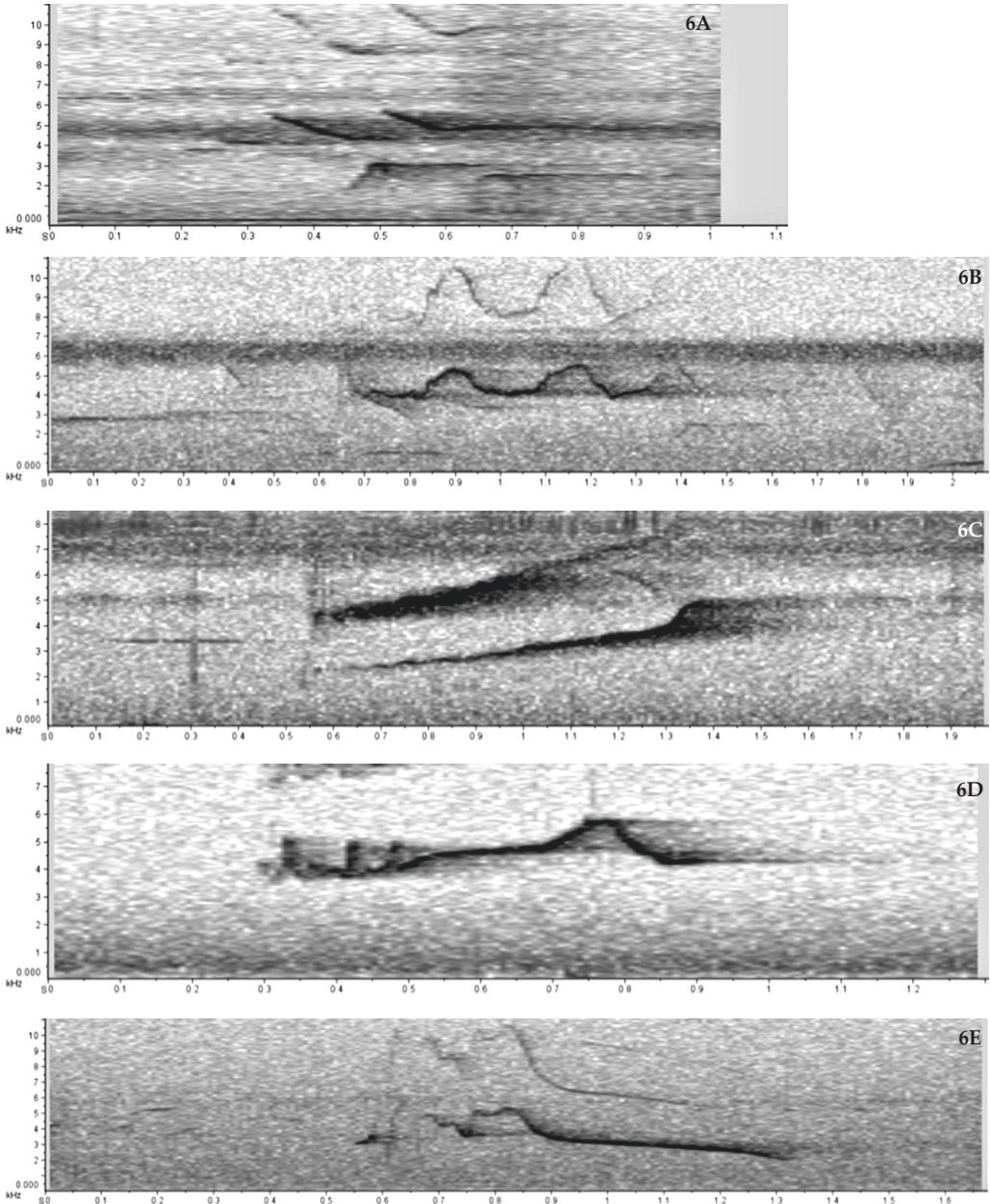


Figure 6. Sonogram of whistled song of Wallacean Cuckooshrike *Coracina personata* from (A) Romang, (B) Wetar, (C) Wetar, (D) Timor and (E) Alor. X-axis = time (0.1 seconds per tick), Y-axis = frequency (1 kHz per tick).

downslur, starting at 5,600 Hz ending at 4,800 Hz (XC139860; Fig. 6a) and distinct from the single sweet whistle on Wetar, which starts at 4,100 Hz and rises twice to 5,530 Hz (Fig. 6b), or sweet higher pitched upsurred whistle (2,200–7,000 Hz) also on Wetar (XC104566; Fig. 6c). On Timor a single whistle on mostly level pitch over 0.7 seconds (4,100–5,600 Hz) is typical (XC103150, Fig. 6d), and on Alor a downslurred whistle (XC105852) of three notes over 0.8 seconds (2,000–5,600 Hz) has been sound-recorded (Fig. 6e).

Wallacean Cuckooshrike is occasionally recorded as singles, pairs and threes on Timor, Alor, Wetar and Romang, but is never particularly common and is poorly known. It occurs in a wide range of tropical forests and savanna woodlands including *Eucalyptus*. Six endemic subspecies are currently recognised in Wallacea (Coates & Bishop 1997), but this treatment masks substantial morphological (Fig. 5a–d) between island populations, with species-level splits probably warranted. Morphologically, none stands out as particularly strong candidates, except dark-plumaged *pollens* (Kai), *unimoda* (Tanimbar) and perhaps the small-bodied, white-bellied *alfrediana* (Lembata and Alor) (Fig. 5). Bishop & Brickle (1998) nominated *pollens* (including *unimoda*) for species status. Vocal variation within islands, and among subspecies, remains poorly known despite documentation here. The species' apparent absence from Babar is surprising.

KAI CICADABIRD *Coracina dispar*

Babar None seen but a single low-pitched *weck* note sound-recorded near Liliana at 200 m was similar or identical (XC138341) to sound-recordings from Romang; record should be considered provisional. **Romang** One photographed in the subcanopy of degraded forest, surrounded by primary forest, on the slopes (400 m) of Mount Taur on 15 October 2010. At Lakuwahi, 1–2 sound-recorded daily, but not seen, in mosaic of tropical dry forest and *Eucalyptus alba* woodland at the edge of gardens at c.300 m. Contact calls were single, low-pitched (1,000–4,000 Hz) *weck* notes (XC138936, 138938–939) broadly similar to the *chuk* notes of Common Cicadabird *C. tenuirostris* (e.g. East Timor: XC32585) and Kai Cicadabird (Coates & Bishop 1997). These are repeated at 0.3–5.0-second intervals perhaps depending on level of agitation. Song previously undescribed: three moderately low-pitched, rasping, cicada-like notes, first a drawn-out double note at 1,220–2,930 Hz over 1.1 seconds, then a gap of 1.3–2.1 seconds before a single note on level pitch (XC138935, 138937). On three occasions individuals were followed for up to 200 m (over 5–20 minutes each) but were not observed, as they presumably kept ahead by flying through the canopy.

Endemic to several of the higher rainfall islands in the Banda Sea including Kai, Banda, Tanimbar and Damar (White & Bruce 1986) but is uncommon, inconspicuous and poorly known. Six specimens collected in the Kai Islands and on Romang (Hartert 1903, 1904), a 'fine series' on Damar (Hartert 1900) but only one on Larat (Tanimbar) (Bishop & Brickle 1998). Few recent records of singles and a pair from Kai (Mauro 1999, Johnstone & van Balen 2013) and Tanimbar, but not seen on Damar (Trainor 2007b) and Banda (Johnstone & Sudaryanti 1995). Recordings of its song may assist future surveys. Based on biogeography and habitat suitability, expected on Babar (suitable evergreen forest probably covers half the island) and on Sermata, and perhaps on Leti and Moa. Considered Near Threatened given its small global range and clearly small and fragmented populations (www.redlist.org).

WHITE-SHOULDERED TRILLER *Lalage sueurii*

Babar Common in gardens and secondary forest, with at least ten between Tapa and Letwurung. Birds photographed at Tapa had typical plumage (male pied, white eyebrow; female brownish above, whitish below). **Romang** An adult photographed and sound-recorded in *Eucalyptus alba* woodland at c.120 m on lower slopes of Mount Taur. Heard at

Hila village and frequent but surprisingly elusive around gardens at Lakuwahi to 320 m. **Leti** Common in open Lontar palm-dominated savanna, including around villages; pair with two fledglings photographed on 13 November 2010. Fledglings had orange bills, white underparts with patchy buff wash, a black-blotched breast and blackish wings with patches of buff. The adult male was typical of White-shouldered Triller. **Kisar** Small numbers at Wonreli village and the airport. In 2008, 13 were recorded (B. F. King *in litt.* 2009).

Widespread on Sulawesi and in the Lesser Sundas, including Wetar, Kisar, Luang, Sermata and Babar (White & Bruce 1986). Although previously collected on Sermata, none was recorded in 2010. The Leti record fills a distribution gap, although the species is listed for Moa and presumably also occurs on adjacent Lakor. Some morphological differences, but apparently little vocal variation between Lesser Sunda populations (XC131356, 116494, 138461, 139860). Few observed on Romang and only an aberrant-plumaged bird (showing progressive greying; van Grouw 2013) was photographed. The eight specimens from Romang are juveniles (Hartert 1904; P. Sweet, M. Shanley & T. Trombone *in litt.* 2012), which initially suggested (erroneously) to CRT that this population might represent an undescribed neotenic taxon. Details will appear elsewhere.

GREEN ORIOLE *Oriolus flavocinctus migrator*

Romang Common in regenerating gardens and secondary forest around Lakuwahi, but absent on Mount Taur. The low-pitched (500–2,300 Hz) song comprises three elements over 0.45 seconds, with a final downslurred note typical of Australian birds. Low-pitched and variable contact notes over 0.35 seconds were given singly at 3–4-second intervals (XC138948, 138950). Birds on Romang, Moa and Leti described by Hartert (1904) as *O. f. migrator*, which was considered different to Australian birds because the stripes and spots on the underparts are larger and yellow tips to the outer rectrices more obvious. However, most authors, except Gill & Donsker (2013), have not recognised this subspecies, yet photographs do show these minor differences (Fig. 7). Green Oriole occurs also on Aru and southern New Guinea (White & Bruce 1986). Kühn collected 20 specimens on Romang (Hartert 1904). None recorded on Leti, but presumably extant there and on Moa.

TORRESIAN CROW *Corvus orru latirostris*

Babar Singles and pairs heard daily, and occasionally seen, in mixed gardens, secondary forest and tropical forest up to 500 m (PV & CRT). Call usually a rapid low-pitched (1,000–2,000 Hz) double-noted *arr*, often given in duet between pairs, or similarly pitched but more drawn-out *arr-rr* notes over 0.5 seconds (AV8880–8881, XC138354–355). Vocalisations noted as 3–4 gargled nasal notes on Tanimbar (Coates & Bishop 1997). *C. o. latirostris*, which is endemic to Tanimbar and Babar, appears to be uncommon and sparsely distributed on Tanimbar (Bishop & Brickle 1998). The species is widespread in northern Australia, Papua New Guinea and northern Maluku (White & Bruce 1986). Bismarck Crow *C. insularis* has recently been recognised at species level (Dutson *et al.* 2011). Calls on Babar similar to those in Australia, indicating that some island populations are only relatively weakly differentiated.

LARGE-BILLED CROW *Corvus macrorhynchos macrorhynchos*

Romang Fairly common in ones and twos, with one photographed. A flock of 21 flew into Hila village to roost. **Sermata** Uncommon, with one seen on the coast and one heard at dusk around primary evergreen forest (120 m). The bird seen had a dark iris unlike Torresian Crow, which has a white iris. The song comprised low-pitched (1,500 Hz) *arr* notes over

0.2 seconds, with 0.65 seconds between notes, which is typical of Lesser Sunda populations (Coates & Bishop 1997). **Leti** One at Serwaru village on 11 August 2001, one heard on 25 September 2008, and one seen in Lontar palm-dominated savanna in 2010. **Moa** Two on the well-forested coast at Kaiwatu village on 11 August 2001. **Kisar** Recorded in 2001 (Trainor 2003), two seen in 2008 (B. F. King *in litt.* 2009) and frequently seen and heard in 2010, with several near the airport, including one photographed being mobbed by Grey (Kisar) Friarbird *Philemon kisserensis*. Collected historically on Kisar. Widespread in the Lesser Sundas, except on Damar (Trainor 2007b) with these new island records clarifying its south-easternmost limits.

ORANGE-SIDED THRUSH *Geokichla peronii audacis*

Babar Common and frequently heard in all habitats except villages; many seen and several photographed in gardens and secondary forest near Tapa attesting to its relatively confiding behaviour (PV & CRT). **Romang** Observed at Hila cemetery in 2001; in 2010 frequently heard singing (XC139851) in gardens, secondary and primary forest from sea level to at least 550 m, with one photographed. **Sermata** Vocalised infrequently, with three heard singing in evergreen forest, one photographed in evergreen forest, and at least one singing in coastal strand vegetation (XC138519). Song a complex series of at least seven phrases often comprising four whistles followed by a high-pitched, buzzy *kseeert* note (6,500–9,000 Hz). *G. p. audacis* occurs in East Timor, Wetar, Babar, Romang and Damar (Coates & Bishop 1997) and was expected on Sermata. It presumably also occurs on Leti, Moa and Luang. Despite its Near Threatened status, appears to be under no threat of extinction, being common in a wide range of habitats and there seems to be no trade beyond West Timor, Roti and probably Semau.

SUNDA THRUSH *Zoothera andromedae*

Romang One in secondary forest at c.280 m. A high-pitched song was heard prior to the observation—a downslurred *psee* commencing at 10,300 Hz that descends to 7,300 Hz over 0.8 seconds (XC139694). Such very high-pitched calls are typical of many thrushes including Orange-sided and Chestnut-backed Thrushes *Z. dohertyi* on Timor (J. Eaton *in litt.* 2011) making attribution of this vocalisation to Sunda Thrush provisional. A recording of Sunda Thrush in the Philippines (R. Hutchinson unpubl.) is substantially longer (2.1 seconds) but otherwise similar (9,700 Hz to 6,700 Hz). One of the most skulking and elusive Asian thrushes. Just two were collected by Kühn on Romang (Hartert 1904), suggesting that they were also elusive in 1902. The lack of morphological divergence among Sunda Thrush populations throughout its range suggests that colonisation has been rapid and recent.

PIED BUSH CHAT *Saxicola caprata*

Babar (*cognatus*) Common in gardens and roadside habitats throughout (PV & CRT), with both sexes photographed and sound-recorded (XC138362) at Tapa. A female in Tapa was blind in one eye. **Romang** (*pyrrhonotus*?) A few pairs at edge of gardens or in Hila village (0–340 m) and a female photographed after being hand-caught roosting on a rocky overhang in early evening. **Kisar** (*pyrrhonotus*?) One of the commonest birds throughout including in Wonreli village, gardens and savanna woodland. Adult female photographed (28 October 2010) feeding a cricket to juveniles calling from a nest in Lontar palm leaves. A female fed male and female fledglings (buzzy begging notes: XC138465) at Wonreli on 29 October (Trainor 2012). In 2008, 24 were recorded (B. F. King *in litt.* 2009). First records for Romang, where apparently uncommon and perhaps a recent colonist, as the species is generally obvious and is unlikely to have been overlooked during the collecting era.



Figure 7. Green Oriole *Oriolus flavocinctus*: (A) Romang *O. f. migrator* and (B) *O. f. flavocinctus* Darwin, Australia, 30 November 2010 showing slight morphological differences (Colin R. Trainor)

Figure 8. Rufous-sided Gerygone *Gerygone dorsalis fulvescens* on Romang: (A) juvenile being fed a large insect by adult and (B) fledgling (Colin R. Trainor)

Romang represents the eastern limit of the range of *S. c. pyrrhonotus*. Apparently absent on Leti and Sermata.

RUFOUS-SIDED GERYGONE *Gerygone dorsalis*

Babar (*fulvescens*) Photographed (PV) and occasionally heard in all habitats from degraded secondary forest to primary forest above Liliana at c.650 m (PV & CRT). **Damar** (*kuehni*) One near Wulur on 24 September 2008. **Romang** (*fulvescens*) Frequent in wide range of habitats including thicket-like regenerating gardens, secondary and primary forest. A juvenile (orange gape, broad yellowish eye-ring, cream underparts, pale grey head and predominantly grey back washed pale brown) was photographed being fed by an adult on 24 October 2010 (Fig. 8a). About 50 m away on the same date, a fledgling (Fig. 8b) had strikingly different markings (dark eye, remains of white gape patch, broad whitish eye-ring suffused yellow, grey crown and nape, and white underparts suffused grey and rufous) to adults, which have reddish-brown irides and brown or rufous upperparts, making field identification difficult. **Sermata** (*fulvescens*) Common in all habitats with up to ten daily and several photographed. Song a series of up to 31 uneven-pitched, warbled notes at 600–4,700 Hz (XC138527–529) and in contact a series of squeaky notes at 1,800–4,800 Hz that rise and fall in pitch (XC139669). Song similar on Damar (XC66899) and can last for >1 minute. Song on Kai described as ‘a complex jangle of unhurried notes with a slight warbled quality’ (Coates & Bishop 1997) which matches birds on Romang, Sermata, Kisar and Leti. **Kisar** (*fulvescens*) Heard in Wonreli town and common in coastal savanna, where foraged in *Ziziphus* sp. trees. Overlooked in 2001 (Trainor 2003), but eight seen in 2008 (B. F. King *in litt.* 2009). **Leti** (*fulvescens*) Present on 11 August 2001 and in 2010 was common in village of Serwaru, savanna woodland and secondary forest. **Moa** (*fulvescens*) Two at Kaiwatu village on 11 August 2001.

Endemic to islands in the Banda and Flores Seas (White & Bruce 1986). All of the few recent surveys in its range have found the species to be common and widespread (Dutson 1995, Coates & Bishop 1997, Bishop & Brickle 1998, Trainor 2007b), except on the Kai and Tayandu islands (Johnstone & van Balen 2013). Birds on Romang were originally described as endemic *G. d. sequens*, based on the upperparts ‘being more richly coloured, the back and the wings more tinged with cinnamon rufous ... and the young are also yellow underneath’ (Hartert 1904). These differences are minor, as there appears to be limited morphological (and probably vocal) variation among populations on the Banda Sea islands.

TIMOR STUBTAIL *Urosphena subulata*

Babar (*advena*) Heard at sea level on the Tapa–Letwuring road, commonly sound-recorded (PV & CRT) and observed once in forest at *air besar* near Tapa (PV) and at Liliana up to c.650 m (CRT). **Romang** (undescribed) Frequent in secondary and primary forest, and regenerating gardens, at 0–550 m. Song a single high-pitched (7,560–9,000 Hz on Babar, XC137921; 8,055–9,276 Hz on Romang, XC137924) upslurred *psseer* over 1.2–1.3 seconds (Babar) or 1.6 seconds (Romang), with the same structure as on Timor, Roti (XC32715, 32713), Atauro (XC140163), Alor (XC140159) and Wetar (XC140162; Fig. 9a–k). Pitch varies slightly between islands (min. 7,974–8,706, and max. 8,950–9,357 Hz) and song length varies substantially (apparently with island area) from 0.99 seconds on Timor (31,000 km²), to 2.02 seconds on Atauro (150 km²). Contact or alarm notes on Babar comprise at least 4–5 rapidly produced, high-pitched notes (7,400–9,300 Hz, AV9071, XC137921) over 0.35 seconds, producing a twittering sound. On Romang contact notes similar to those on Babar in pitch (8,800–9,500 Hz, XC137924), over 0.2 seconds, but mostly level without

rapid changes in frequency. On Wetar contact calls higher pitched, long, single notes (8,500–9,800 Hz; 0.25 seconds), sometimes repeated, (XC140161; Fig 12j). The Babar records are the first since specimens in 1905, and the Romang records the first ever. The mouse-like behaviour of this tiny forest bird belies its capacity to colonise islands. New island records for Atauro (Trainor & Soares 2004), Roti (Trainor 2005b) and Alor (Trainor *et al.* 2012) have greatly improved knowledge of its distribution, but little progress has been made clarifying the distinctiveness of these populations, though songs appear to vary relatively little. Sonograms of call notes on Romang and Babar are consistently different to those from Wetar and Atauro (Fig. 9), and there does appear to be differences in upperparts coloration among the various island populations (Fig. 10a–c) perhaps suggesting that more taxa could be recognised. A molecular approach will be important to clarify the taxonomic status of the island forms. Following discovery on Babar, Hartert (1906a) predicted its occurrence on the islands between Timor and Babar. It is absent from Sermata and appears to be absent from Damar (Trainor 2007a) and Leti.

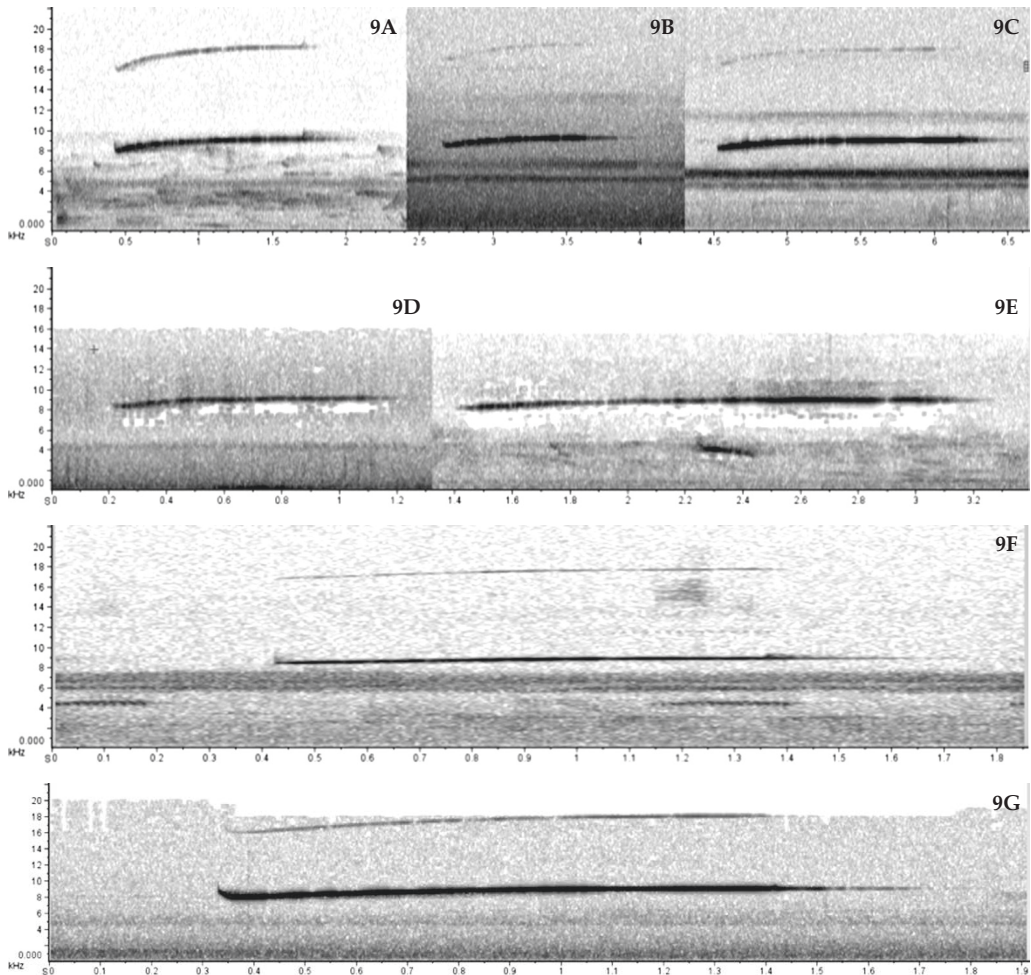


Figure 9. Sonograms of Timor Stubtail *Urosphena subulata* songs: (A) Romang (XC137923–925), (B) Wetar, (C) Atauro, (D) Timor, (E) Roti, (F) Alor, (G) Babar (XC137921)

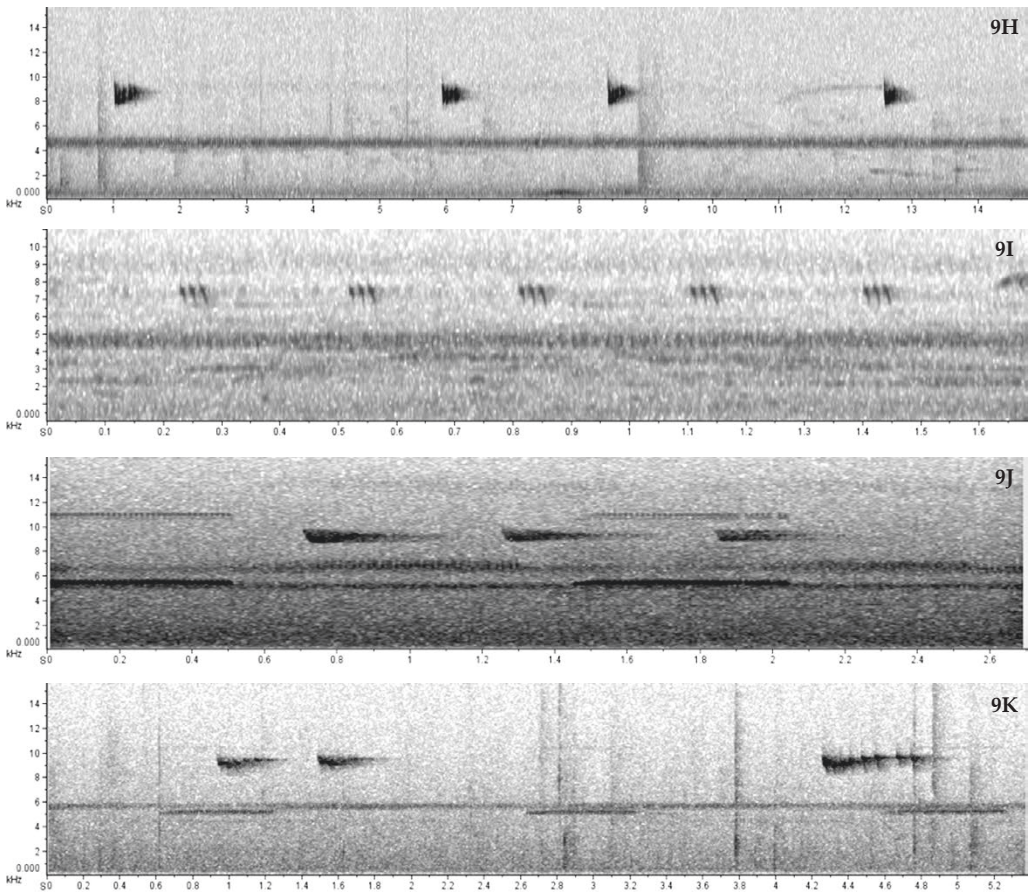


Figure 9 (cont.). Sonograms of Timor Stubtail *Urosphena subulata* songs: (H) Babar (contact notes, XC137922), (I) Romang (contact notes, XC137924), (J) Wetar (three contact notes) and (K) Atauro (contact notes). X-axis = time (variable, 0.1–0.5 seconds per tick), Y-axis = frequency (2 kHz per tick).

GOLDEN-HEADED CISTICOLA *Cisticola exilis lineocapilla*

Babar Occasionally sang from grassland and shrubs at Tapa (PV & CRT) and Letwurung. **Sermata** Males in breeding plumage regularly sang at the edge of gardens and in scrub, with several photographed. Song a series of tonally complex, rasping, burred ‘wheezing’ notes at 1,500–9,500 Hz, at intervals of 0.7–1.2 seconds (XC138530). A lower pitched (1,700–7,400 Hz) and slightly differently structured *whee* also sound-recorded. These did not include the low-pitched second or third *plio* / *pzick* note, typical of birds on Sulawesi and mainland Asia (Coates & Bishop 1997; www.xeno-canto.org). Not seen on Romang (where previously collected), but widespread in Wallacea and much of South-East Asia.

SNOWY-BROWED FLYCATCHER *Ficedula hyperythra audacis*

Babar Frequently heard and occasionally seen (sound-recorded and photographed) in secondary and primary tropical forest at *air besar* (FV) and Liliana at c.200–650 m (CRT). Call a high-pitched single, double or triple note at 6,000–7,800 Hz (XC137942–943). No songs heard. A female was sound-recorded giving high-pitched (7,000–9,000 Hz), rapid twittering notes. Contact calls on Wetar (the geographically most proximate population) are higher pitched than on Babar (7,000–9,500 Hz) and comprise single high-pitched notes



Figure 10. Drab (grey-) brown plumage of Timor Stubtail *Urosphena subulata*: (A) Romang (undescribed), (B) Babar (*U. s. advena*) contrasting strongly with bird from (C) Timor (*U. s. subulata*) showing rusty-brown upperparts, perhaps partly because of differences in lighting in dark understorey.

Figure 11. Snowy-browed Flycatcher *Ficedula hyperythra audacis* on Babar is morphologically similar to many other subspecies, despite its relative isolation and novel lowland habitat use: (A) male; (B) female at Liliana; (C) male from Wetar cf. *F. h. clarae*; and (D) female *F. h. clarae*, Mount Mutis, West Timor, showing grey upperparts (Colin R. Trainor)

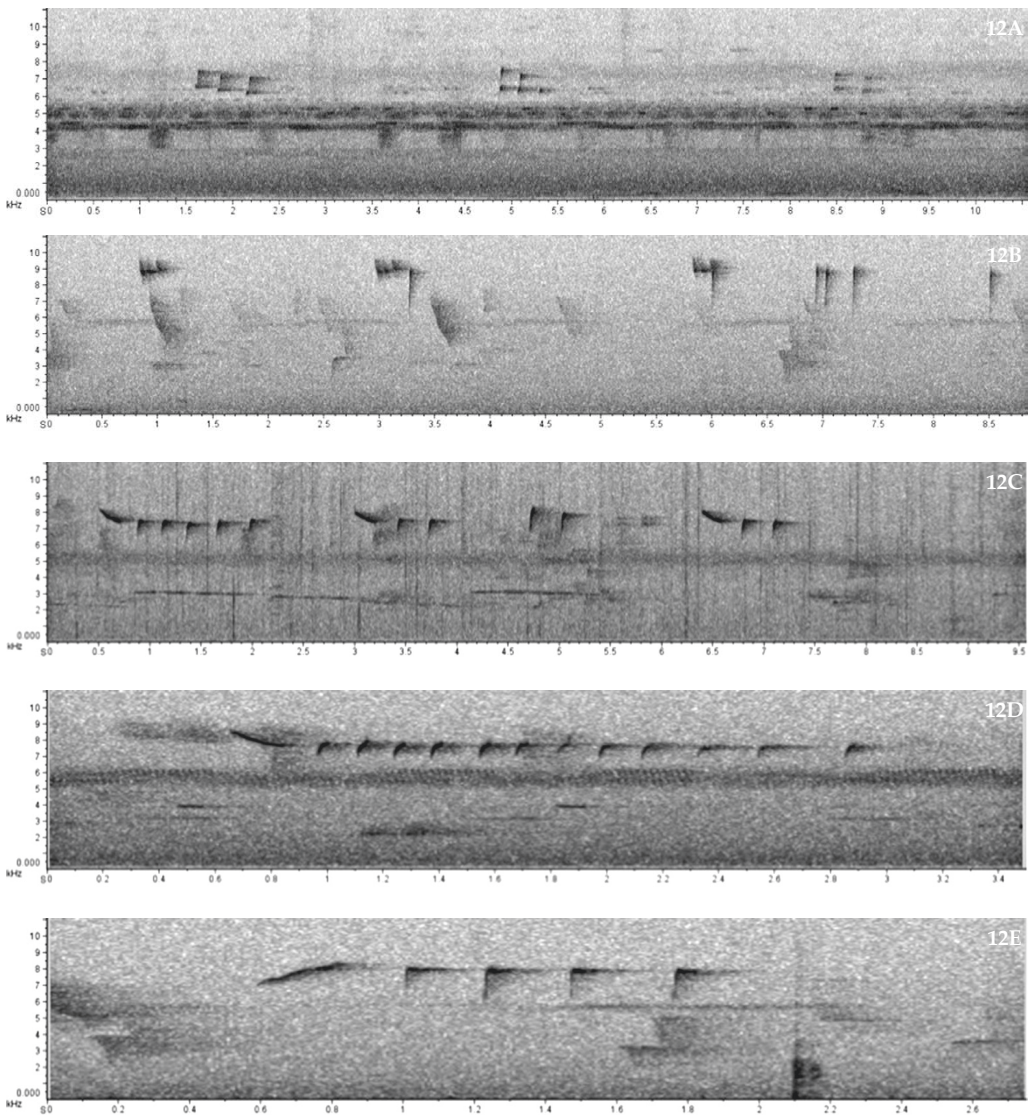


Figure 12. Sonograms of Snowy-browed Flycatcher *Ficedula hyperythra*: (A) Babar, *F. h. audacis*, (B) Wetar, (C–D) Mount Mutis, West Timor, *F. h. clarae* (songs) and (E) Wetar (probable song). X-axis = time (variable, 0.2–0.5 seconds per tick), Y-axis = frequency (1 kHz per tick).

(*swik*) or rapid double or triple notes over 0.2–0.5 seconds (XC137940). On Wetar the song is apparently 5–6 rapid, high-pitched notes (at 8,100–7,500 Hz, over 1.0 second) that descend in pitch from the first note (XC137940, 137945). That on nearby Timor is a single, rapid, high-pitched (5,500–8,000 Hz) series of *swik* notes that produces a different shape on sonograms to notes on Babar and Wetar (Fig. 12). On Timor the song (XC140165–166) usually comprises an introductory high-pitched downslur that starts at 8,000 Hz and ends at 7,300 Hz over 0.2 seconds, followed by 2–16 high-pitched (7,300–7,600 Hz) notes that descend then ascend in pitch (over 0.7–3.0 seconds).

Snowy-browed Flycatcher occurs from the Himalayas and across South-East Asia, with 22 generally recognised subspecies (Gill & Donsker 2013), including seven endemic to Wallacea (White & Bruce 1986). A population recently discovered on Wetar (CRT unpubl.) is undescribed, but is probably close to *F. h. clarae* of Timor. Males on Babar are similar in appearance to those on Wetar (Fig. 11). Usually strictly montane (above *c.*1,000 m), on Babar the species occurs in the lowlands, perhaps down to sea level in forested areas. Still common on Babar (but absent from more degraded forest near the coast) and regionally is common on Mount Mutis (West Timor), several mountains in East Timor including Mt Mundo Perdido and Mt Ramelau (Trainor *et al.* 2008; CRT unpubl.) and is probably widespread in the mountains of Wetar (CRT unpubl.). The presence of numerous described subspecies, substantial genetic (Outlaw & Voelker 2006), vocal (www.xeno-canto.org) and morphological variation (www.orientalbirdimages.org) suggests that some taxa may be recognised specifically in the future.

BLACK-BIBBED MONARCH *Symposiachrus mundus*

Babar Frequently heard, sound-recorded (XC138348–351) and occasionally photographed in highly degraded secondary forest, clumps of trees in agricultural land (PV & CRT) and tropical forest to at least *c.*650 m. Endemic to Babar, Damar and the Tanimbar Islands (White & Bruce 1986). A common member of mixed-species flocks on Tanimbar (Bishop & Brickle 1998). On Damar, it was overlooked during a survey in 2001 (Trainor 2007a,b) but was seen in 2011 (Eaton & Hutchinson 2011). Black-bibbed Monarch occurs in highly degraded secondary forest and is under no threat of extinction anywhere within its range.

BROAD-BILLED FLYCATCHER *Myiagra ruficollis ruficollis*

Romang Few records and appeared uncommon, in regenerating gardens and secondary forest, and also present on Nyata Island. Three different notes sound-recorded: a two-note whistle of different pitch (*wee-oo*), typical rasping *bzzzsh* notes, and *weee-eer* notes at 2,000–3,600 Hz. The latter are higher pitched than on Timor (XC139685–686). Common on Timor, especially around water, and present on Sumba, Sabu, Roti, Timor, Alor, Lembata, Wetar and Damar in the Lesser Sundas (White & Bruce 1986). Vocal diversity among the various subspecies poorly documented in Wallacea and merits additional work.

ARAFURA FANTAIL *Rhipidura dryas*

Babar (*reichenowi*) Common in all habitats, except village, below 650 m (PV & CRT).

Romang (*elegantula*) Observed on the coast in 2001; in 2010 it was common in all wooded habitats to at least 400 m, as well as at Hila village and on Nyata Island (XC140290). One photographed finalising a nest in evergreen forest at *c.*250 m on 20 October 2010. The nest was just 2.5 m above ground in a 15-m tall forest tree and was constructed entirely of dry grass (Fig. 13c). **Sermata** (*elegantula*) Common throughout including village. **Leti** (*elegantula*) Frequent in village gardens at Serwaru, savanna woodland and forest. **Damar** (*elegantula*) Pair in secondary forest on 24 September 2008. The only published field information on *elegantula* was from Damar, where it was widespread in 2001 (Trainor 2007b). Observations on Romang and Leti confirm that *R. dryas* is typically one of the most widespread and frequently encountered birds in wooded habitats in the south-west islands. Birds on Leti and Sermata appeared identical, with a white forehead, but those on Romang had a buff forehead (Fig. 13a–d). Song on Romang and Sermata is a relatively weak series of 6–8 jangling notes (XC139863, 138534), similar to that on Damar (XC66900), Timor, Wetar and adjacent islands (Coates & Bishop 1997). Recently split from Rufous Fantail *R. rufifrons*, *R.*



Figure 13. Arafura Fantail *Rhipidura dryas* shows subtle morphological variation in the south-west islands, with *R. d. reichenowi* on Babar (A) having a rufous-cinnamon forehead; *R. d. semicollaris* on Timor (B) has rich rufous above the eyes and duller brown head; *R. d. elegantula*, on nest on Romang (C) has buff forehead, and birds on Sermata (D) a white forehead (Colin R. Trainor)

Figure 14. Northern Fantail *Rhipidura rufiventris hoedti*: (A) on Sermata has white belly and vent, rather than buff belly; (B) fledgling on Sermata with yellow gape patch, downy feathers on rump, brown markings on blackish primaries, and blotchy breast suffused grey and buff; (C) on Romang has well-defined white-spotted grey breast, and no supercilium; and (D) *R. r. pallidiceps* on Wetar has cream breast streaked grey and white supercilium (Colin R. Trainor)

dryas includes seven subspecies in Wallacea (Boles 2006, Gill & Donsker 2013). Overlooked by collectors on Sermata (Hartert 1911a) and remarkably *Rhipidura* is absent from Kisar.

NORTHERN FANTAIL *Rhipidura rufiventris hoedti*

Romang Frequent in all wooded habitats, including regenerating gardens, to at least 400 m. **Sermata** Recorded daily in gardens and tropical forest. One photographed in evergreen forest held an adult dragonfly for several minutes and presumably was feeding young. Adults had a white rather than buff belly (Fig. 14). A fledgling photographed on 5 November 2010 had black irides, orange gape, cream throat suffused buff, brown breast suffused buff, cream belly washed buff, blackish wings with patches of buff, and traces of down on the rump, wings and belly (Fig. 14b). The song included at least 14 tonally complex downslurred notes at 1,500–3,000 Hz over *c.*4 seconds (XC138521). **Leti** One photographed on a Lontar palm in open savanna. **Moa** Two in woodland at Kaiwatu on 11 August 2001. **Damar** Two in secondary forest on 24 September 2008. The only other recent records of *R. r. hoedti* were on Damar, where it was widespread (Trainor 2007b). This subspecies (of which the name *buettikoferi* is a synonym) has well-defined white spotting on the grey breast (Fig. 14). *R. rufiventris* is widespread in the Lesser Sundas and Maluku, with the nine endemic subspecies found in most wooded habitats including garden edge (Coates & Bishop 1997). Extensive vocal and genetic analyses are needed to understand the taxonomy of this group (Rheindt & Hutchinson 2007).

CINNAMON-TAILED FANTAIL *Rhipidura fuscorufa*

Babar Frequently observed, sound-recorded and photographed (PV) in all habitats, except village, to at least 650 m (CRT). Endemic to Yamdena, Larat and Selaru in the Tanimbar archipelago, and Babar (Coates & Bishop 1997). Few differences in habitat use between this species and *R. dryas*, which occur in syntopy. *R. fuscorufa* perhaps prefers greater tree cover and forages higher than Arafura Fantail. Both are frequent to common on Babar.

YELLOW-THROATED WHISTLER *Pachycephala macrorhyncha*

Babar (*sharpei*) Several in tropical forest near *air besar* (PV). **Romang** (*par*) Relatively elusive in secondary and primary forest: *c.*90% of whistlers observed were Wallacean Whistler *P. arctitorquis*, which is more confiding (Kühn collected eight Yellow-throated Whistlers vs. 38 Wallacean Whistlers). Photographed on 14–26 October 2010 (Fig. 16) at the edge of secondary forest and gardens, at *c.*300 m. Birds on Romang have a buff breast and belly, while *P. m. compar* has a white throat that contrasts little with the breast and belly (Hartert 1904). **Leti** A whistler heard in evergreen forest along a stream was not identified to species or sound-recorded. Only *P. macrorhyncha* has been collected on the island. Those on Romang (*P. m. par*) and Leti and Moa (*P. m. compar*) are ‘hen-feathered’ birds; ours are the first field observations of *par*. *P. m. par* (Fig. 15) is vocally distinctive compared to *P. m. calliope* on Timor. Combined with the distinctive morphology, including absence of a yellow throat, this suggests that the hen-feathered taxa might be recognised specifically. Vocal comparisons with typical-plumaged birds on Damar (*dammeriana*) and Babar are required.

WALLACEAN WHISTLER *Pachycephala arctitorquis kebirensis*

Babar Frequently photographed and sound-recorded in woodland, secondary and primary forest (PV & CRT). **Romang** Observed on the coast in 2001. In 2010 this was one of the commonest birds in all wooded habitats including regenerating gardens and garden edge to at least 550 m, and was heard on Nyata Island. A nest in construction, at the edge of a garden on 22 October 2010, was a cup *c.*12 cm in diameter by 12 cm deep, constructed of

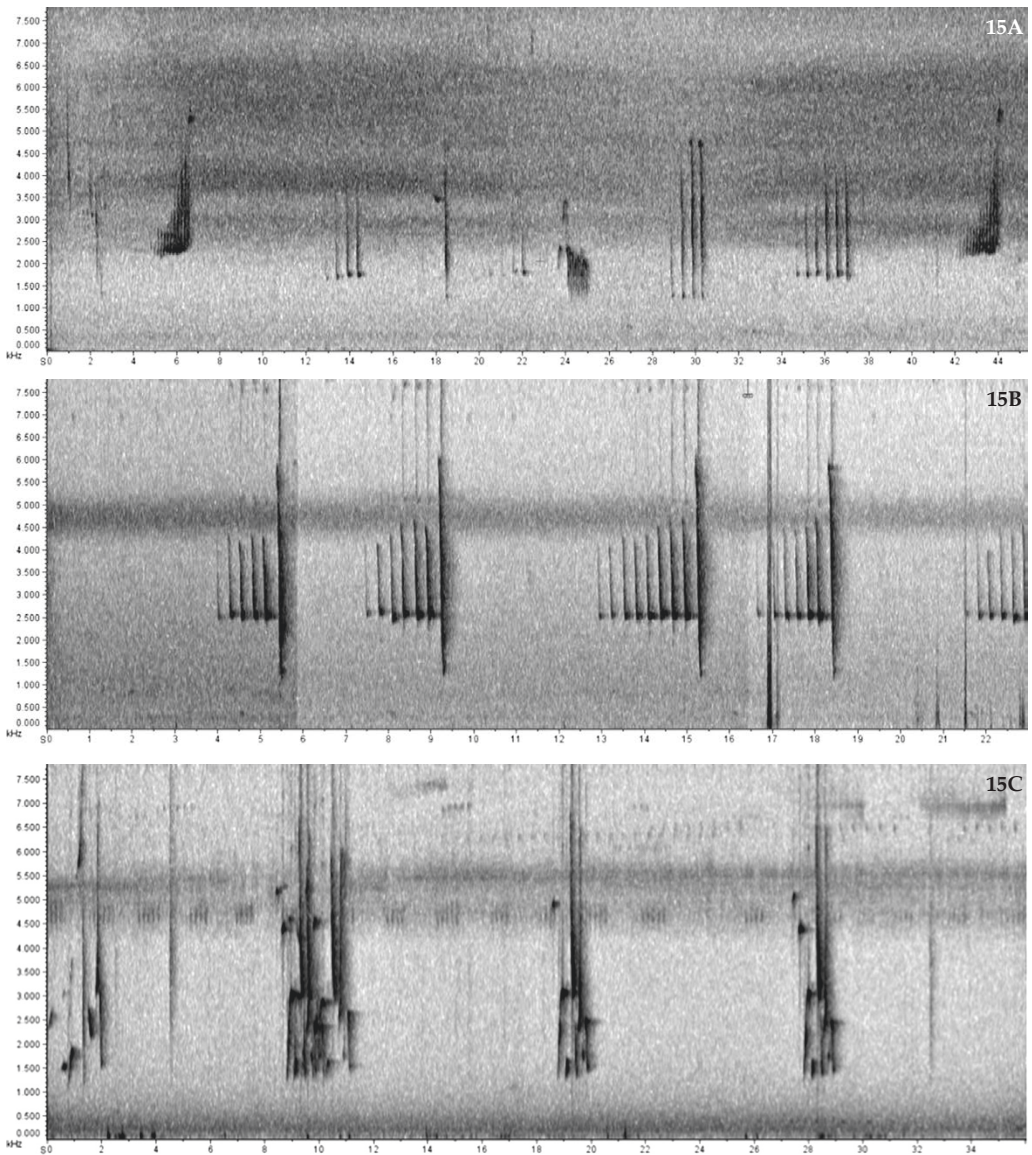


Figure 15. Sonograms of calls and songs of Yellow-throated Whistler *Pachycephala macrorhyncha par* on Romang and *P. m. calliope* on Timor: (A) fast-paced song and *chong* notes (*par*); (B) fast-paced song and *chong* notes (*par*); (C) rapid complex song, Lore, East Timor, 4 June 2005. X-axis = time (1–2 seconds per tick), Y-axis = frequency (0.5 kHz per tick).

thin grass stems and twigs, and *c.*2.2 m above ground in a small tree (Fig. 17a). A single white egg was present on 26 October. A juvenile male was photographed on 16 October, with a partial black breast-band and incomplete black cap. **Sermata** Not collected in 1906, but proved to be one of the commonest passerines with several photographed. Heard frequently in evergreen and dry forest, less commonly in coastal strand and regenerating gardens. **Damar** Two in scrub near Wulur on 24 September 2008.

Typical of the genus, this whistler has an extraordinary range of vocalisations (e.g. Fig 18; AV8983, XC38230, IBC), but overall variation is poorly documented. Common on Damar



Figure 16. Distinctive hen-feathered Yellow-throated Whistler *Pachycephala macrorhyncha par* on Romang (and *compar* on Leti and Moa) has cream throat and substantially different vocalisations to other members of 'Golden Whistler' complex (Colin R. Trainor)

Figure 17. (A) Male Wallacean Whistler *P. arctitorquis kebirensis* at nest on Romang, (B) female on Sermata with white underparts and relatively limited streaking, (C) lateral view of female (immature?) on Sermata with apparently mostly clean white underparts, but streaking perhaps obscured, and (D) female on Romang with extensive buff wash to underparts, and streaking (Colin R. Trainor)

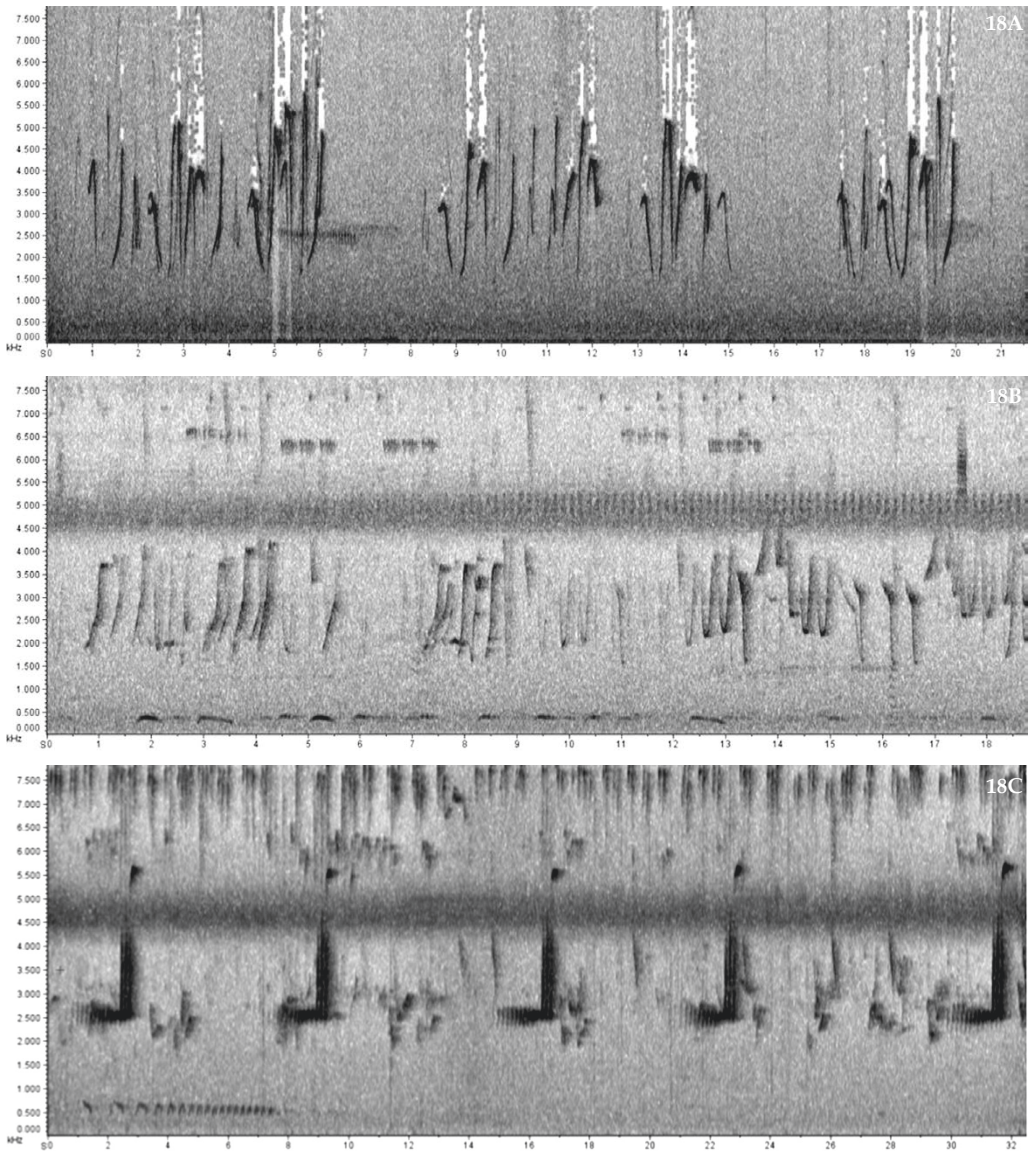


Figure 18. Sonograms of complex vocalisations by Wallacean Whistler *Pachycephala arctitorquis*: (A) song at Tepa, Babar, 23 August 2009 (AV8984); (B) song at Mount Taur, Romang, 16 October 2010; (C) call (?) at Lakuwahi, Romang, 20 October 2010. X-axis = time (1–2 seconds per tick), Y-axis = frequency (0.5 kHz per tick).

(Trainor 2007b), Romang and Sermata, where tolerant of substantial habitat modification and found in all wooded habitats including edge of gardens. Yellow-throated Whistler often shows stronger affinity with primary forest. Females on Romang and Sermata were initially misidentified as female Yellow-throated Whistler; the heavy, conical bill of Wallacean Whistler is the most distinctive feature (Fig. 17). Also common on Yamdena, where represented by *P. a. arctitorquis* (Coates & Bishop 1997), but surprisingly Tayandu

P. a. tianduana is known only from the five-specimen type series, and may be extinct (Johnstone & van Balen 2013). Remarkably, whistlers are absent from Kisar.

LONG-TAILED SHRIKE *Lanius schach bentet*

Sermata Regular in small numbers, and photographed, in coastal savanna and scrub around gardens. A fledgling with yellow gape patches, short tail and brown rather than black tertials was photographed on 5 November. An adult was close to a stick nest (120 × 150 mm) in a small tree 4.5 m above ground, but unclear whether it had eggs or was still building. The adult had a more extensive black eye-patch than shown in Coates & Bishop (1997), above and behind the eye, and the wing was black with no white. Call a tonally complex, buzzy low-pitched (900–4,000 Hz) squawk at c.1.25-second intervals (XC138523–524) similar to recordings from Bali (XC31386). **Kisar** Occasional in savanna woodland near the airport, with two recorded in 2008 (B. F. King *in litt.* 2009). *L. schach* is randomly distributed in the Lesser Sundas. Its absence from Flores is odd, as is its apparent absence from the dry savanna of Leti. Unrecorded on Sermata in 1906 (Hartert 1911a), it has either recently colonised the island, perhaps due to the conversion of coastal forest to woodland, or was earlier overlooked. This is a substantial range extension, with the nearest populations on Kisar and East Timor, 120 km to the west. Also present in Papua New Guinea (White & Bruce 1986).

GREY (KISAR) FRIARBIRD *Philemon kisserensis*

Leti Common in coastal savanna woodland especially where dominated by Lontar palms, occasionally observed at village edge but unrecorded in secondary tropical forest. A total of c.10 seen, all singles. **Kisar** Common and widespread in all habitats (especially Lontar palm savanna and regenerating gardens) including Wonreli village and elsewhere around habitation. Frequently seen feeding on flowers of Lontar palm. A nest was found 3.5 m above ground in a prickly *Acacia nilotica* near the airport on 11 October 2010. Constructed of grass, twigs and cobweb, it was c.12 cm wide and 10 cm deep. Two adults attending the nest were photographed and their contact calls recorded. Nearby an adult mobbed a Large-billed Crow suggesting that the latter may predate young friarbirds. In 2008, 52 were recorded (B. F. King *in litt.* 2009). Often considered a subspecies of Little Friarbird *P. citreogularis* (Coates & Bishop 1997), but based on biogeography (e.g. Timor Friarbird *P. inornatus* has long been split from Little Friarbird; cf. Mayr 1944) is frequently recognised as a species (Sibley & Monroe 1990, Gill & Donsker 2013). Unlike Timor Friarbird, Kisar Friarbird bears a strong resemblance to Australian *citreogularis*, having similar bluish-black facial skin, and neck to belly spotted brown. White & Bruce (1986) stated 'the pale whitish grey fore-neck spotted with white appears distinctive', but this difference is less obvious in life (Trainor & King 2011). The call of Kisar Friarbird is a rapid, low-pitched *oo-lup*, similar to Australian *citreogularis* (Trainor & King 2011). Greater sampling of contact notes and songs, and perhaps genetic data, are needed to clarify the distinctiveness of this taxon.

BANDA MYZOMELA *Myzomela boiei annabellae*

Babar Common in most wooded habitats from degraded agricultural land to *Melaleuca* woodland and tropical evergreen forest, at sea level to c.300 m (PV & CRT). Song a moderately low-pitched twitter with two or three strong introductory notes (2,750–4,570 Hz) followed by up to 14 even-pitched trilled notes over 0.7–1.2 seconds (AV8964–65, XC138359–360). Considered moderately common in a similar range of habitats on Yamdena (Bishop & Brickle 1998) and Banda Neira in the Banda Islands (Johnstone & Sudaryanti 1995). Part of a complex superspecies formerly lumped within Scarlet Honeyeater *M.*

sanguinolenta (White & Bruce 1986) together with Sulawesi Myzomela *M. chloroptera* and Wakolo Myzomela *M. wakoloensis* (Coates & Bishop 1997, Gill & Donsker 2013). The status of these Wallacean taxa, and recently discovered insular populations, is unclear (Rheindt 2010, Rheindt *et al.* 2010, Trainor *et al.* 2012) and needs review. Banda is 350 km distant from Tanimbar and Babar, and including all of these taxa within *M. boiei* may require further consideration.

SCALY-BREASTED HONEYEATER *Lichmera squamata*

Babar Abundant in all habitats from villages at sea level to evergreen tropical forest to at least 650 m (PV & CRT). **Romang** Noted in 2001. In 2010 it was probably the commonest bird, being recorded in Hila village, gardens, *Eucalyptus* woodland, primary and secondary forest from sea level to at least 550 m. Common also on Nyata. A fledgling with yellow gape patches and plain olive-grey underparts, rather than heavily 'scaled' chest and belly, was photographed in coconut trees at Lakuwahi on 23 October 2010. **Sermata** Although not previously recorded, this Banda Sea endemic was the most vocal bird on the island and common in all habitats. **Leti** Abundant at Serwaru village on 11 August 2001 and recorded near the harbour in 2008. Common in all habitats from village, savanna woodland and secondary tropical forest. Widespread and common or abundant on Damar (Trainor 2007b), but mostly restricted to coastal lowlands on Wetar, where it is common (CRT unpubl.), and surprisingly absent from Kisar, which lacks nectar-rich *Eucalyptus* woodlands and extensive tropical forest (an unconfirmed record of Indonesian Honeyeater *L. limbata* was made on Kisar: Appendix 1). In the Kai group considered scarce except on the small islet of Er (Johnstone & van Balen 2013). Wide range of vocalisations (www.xeno-canto.org) given throughout much of the day. Presumably also present on Lakor, Kelapa and most unvisited small islands.

BLUE-CHEEKED FLOWERPECKER *Dicaeum maugei*

Babar (*salvadorii*) Common in all habitats from village, gardens, tropical secondary forest and evergreen tropical forest (PV & CRT). Fledgling (bright orange gape patches and orange bill except grey tip) photographed in Tepa on 15 August 2012. **Romang** (*maugei*) Frequent in secondary and primary forest, gardens and *Eucalyptus* woodland from sea level to at least 350 m. Kühn collected 27 specimens (Hartert 1904). Greater similarity in song of birds from Babar and Romang than Wetar (*maugei*), despite the subspecific differences in populations on the former islands. On Babar the song (XC138361) comprises 3–4 high-pitched notes at 6,500–8,100 Hz, over 0.7–0.9 seconds, while on Romang (XC139854–855) it is 3–4 notes at 6,900–7,400 Hz, over c.1 second. On Wetar (*maugei*) the song includes three pairs of higher pitched notes at 6,400–9,000 Hz, delivered over c.1.7 seconds. **Damar** (*maugei*) Heard in secondary forest on 24 September 2008. Those on Romang were originally described as an endemic subspecies, *D. m. romae*, but the described differences from Timor *maugei* (abdomen yellowish cream, vs. white with creamy tinge) are slight (White & Bruce 1986). *D. m. salvadorii* was described for those on Moa and Babar, which mostly lack a black breast-band (Hartert 1906a). Perhaps typical of some of the random distributions on Banda Sea islands, flowerpeckers have yet to be recorded on Leti, Luang (Hartert 1911c) or Sermata, and they appear to be genuinely absent from the first- and last-named. Habitat appears suitable on these islands, but their absence may reflect area requirements, particularly where isolated from large source islands. Few published breeding records but Noske (2003) noted juveniles on Timor in December, April and May (wet season).

ASHY-BELLIED WHITE-EYE *Zosterops citrinella albiventris*

Babar Common to abundant below 650 m (PV & CRT). **Romang** Noted in 2001; in 2010, common to abundant at 0–550 m, in village, gardens, secondary and primary forest, and on Nyata. A nest with three white eggs in a clove (*Eugenia aromatica*) tree on 24 October 2010 was 2 m above ground and comprised a well-constructed cup c.12 cm wide by 15 cm deep, mostly of grass. **Sermata** Common to abundant in all habitats from beach, village to evergreen forest below 200 m. Observed feeding on grubs on the ground and on insects in papaya plants. **Leti** Observed behind the harbour on 25 September 2008. In 2010 it was common in villages, savanna woodland and secondary forest. **Kisar** Abundant in Wonreli town, gardens, savanna woodland and tropical forest throughout; c.145 recorded in 2008 (B. F. King *in litt.* 2009). **Moa** Abundant in Kaiwatu on 11 August 2001. **Damar** Heard in secondary forest on 24 September 2008. Typically one of the most abundant passerines throughout its range in the Lesser Sundas (Coates & Bishop 1997, Trainor 2007b), where it is generally replaced by Mountain White-eye *Z. montanus* above c.800–1,000 m. The latter has recently been recorded on Alor, Atauro and Wetar (Trainor *et al.* 2012; CRT unpubl.), but is absent from the south-west islands, presumably because they lack extensive high-elevation habitat. Contact notes of *Z. citrinella* comprise a variety of weak, high-pitched, twittering notes. Song on Romang is 10–17 notes over 3.3 seconds (XC139673) with a warbling quality (and variable frequency range), like *Z. c. albiventris* on Tanimbar (Coates & Bishop 1997). On Babar, continuous low-pitched (2,500–3,500 Hz) squabbling notes over 6–10 seconds were recorded (XC138342, 138347).

ZEBRA FINCH *Taeniopygia guttata guttata*

Leti Common in groups of 3–6 birds in village and savanna woodland. One adult female had a yellow bill (see IBC), which was thought to be unusual, but it is unclear if this represents the yellow-bill mutation because an orange bill is a sexually selected trait more frequent in males, and is also associated with diet, particularly carotenoids. Females often have yellow bills (J. Stapley *in litt.* 2013). It also had a faint black line behind the mandible (but less marked than in Australian birds), a white facial mark bordered by black, and the breast, belly and vent pink, contrasting strongly with the grey throat and flanks. Coates & Bishop (1997) show the adult female as having a more linear white facial patch without a black border, and the underparts are described as pale grey rather than pink. It accompanied an adult male and adult female, both of which had typical red bills. **Kisar** Common in Wonreli, and in gardens and savanna woodland across much of the island; in 2008, 49 were recorded (B. F. King *in litt.* 2009).

Long considered conspecific with Australian *T. g. castanotis*, but because of differences in plumage, size and vocalisations has been recognised specifically by some authorities (Payne 2010). Recent genetic analyses also support its distinctiveness given a high level of non-coding nuclei divergence from Australian populations (Balakrishnan & Edwards 2009). Ancestors of the Lesser Sundas subspecies hypothesised to have colonised Timor from Australia c.1.9 MYA (range 1.2–2.8 MYA: Balakrishnan & Edwards 2009) and have since colonised neighbouring Lombok east to Luang and Sermata (Coates & Bishop 1997). Common in dry, often degraded lowlands on Timor, Wetar and Atauro (Trainor and Soares 2004, Trainor *et al.* 2009), but merits greater field study; most work has been done in aviaries. The absence of Zebra Finch from Sermata, where it was collected historically, was one of several surprising omissions.

TRICOLOURED PARROTFINCH *Erythrura tricolor*

Babar Locally common to strikingly abundant in all habitats including village gardens to at least 300 m (PV & CRT). **Romang** Two records: an immature photographed at Lakuwahi, foraging in bamboo, and an immature-plumaged bird in a papaya plant at Lakuwahi. Contact calls were high-pitched (6,100–7,800 Hz) tonally complex *sweee* notes, given at least 1.4 seconds apart, with rapid increases and decreases in frequency (AV8901, 8907, XC139690), similar to birds on Timor, with slight variation in sonograms (XC32587). On Wetar, a series of higher pitched (7,800–9,100 Hz) upslurred *swik* notes was recorded. Surprisingly common on Babar, but apparently uncommon on Romang. However, ten were collected on Romang by Kühn (Hartert 1904) suggesting that it was formerly quite common. The species is frequently patchily distributed, perhaps being associated with bamboo, and is easily overlooked.

Discussion

Our study provides the first observations of Grey (Kisar) Friarbird and several subspecies endemic to the south-west islands, made during the first ornithological visits to Babar, Romang, Sermata and Leti in >100 years. The distinctiveness of Grey (Kisar) Friarbird, as well as the hen-feathered subspecies of Yellow-throated Whistler remains unclear, but based on their distinctive vocalisations both might be treated as species. The Elegant Pitta subspecies *vigorsii* has been recognised at species level (Gill & Wright 2006) and our observations confirm consistent vocal differences between subspecies (described primarily on plumage differences) and suggest that further taxonomic evaluation is needed. Other notable records were Southern Boobook, Kai Cicadabird, Green Oriole, the lowland-dwelling Snowy-browed Flycatcher and Timor Stubtail.

A total of 46 new island records of resident landbirds were made. Few are surprising. Many can be explained by greater survey effort (e.g. Southern Boobook, other endemics on Sermata), possible (e.g. Pied Bush Chat on Romang, Long-tailed Shrike on Sermata) or certain recent colonisations (e.g. Eurasian Tree Sparrow *Passer montanus*) and some large-bodied birds were not collected historically due to shipping costs (e.g. Large-billed Crow) but were mentioned by Kühn to Hartert. Records of Timor Stubtail on Romang are of substantial biogeographical significance. This tiny skulking passerine has recently been discovered on Atauro (Trainor & Soares 2004), Roti (Trainor 2005b) and Alor (Trainor *et al.* 2012). Analysis of sound-recordings shows that vocalisations are similar throughout its range. Specimens and molecular work are probably needed to improve knowledge of the taxonomic affinities of these populations. The Babar survey confirms the adequacy of historical effort because we added only six resident landbirds. The survey on Romang appears to have been adequate to record most bird species. Few resident landbirds were missed, most of them grassland specialists (Tawny Grassbird *Megalurus timoriensis*, Golden-headed Cisticola *Cisticola exilis*, Scaly-breasted Munia *Lonchura punctulata* and Pale-headed Munia *L. pallida*) or riverine birds (Azure Kingfisher *Ceyx azureus* and Common Kingfisher *Alcedo atthis*). Kai Cicadabird is one of the most poorly known Banda Sea endemics: sound-recordings from Romang should enable future surveys to determine the status of this inconspicuous (and presumably uncommon to rare) bird. A call recorded on Babar is similar to this species, but confirmation is needed. Among several migrants missed on Romang, the most interesting omission was Spotted Nightjar, which arrives from Australia in the austral winter. Specimens taken on Romang and elsewhere in the region are from the period July–September (White & Bruce 1986), so it may have been absent during our survey. Modern-day presence of Australian migrants during recent field work in the south-west islands, Tanimbar and Kai appears lower than in the collecting era (Appendix 2). Part of

the explanation may be that populations of much of Australia's avifauna are declining (e.g. Garnett *et al.* 2010) and presumably populations of migrants are in similar straits.

The large number of additions to the avifauna of Sermata (e.g. 20 resident landbirds), and the equally large number of missed species is puzzling. Additions included seven restricted-range species (Elegant Imperial Pigeon, Pink-headed Imperial Pigeon, Olive-headed Lorikeet, Cinnamon-banded Kingfisher, Orange-sided Thrush, Wallacean Whistler and Scaly-breasted Honeyeater). The best explanation is survey effort (e.g. nine days on Sermata vs. at least 47 on Babar). Kühn's men may have also focused more on open-country species and waterbirds than forest landbirds. Twenty-five (56%) of the species recorded in 1906 went unrecorded in 2010, including ten resident landbirds (Brown Goshawk, Bar-necked Cuckoo-Dove, Paddyfield Pipit *Anthus rufulus*, Wallacean Cuckooshrike, White-shouldered Triller, Wallacean Drongo *Dicrurus densus*, Black-faced Woodswallow *Artamus cinereus*, Zebra Finch, Five-coloured Munia *Lonchura quincolor* and Pale-headed Munia) that are generally common throughout their Wallacean distributions in tropical forest or savanna woodland, which were covered by the recent survey. An exception may be Brown Goshawk, an inconspicuous species that is easily overlooked, and appears rare in the south-west islands. Black-faced Woodswallow is often patchily distributed and uncommon. When CRT questioned local villagers on Sermata about the distinctive Wallacean Drongo, they mentioned that the species is abundant on an island to the west (probably Metimiarang), but they were actually referring to frigatebirds *Fregata* sp.! Possibly Kühn's men missed Sermata and visited Kelapa, 2.9 km west of Sermata. This seems unlikely, as all of the listed birds would be expected on Sermata but, as with collections from nearby Luang, there is a high proportion of visiting / migrant open-country species and few forest specialists (Hartert 1911a,c).

Sermata presumably had greater forest cover during the collecting era, so the number of open-country / grassland species recorded historically and small number of forest specialists is difficult to interpret. Of the 47 species collected on Luang, several are surprise inclusions (Bonelli's Eagle, Banded Fruit Dove and Wallacean Drongo) as these birds usually depend on forest and are mostly restricted to large islands (>c.100 km²). However, Luang presumably also had greater forest cover in the early 20th century, compared to the fragments now. One of the most surprising species that was not seen on Sermata is Paddyfield Pipit, which typically requires short grass, a habitat not found by us, but is perhaps present elsewhere on the island (or outside La Niña years). The species is abundant on drier islands such as Kisar and locally on Timor (CRT unpubl. data), and is listed for Leti and Moa, but not Babar or Tanimbar (Coates & Bishop 1997). It was not collected on Luang (Hartert 1906b, 1911c) which is now dominated by short-grass habitat. The status of finches also hints at substantial changes in bird composition between surveys. In 2010 only the newly recorded Scaly-breasted Munia was widespread and abundant, whereas in 1906 Zebra Finch, Five-coloured and Pale-headed Munias were collected. The last-named was also overlooked on Babar during recent visits. Natural avifaunal turnover has been suggested as a cause of these differences (M. Bruce *in litt.* 2011), but this seems unlikely to explain the degree and composition of avian change in a relatively short period, particularly in the absence of major environmental events (e.g. a volcanic eruption). The lack of records of Bar-necked Cuckoo-Dove (single historic specimen), Wallacean Drongo and perhaps White-shouldered Triller is also surprising, as these species are typically vocal and conspicuous. More observations are needed on Leti (and Moa) but the avifaunas of Babar, Kisar and Romang are now relatively well known, while improved coverage on Sermata (plus Luang and other islets) might add species and provide further clarification of the status of several others known only from the 1906 visit.

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Addresses: Colin R. Trainor, School of Environment, Charles Darwin University 0909, Northern Territory & School of Science, Information Technology and Engineering, University of Ballarat, Victoria, Australia, e-mail: halmahera@hotmail.com. Philippe Verbelen, Krijgsgasthuisstraat 89, 9000 Ghent, Belgium, e-mail: filip_verbelen@yahoo.fr

APPENDIX 1

Species encountered during field work on Babar, Masela, Romang, Sermata, Leti, Kisar, Damar and Moa but not included in the main text. * = new island record, predominantly migrant, visiting or non-forest resident species. All records by CRT except where indicated.

Species name	Comments
Tricoloured Grebe <i>Tachybaptus tricolor</i>	Babar*: six on lake south of Letwuring on 12 August 2011.
Great Frigatebird <i>Fregata minor</i>	Romang*: present off Hila on 13 August 2001. Leti*: two at harbour on 11 August 2001.
Lesser Frigatebird <i>Fregata ariel</i>	Babar*: one over brackish lake south of Letwuring on 12 August 2011, several seen by PV. Damar: one near Wulur on 24 September 2008.
Little Black Cormorant <i>Phalacrocorax sulcirostris</i>	Babar*: two photographed in coastal lagoon near Tapa (PV).
Little Pied Cormorant <i>Microcarbo melanoleucos</i>	Babar*: several photographed south of Tapa at <i>air besar</i> in 2009 (PV); one at brackish lake south of Letwuring on 12 August 2011. Romang*: present off Hila on 13 August 2001. Leti*: four along coast on 13 November 2010.
Australian Pelican <i>Pelecanus conspicillatus</i>	Babar: five photographed on lagoon near Tapa in 2009 (PV). Regular on Tanimbar and Timor (Bishop & Brickle 1998, Trainor 2011).
Great-billed Heron <i>Ardea sumatrana</i>	Romang: one off Hila village and one on beach on Nyata Island. Sermata: one flew past Elo village on 2 November. Leti*: two flew past the harbour on 14 October 2010.
Great Egret <i>Ardea alba</i>	Babar: single photographed near <i>air besar</i> in 2009 (PV); one near estuary of <i>air besar</i> south of Tapa on 16 August 2011 (a male collected near Tapa on 22 May 1906: Hartert 1911b).
Intermediate Egret <i>Egretta intermedia</i>	Babar*: one on brackish lake south of Letwuring on 12 August 2011.
Pacific Reef Egret <i>Egretta sacra</i>	Babar: white phase photographed near Tapa (PV & CRT); grey phase at Tapa, white phase at Letwuring. Masela*: one on beach in 2001. Romang: white phase on Nyata Island. Sermata: dark phase seen several times in flight. Moa: two dark phase at Kaiwatu on 11 August 2001. Kisar: dark phase on beach; one in 2008 (B. F. King <i>in litt.</i> 2009).
Rufous Night Heron <i>Nycticorax caledonicus</i>	Babar: heard and seen regularly at dusk near Tapa (PV); singles flushed twice in dense coastal forest near Tapa. Sermata: one heard (<i>kwok</i>) after dusk on 8 November 2010, was presumably this species or Striated Heron <i>Butorides striata</i> .
Royal Spoonbill <i>Platalea regia</i>	Babar: one flew over Tapa on 24 August 2009 (PV); one specimen (Hartert 1906a).
Pacific Baza <i>Aviceda subcristata timorlaeensis</i>	Babar*: one photographed in shrubby clearing near Liliana (150 m) on 11 August 2011.

Species name	Comments
Oriental Honey Buzzard <i>Pernis ptilorhynchus</i>	Kisar: single photographed near the airport on 28 October 2010; one collected historically, and one seen in 2008 (B. F. King <i>in litt.</i> 2009).
Brahminy Kite <i>Haliastur indus intermedius</i>	Babar: a few observed in 2009 at Tapa (PV); three adults at Tapa and Letwuring, and an immature at Letwuring on 13 August 2011. Damar: one adult on 24 September 2008. Leti: four singles seen.
White-bellied Sea Eagle <i>Haliaeetus leucogaster</i>	Babar*: immature photographed near Tapa (PV); an adult off Tapa on 7 August 2011 and one at Liliana on 11 August 2011. Moa*: pair at the harbour in 2001. Romang*: adult in flight off Hila. Sermata: immature photographed at Elo on 8 November. Moa*: two at Kaiwatu on 11 August 2001; Kisar: one in 2008 (B. F. King <i>in litt.</i> 2009).
Japanese Sparrowhawk <i>Accipiter gularis</i>	Romang: unidentified <i>Accipiter</i> flying through Hila village on 19 October 2010 was this species or Chinese Sparrowhawk <i>A. soloensis</i> . Leti*: single perched near the harbour on 25 September 2008; an <i>Accipiter</i> observed briefly on 13 November 2010 was either this species or Chinese Sparrowhawk.
Australian Hobby <i>Falco longipennis</i>	Babar: one at close range in flight near Tapa in 2009 (PV), probably an Australian migrant or possibly resident.
Spotted Kestrel <i>Falco moluccensis microbalius</i>	Babar: several singles over open areas (PV). Sermata: one photographed and seen on several days near Elo village. Kisar: one in 2008 (B. F. King <i>in litt.</i> 2009).
Orange-footed Scrubfowl <i>Megapodius reinwardt reinwardt</i>	Babar: frequently heard throughout the night and morning in forest at Liliana; common in coastal forest and scrub near <i>air besar</i> (PV). Romang: frequently heard at dawn and after dusk in forest. Sermata: Fairly common, heard often at dusk in forest edge and gardens.
Black-winged Stilt <i>Himantopus himantopus</i>	Babar*: three photographed on exposed reef at Tapa on 17 August 2011.
Pacific Golden Plover <i>Pluvialis fulva</i>	Sermata*: one photographed behind beach 5 November 2010.
Lesser Sand Plover <i>Charadrius mongolus</i>	Babar*: flock of 30+ photographed on stony beach near Tapa on 18 August 2009 (PV).
Greater Sand Plover <i>Charadrius leschenaultii</i>	Babar: total of four on beach at Letwuring on 11–12 August 2011, and two at Tapa harbour on 17 August 2011.
Whimbrel <i>Numenius phaeopus</i>	Masela*: one on beach in 2001. Sermata*: one photographed on beach on 2 November 2010. Leti: one behind harbour on 11 November 2010. Damar: one on 24 September 2008.
Black-tailed Godwit <i>Limosa limosa</i>	Babar: one photographed near Tapa on 18 August 2009 (PV).
Common Greenshank <i>Tringa nebularia</i>	Babar: one at Tapa harbour on 17 August 2011. Damar: one on 24 September 2008.
Wood Sandpiper <i>Tringa glareola</i>	Romang*: 2–3 at Hila. Sermata*: at least two on beach.
Terek Sandpiper <i>Xenus cinereus</i>	Babar*: one photographed on beach near Tapa on 18 August 2009 (PV).
Common Sandpiper <i>Actitis hypoleucos</i>	Babar: several seen and heard near Tapa (PV); 3–4 at Tapa on 7 August 2011, two at Letwuring on 9 August 2011 and one at Tapa on 17 August 2011. Romang: c.12 at Hila and 20 on Nyata Island. Sermata*: photographed on several days at beach. Leti: one on 11 August 2001, two on 25 September 2008 and 4–5 in 2010. Kisar: several on beach; three in 2008 (B. F. King <i>in litt.</i> 2009). Damar: one on 24 September 2008.
Grey-tailed Tattler <i>Tringa brevipes</i>	Babar: one on beach at Letwuring on 12 August 2011. Romang*: four on beach at Hila. Sermata: one photographed on beach on 2 November 2010. Leti*: six in stream behind harbour on 25 September 2008, and one on beach on 13 November 2010.

Species name	Comments
Red-necked Stint <i>Calidris ruficollis</i>	Romang*: two on beach. Sermata: two photographed on beach.
Long-toed Stint <i>Calidris subminuta</i>	Babar*: two on beach near Tapa on 18 August 2009 (PV).
Curlew Sandpiper <i>Calidris ferruginea</i>	Babar*: three adults in partial summer plumage near Tapa on 18 August 2009 (PV).
Sharp-tailed Sandpiper <i>Calidris acuminata</i>	Romang*: 3–4 on beach.
Red-necked Phalarope <i>Phalaropus lobatus</i>	Leti*: three near the harbour on 11 August 2001.
Beach Thick-knee <i>Esacus magnirostris</i>	Babar: pair alarm-calling along sandy beach near <i>air besar</i> , presumably nesting nearby (PV); one calling (<i>kleep kleep</i>) at c.03.00 h at Tapa. Sermata: vocal records along the coast at night.
Australian Pratincole <i>Stiltia isabella</i>	Babar: photographed on beach (PV); four on 25 August 2009; four at Tapa on 7 August 2011 and one on 17 August 2011.
Whiskered Tern <i>Chlidonias hybrida</i>	Kisar*: single photographed near Wonreli on 12 October 2010. Damar*: single flying over mudflats on 24 September 2008.
Gull-billed Tern <i>Gelochelidon nilotica affinis</i>	Leti*: two photographed at the harbour on 25 September 2008, subsequently identified as <i>G. n. affinis</i> . Collected on Luang (Hartert 1906b).
Greater Crested Tern <i>Thalasseus bergii</i>	Romang*: at least two on 20 October 2010 photographed off Hila. Leti: c.4 observed daily along the coast.
Brown Noddy <i>Anous stolidus</i>	Romang*: flock of c.40 photographed off Hila on 20 October 2010.
Spotted Dove <i>Spilopelia chinensis tigrina</i>	Babar: uncommon with one, two or a few at Tapa and Letwurung. Romang: occasional in gardens. Sermata: frequent in small numbers in shrub and gardens. Leti: one in Elo village. Kisar: a few in gardens near Wonreli in 2010, but unrecorded in 2001 (Trainor 2003); 15 in 2008 (B. F. King <i>in litt.</i> 2009).
Pacific Emerald Dove <i>Chalcophaps longirostris timorensis</i>	Babar: frequent in well-wooded gardens and secondary forest, but unrecorded at Liliana. Romang: common in forest; photographed; typical <i>uu-uuut</i> (XC139692, 139699–700). Sermata: one photographed and heard calling infrequently. Leti: heard in secondary forest. Kisar: several flushed in forested valleys, and heard; seven in 2008 (B. F. King <i>in litt.</i> 2009).
Barred Dove <i>Geopelia maugeus</i>	Babar: uncommon at Tapa, but c.30 on road to Letwurung, where common. Romang: noted in 2001; in 2010 occasional in gardens and scrub, and on Nyata Island. Sermata: a few in gardens. Leti: one at Serwaru on 11 August 2001, and heard in the village in 2010. Kisar: fairly common in gardens and savanna woodland; c.100 in 2008 (B. F. King <i>in litt.</i> 2009).
Himalayan Cuckoo <i>Cuculus saturatus</i>	Sermata*: one flushed in coastal shrub and photographed on 8 November 2010.
Koel sp. <i>Eudynamys orientalis / scolopaceus</i>	Romang: regularly heard after dusk and occasionally by day. Sermata*: a few heard at dawn and dusk around forest. Historically only Pacific Koel <i>E. orientalis</i> collected in region.
White-throated Needletail <i>Hirundapus caudacutus</i>	Sermata*: flocks of 20–30 photographed on coast. An uncommonly reported Palearctic winter visitor to the region with few Lesser Sunda records; winters mostly in New Guinea and eastern Australia (Coates & Bishop 1997).
Pacific Swift <i>Apus pacificus</i>	Leti*: a few over village on 11 November 2010. Kisar*: c.6 over Wonreli on 16 November 2010.

Species name	Comments
Collared Kingfisher <i>Todiramphus chloris chloris</i>	Babar: heard at harbour in 2001; common in 2009 (PV); abundant on coast (10–30 daily) and frequent inland along rivers in 2011. Romang: present in 2001; in 2010 frequent in all wooded habitats, one flew from a termitaria on a coconut palm. Sermata: common in woodland and tropical forest. Leti: one seen and several heard in 2010. Kisar: four in 2008 (B. F. King <i>in litt.</i> 2009). Damar: one on 24 September 2008.
Sacred Kingfisher <i>Todiramphus sanctus</i>	Babar: abundant along coast with up to 20 daily, perched on wires, exposed coral reefs and coastal trees.
Small kingfisher sp.	Damar*: a high-pitched squeak, similar to Common Kingfisher <i>Alcedo atthis</i> heard on 24 September 2008 (Common Kingfisher occurs on Romang, though unrecorded in 2010).
Rainbow Bee-eater <i>Merops ornatus</i>	Romang: occasional over village and gardens; also Nyata Island. Kisar: heard and 3–4 seen; two in 2008 (B. F. King <i>in litt.</i> 2009).
Oriental Dollarbird <i>Eurystomus orientalis pacificus</i>	Babar: heard at Liliana on 14 August 2011. Romang*: frequent at garden edge and in secondary forest (XC139853). Leti: two photographed in savanna woodland. Kisar: one in 2008 (B. F. King <i>in litt.</i> 2009).
Horsfield's Bushlark <i>Mirafrja javanica</i>	Kisar*: song flights recorded at airfield on 12 October 2010.
Barn Swallow <i>Hirundo rustica gutturalis</i>	Babar*: two at Tapa on 14 August 2011. Romang*: a few at Hila. Sermata*: twos and threes in flight at village. Leti: one on 25 September 2008, and a few over village in 2010. Kisar*: a few seen.
Pacific Swallow <i>Hirundo tahitica javanica</i>	Babar: a few photographed near Tapa (PV & CRT), seen at Letwurung. Romang: noted at Hila in 2001, and a few there in 2010. Leti*: c.20 over beach on 25 September 2008, and small numbers in 2010. Kisar: two seen; 12 in 2008 (B. F. King <i>in litt.</i> 2009).
Tree Martin <i>Petrochelidon nigricans</i>	Babar: a few in 2009 (PV) and c.5 near Tapa on 7 & 14 August 2011. Leti*: c.20 in small groups on powerlines on 11–14 November 2010.
Eastern Yellow Wagtail <i>Motacilla tschutschensis</i>	Romang*: up to four at Hila; one on Nyata Island. Sermata*: ones and twos regular around village and in coastal shrub, including an immature photographed. Kisar*: singles along stream on 12 October 2010. Damar*: heard on 24 September 2008.
Paddyfield Pipit <i>Anthus rufulus</i>	Leti: 3–4 heard in coastal savanna. Kisar: common in grassy savanna woodland; 15 in 2008 (B. F. King <i>in litt.</i> 2009).
Zitting Cisticola <i>Cisticola juncidis</i>	Leti: common in village, gardens and savanna. Kisar: frequently heard, one photographed; two in 2008 (B. F. King <i>in litt.</i> 2009).
Island Monarch <i>Monarcha cinerascens</i>	Romang: frequent in primary and secondary forest to 320 m; also Nyata Island. Sermata*: common in primary and secondary forest to 200 m with one photographed. Kisar: frequent in forested valleys.
Spectacled Monarch <i>Symposiachrus trivirgatus trivirgatus</i>	Romang: seen in 2001 on coast; in 2010 frequent in primary and secondary forest to 320 m.
Black-faced Woodswallow <i>Artamus cinereus</i>	Leti: four flying over village on 13 November 2010.
White-breasted Woodswallow <i>Artamus leucorhynchus musschenbroeki</i>	Babar: small numbers along river inland of Tapa (PV); just two south of Tapa in 2011. <i>A. l. musschenbroeki</i> is endemic to Babar and Tanimbar, but is weakly differentiated, with a slightly longer and stouter bill, and marginally more black on the crown (White & Bruce 1986).
Short-tailed Starling <i>Aplonis minor</i>	Romang: uncommon with c.1 record / day in primary and secondary forest, mostly of pairs flying over.
[Indonesian Honeyeater <i>Lichmera limbata</i>]	Kisar*: heard near the airport, but none seen, so this first record must be considered unconfirmed. Perhaps occasionally visits from Timor or Wetar.

Species name	Comments
Eurasian Tree Sparrow <i>Passer montanus</i>	Babar*: introduced and locally common in Tapa (PV & CRT) and Letwurung. Romang*: common in Hila. Sermata*: abundant in Elo. Leti: common in Serwaru. Kisar*: abundant in Wonreli and over much of the island near houses; present in 2008 (B. F. King <i>in litt.</i> 2009).
Scaly-breasted Munia <i>Lonchura punctulata blasii</i>	Babar: uncommon except in Tapa gardens where c.20 seen. Romang: munias observed in 2001 and 2010 but not identified to species may have been this species, which was collected historically. Sermata*: not collected historically, common in flocks of up to 30 at Elo village, with photographs of adults and immatures. Kisar: common in savanna woodland and village, mostly juveniles.
Five-coloured Munia <i>Lonchura quinticolor</i>	Babar: groups of up to ten in gardens at Tapa, but not seen elsewhere.

APPENDIX 2

Status of Australian landbird migrants in the Banda Sea region (sources: White & Bruce 1986, Bishop & Brickle 1998, Hornbuckle 2009, Johnstone & van Balen 2013; PV & CRT unpubl.). Key: H = historical record (pre-1980), R = recent record (post-1980). It is unclear whether some species arrive as migrants or are represented by resident forms, or a mix of both (including omitted species such as Australian Hobby *Falco longipennis* and koels *Eudynamys* sp.).

Species	South-west	Tanimbar	Kai
Nankeen Kestrel <i>Falco cenchroides</i>	H		R
Pallid Cuckoo <i>Cacomantis pallidus</i>	H		
Brush Cuckoo <i>C. variolosus</i>	H		H/?R
Horsfield's Bronze Cuckoo <i>Chrysococcyx basalis</i>		R	
Shining Bronze Cuckoo <i>C. lucidus</i>	?	?	?
Black-eared Cuckoo <i>C. osculans</i>	H		H
Channel-billed Cuckoo <i>Scythrops novaehollandiae</i>	H	H/R	H/R (probably resident)
Spotted Nightjar <i>Eurostopodus argus</i>	H		
Sacred Kingfisher <i>Todiramphus sanctus</i>	H/R	H/R	H/R
Forest Kingfisher <i>T. macleayii</i>	H	H/R	H/?R
Rainbow Bee-eater <i>Merops ornatus</i>	H/R	H/R	R
Oriental Dollarbird <i>Eurystomus orientalis</i>	H/R	H/R	H/R
Tree Martin <i>Petrochelidon nigricans</i>	H/R	R	H/R
Black-faced Cuckooshrike <i>Coracina novaehollandiae</i>	H	H/R	H/R
White-bellied Cuckooshrike <i>C. papuensis</i>	H	H/R	H/R
Olive-backed Oriole <i>Oriolus sagittatus</i>	H		
Magpielark <i>Grallina cyanoleuca</i>	H	R	H

First record of Redwing *Turdus iliacus* in South America

by Guilherme R. R. Brito, Jorge Bruno Nacinovic & Dante Martins Teixeira

Received 15 April 2013

Redwing *Turdus iliacus* breeds from Iceland to eastern Russia and winters mainly in Europe, east to the Caspian (Collar 2005), with some birds migrating up to 7,000 km (Clement & Hathway 2000, Milwright 2003). It is a winter visitor to Greenland (Clement & Hathway 2000) and a vagrant to both coasts of the USA and Canada (ABA 2002).

Vagrants reach North America via two routes. Those on the north-east Atlantic coast have apparently crossed the North Atlantic to reach Greenland, Newfoundland and the USA. Other than a doubtful record at Jamaica Bay, New York, in February 1959 (Young 1959), the first documented record in North America was at St. Anthony, Newfoundland, on 26 June–11 July 1980 (Vickery 1980, Hall 1981, Montevecchi *et al.* 1981). Subsequent records are from Newfoundland, Quebec and Pennsylvania, all of singles in February (Clement & Hathway 2000, Denault 2000, Kasir 2005). On the Pacific coast there are fewer records, and these birds presumably arrive via the Bering Sea (Clement & Hathway 2000, Gibson *et al.* 2012), in Olympia, Washington, in December 2004–March 2005 (Mlodinow & Aanerud 2008) and Seward, Alaska, in November 2011 (Gibson *et al.* 2012). In East Asia, *T. iliacus* has wandered south to Japan, in January (Oozeki *et al.* 2004).

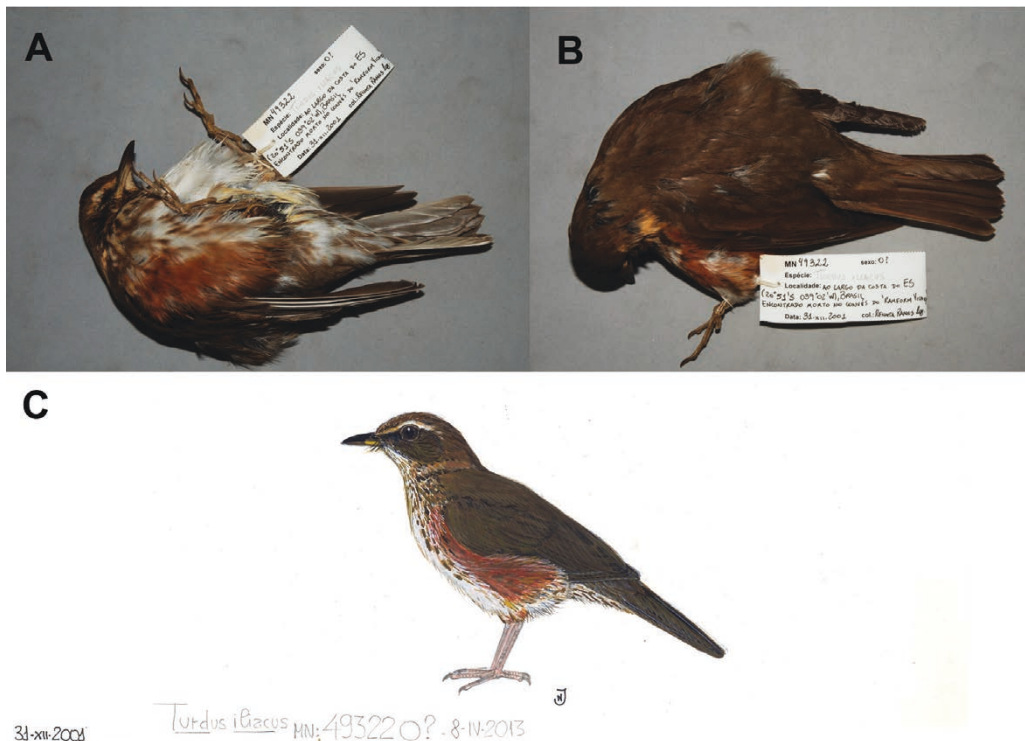


Figure 1. Redwing *Turdus iliacus* specimen (MN49322) collected on the *Ramform Victory*, off Espírito Santo, Brazil, 31 December 2001. Note the specimen's mummified condition. A: ventral view (Guilherme R. R. Brito); B: dorsal view (Guilherme R. R. Brito); C: plate depicting the precise plumage of the specimen, but iris and tarsus colours are based on the literature (Jorge B. Nacinovic)

On 31 December 2001 a *T. iliacus* (Museu Nacional 49322; Fig. 1), sex unknown, was found dead on the *Ramform Victory*, a seismic research vessel operating 150 km off the coast of Espírito Santo state, south-east Brazil (20°51'S, 39°02'W). The bird was delivered to us mummified (formalin 4%), preventing taxidermy. This is the first record in the Southern Hemisphere and South America. The possibility of its being a cagebird belonging to a crew member has been considered, but the bird's finders attested that it was present on deck and was fed leftovers for two days (29–30 December 2001) before perishing (S. Siciliano pers. comm.).

Ship-assisted Atlantic Ocean crossings might explain the presence of some vagrant birds in Brazilian waters or the mainland, for example that of several Pied Crows *Corvus albus* from Africa in Santos and Cubatão harbours, south-east Brazil (Lima & Kamada 2009). However this species, unlike Redwing, is sedentary and other corvids, especially House Crow *C. splendens*, are well known for their dispersive capabilities using ships (e.g. Ryall 1974). The *Ramform Victory* is used in oil field detection on continental platforms, so from the moment it arrives on station it does not make long-distance movements. Efforts to contact the ship's owners were made, in order to more fully establish its movements, but to date we have received no reply. However, the bird's corpse was retrieved by researchers towards the end of a 20-day cetacean survey during which period the vessel made only short-distance movements. In addition to the Redwing, two exhausted Tropical Kingbirds *Tyrannus melancholicus* that arrived on the ship were photographed and identified by GRRB (R. Ramos pers. comm.).

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Jason Weckstein and Guy M. Kirwan provided helpful comments and literature, Andrew Whittaker a very detailed and informative review of the submitted manuscript, Renata Ramos collected the bird and Prof. Salvatore Siciliano donated the specimen to the Museu Nacional, Rio de Janeiro. GRRB receives a post-doctoral fellowship from CAPES/FAPERJ (process number E-26/102.506/2010) and DMT a research fellowship from the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq).

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Address: Setor de Ornitologia, Departamento de Vertebrados, Museu Nacional da Universidade Federal do Rio de Janeiro, Quinta da Boa Vista s/n, São Cristóvão, Rio de Janeiro, RJ 20940-040, Brazil, e-mail: grrbrito@yahoo.com.br

The name of the Forest Thrush *Cichlherminia lherminieri* on Montserrat

by Marek Kuziemko & Frederik P. Brammer

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The Forest Thrush *Cichlherminia lherminieri* is endemic to the Lesser Antilles, and until recently the population on Montserrat was known as *C. l. lawrencii* Cory, 1891. With the merger of this monotypic genus into *Turdus* (Chesser *et al.* 2009) based on results of DNA sequences, the name *lawrencii* Cory, 1891, becomes preoccupied by *Turdus lawrencii* Coues, 1880 (itself a replacement name for *T. brunneus* Lawrence, 1878; the Lawrence's Thrush of Amazonia), so Zuccon (2011) proposed *Turdus lherminieri montserrati* nom. nov. for it, stating that no available junior synonym exists.

With the kind permission of D. Zuccon (*in litt.* 2013), we would like to draw attention to another name for this taxon: *Planesticus lherminieri dorotheae* Wolters, 1980 (p. 407, left column, footnote 1). Although Wolters (1980) treated both species in the genus *Planesticus* the circumstances are no different in *Turdus*; the name *dorotheae* is thus also available and has priority. The Forest Thrush of Montserrat should therefore be called:

***Turdus lherminieri dorotheae* (Wolters, 1980).**

The name *Turdus lherminieri montserrati* Zuccon, 2011, becomes a junior objective synonym of *Planesticus lherminieri dorotheae* Wolters, 1980. If new research should demonstrate that this taxon is best returned to *Cichlherminia*, or should Lawrence's and Forest Thrushes be placed in different genera, the name *lawrencii* Cory, 1891, can be used once again; see Art. 59.4 of the *International code of zoological nomenclature* (ICZN 1999).

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Addresses: Marek Kuziemko, ul. Piastów 11/1, 35-077 Rzeszów, Poland, e-mail: mkaves@gmail.com. Frederik P. Brammer, Rua João Ferreira da Silva, 1000, apto. 33, Arvore Grande, Sorocaba, São Paulo, CEP 18013-200, Brazil, e-mail: frebram@gmail.com

First documented record of Black Rail *Laterallus jamaicensis* in Honduras

by Andrew C. Vallely & Robert J. Gallardo

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Black Rail *Laterallus jamaicensis* occurs very locally from southern Canada to Chile and Argentina, but is best known in the southern USA (Ripley 1977, Eddleman *et al.* 1994, Taylor & van Perlo 1998) and is considered Near Threatened (IUCN 2013). Rare and poorly known in Central America, where breeding has been reported only in Panama (Harty 1964) and all records are from near sea level, except in Guatemala, where there are undated historical specimens from the highlands (1,450 m) at San Miguel Dueñas, dpto. Sacatepéquez (Salvin 1866, Salvin & Godman 1879–1904). There are no subsequent records in the country (Eisermann & Avendaño 2007; K. Eisermann *in litt.* 2013). In Belize, Black Rail was first reported by Russell (1966) based on two specimens taken on 29 June 1963 in north-east Toledo (*c.* 27 km north-west of Monkey River). Additional records from Toledo, mentioned by Howell *et al.* (1992), are from 27–29 June 1992, and by Jones (2003, eBird 2013), on 9 November 2002. ACV (pers obs.) detected a singing Black Rail in southern Orange Walk district on 20 April 1998, and M. O'Brien reported hearing one on 12 March 2005 in

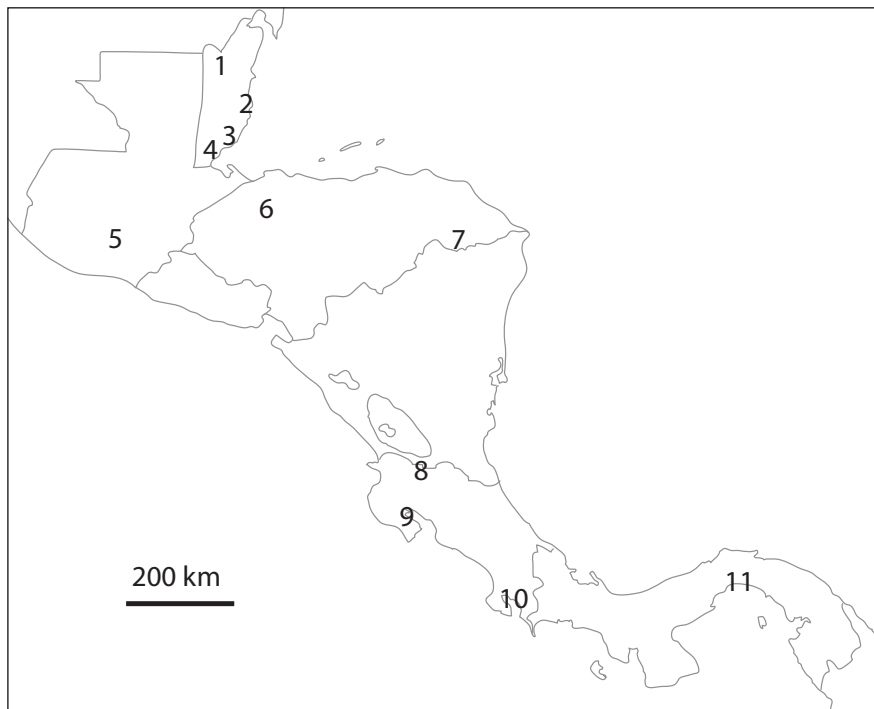


Figure 1. Map showing Central American reports of Black Rail *Laterallus jamaicensis*: (1) Orange Walk district, Belize, (2) Stann Creek district, Belize, (3) northern Toledo district, Belize, (4) southern Toledo district, Belize, (5) San Miguel Dueñas, dpto. Sacatepéquez, Guatemala, (6) La Pimienta, dpto. Cortés, Honduras, (7) Mabita, dpto. Gracias a Dios, Honduras, (8) Medio Queso, Puntarenas, Costa Rica, (9) Taboga, Guanacaste province, Costa Rica, (10) Puntarenas province, Costa Rica, (11) Tocumen, Panamá province, Panama.



Figure 2 (left). Habitat of Black Rail *Laterallus jamaicensis*, Mabita, dpto. Gracias a Dios, Honduras, 25 June 2013 (Andrew C. Vallely)

Figure 3 (right). Adult Black Rail *Laterallus jamaicensis*, Mabita, dpto. Gracias a Dios, Honduras, 24 June 2013 (Andrew C. Vallely)

Stann Creek district (eBird 2013). Monroe (1968) mentioned sight records on 10 March 1953 near La Pimienta (75 m) on the río Ulúa, dpto. Cortés, in western Honduras, but lacking a voucher or other evidence he considered the species of ‘doubtful occurrence’ in the country. This area has undergone agricultural intensification and it is unknown if suitable habitat remains. The species has not been reported in Nicaragua (Martínez-Sánchez 2007, Martínez-Sánchez & Will 2010). In Costa Rica it is known from sight records on the Pacific slope on 6–9 July 1966, 3 September 1966 and 19 June 1967 at Taboga, Guanacaste (Orians & Paulson 1969) and on the Peninsula de Osa at Rancho Quemado, Puntarenas (Stiles & Skutch 1989). On the Caribbean slope it has been reported from the río Frío area at Medio Queso, Alajuela, near the Nicaraguan border (Stiles & Skutch 1989). Central American records are from both the boreal winter and summer, and the species is potentially resident, but breeding has been documented only in Panama, where a nest was found at Tocumen, Panamá province (Harty 1964), the only record in the country (G. Angehr *in litt.* 2013). Central American records are mapped in Fig. 1.

On the afternoon of 18 June 2013, RJG heard the distinctive three-syllable call of *L. jamaicensis* in an extensive (>100 ha) area of partially flooded grassland bordered by pine (*Pinus caribaea*) woodland (Fig. 2) near Mabita, dpto. Gracias a Dios, in eastern Honduras (14°33′15″N, 84°26′49″W; Fig. 1). RJG alerted ACV and other members of the field party, and we both obtained brief but diagnostic views of a rail as it ran on the ground and later flushed displaying fine whitish speckling on the dorsal surface and a rufous neck patch. On 24 June 2013 we returned to Mabita and obtained photographs of an adult captured by local residents (Fig. 3) c.1 km from the sighting on 18 June. The grass understorey was sparse and low (<15 cm). Small areas of exposed soil were visible. Some areas held shallow, standing water. Local informants explained that the area has undergone recent and frequent burning to improve grazing for cattle, although none was present at the time of our visit. Other species included Fork-tailed Flycatcher *Tyrannus savanna*, Grasshopper Sparrow *Ammodramus savannarum*, Botteri’s Sparrow *Peucaea botterii* and Eastern Meadowlark *Sturnella magna*.

Our observations represent not only the first documented records of Black Rail in Honduras but also fill a large distributional gap. The extent of grassland and pine woodland in the Honduran Moskitia (c.6,000 km²; Meyers *et al.* 2006) suggests that there is considerable available habitat in the region, but systematic surveys are needed to

estimate population size, abundance and seasonal status. Because Black Rail is thought to be declining in the north of its range (Eddleman *et al.* 1994, IUCN 2013), its presence in the sparsely settled Honduran Moskitia may afford a valuable conservation opportunity. Surveys in ecologically similar areas of adjacent Nicaragua are also needed to further clarify the species' range and status.

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- Addresses:* Andrew C. Vallely, 84 Riverside Drive 2F, New York, NY 10024, USA, e-mail: andrewcvallely@gmail.com. Robert J. Gallardo, Hotel El Cortijo, Lake Yojoa, Honduras, e-mail: rgallardo32@gmail.com

The authorship of the name *Amytornis textilis*: a reply to Black, Schodde & Préviate

by Edward C. Dickinson, Alain Dubois and Roger Bour

Received 13 July 2013

In their splendid detective work relating specimens of grasswrens to geographical origins, Black *et al.* (2013) have resolved the primary questions that they faced, but we consider that they have erred in seeking to ascribe authorship of the name *Malurus textilis* (Western Grasswren) to Quoy and Gaimard.

They correctly point out that the *Dictionnaire des sciences naturelles* appeared some months before the text or the plate published by Quoy and Gaimard (1824), the text of which, and probably the plate, was in livraison 3 of their volume, which has been dated 28 August 1824 (Zimmer 1926). They argue that Dumont 'worked closely' with these authors and that he used their information; and indeed Dumont explicitly mentioned Quoy & Gaimard. However, this must have been many months earlier because Dumont must have finished his part of the dictionary before leaving Toulon on 11 August 1822 on the frigate *La Coquille*, on which he only returned to France on 24 March 1825 (Simpson 2012). However, he subsequently took command of the *Astrolabe* on which Quoy and Gaimard served on a four-year voyage of discovery (Quoy & Gaimard 1830). In 1822 it is possible that he thought their work would appear first, but it is interesting to see how long each account took to appear.

However, Dumont's reference to these authors is typical of a reference to a manuscript name of a kind common at the time, when in all likelihood it was the author's intention that the credit should be attributed to those who coined the name. It is apparently argued that the description uses the very same wording as appears in Quoy and Gaimard's later text. That is not contested, but if we are to accept this change we would find ourselves having to accept many others that are usually seen as manuscript names.

For a somewhat parallel but more complex case see Dickinson (2003): a manuscript submitted to Thomas Horsfield by John McClelland contained a variety of names, wherein the description in English is no doubt that of McClelland, while those in Latin were almost certainly added by Horsfield, who became the paper's author when he presented it to the Zoological Society of London. Many other cases could be cited and we personally find the use of quotation marks important internal evidence that the description is indeed from another person said to have written it. We concede that others may well find this view too narrow, but in the case in question the decision does not rest on the presence of absence of such punctuation.

The issue turns on the interpretation of Arts. 50.1 and 50.1.1 of the *International code of zoological nomenclature* (ICZN 1999). Art 50.1 begins 'if it is clear from the contents ...' and Art. 50.1.1 reads 'However, if it is clear from the contents that some person other than an author of the work is alone responsible both for the name or act and for satisfying the criteria of availability other than actual publication, then that other person is the author of the name or act.'

Our first impression, based on the information given by Black *et al.* (2013), was that Dumont had himself contributed to the description because on p. 118 Dumont states 'On voit au Muséum de Paris un individu de cette espèce dont la mandibule supérieure est très-aiguë et recourbée à sa pointe, et un autre dont le plumage est d'une couleur plus foncée'.

However, we have been assured that these very words also appear in the later publication by Quoy & Gaimard. Thus we accept that an available manuscript by Quoy & Gaimard must be seen as the source of the entire description.

The Code usually appears to ask that we rely on the very specific evidence of the original work. For example, in Art. 32.5, it states 'if there is in the original publication itself, without recourse to any external evidence, clear evidence...'. In Art. 50.1 we find 'from the contents'. It is possible to interpret this different choice of words to deliberately mean something different or to mean the same. However, if it were intended that 'external evidence' be acceptable we would want the Code to say so.

In this case it is not disputed that the external evidence was published later. Thus it seems to us that one must accept that unfortunately and accidentally Dumont 'usurped' the role of Quoy & Gaimard and that *Amytornis textilis* and *A. leucopterus* must continue to be attributed to Dumont.

Lafresnaye (1842) described *Grallaria squamigera* (Undulated Antpitta) 'Florent-Prévost, *Zool. du voy. de la Vénus*, pl. 2 and *G. guatemalensis* (Scaled Antpitta) also from that source. No evidence is known to us of the publication of these plates until later (*cf.* Dickinson *et al.* 2011), but the plates bear both scientific and French vernacular names, and it would appear that Lafresnaye must have seen them. Both names are credited to Lafresnaye on the grounds of precedence. We see this as no different from the supposed 'usurpation' of the role of Quoy & Gaimard by Dumont. And, let it be clear, these were in no way mean-spirited actions; in both cases the authors we have been crediting stated who they believed the authors to be and no doubt intended that they be credited. If zoologists do not assign that credit where it belongs this is down to the wording of the Code. Thus the 'usurpation' to which we refer was not by Dumont or by Lafresnaye, rather it flows from the discipline imposed by the Code. We would venture to suggest that there are probably well in excess of 100 species-group names in ornithology that could be justly reassigned, but we do not think we should do so without the explicit support of a less ambiguous Code.

We hope that Black *et al.* (2013) will agree that the wording of this Article in the Code could usefully be revised to remove the ambiguity that permits us to reach different conclusions. In the context of this note, we would further suggest that consideration be given to whether it is right to exclude from any credit the joint author of a name in a paper published by one author, an exclusion which the Code as written seemingly effects. For an example of this see Blyth (1861) where one genus-group name and eight species-group names were proposed. In the light of modern practice where entire multi-disciplinary authorship teams gain credit for new names it is unreasonable to deny an author the right to formally include a colleague as a fellow author of the descriptions; nevertheless, we agree with the wording of Recommendation 50A in the Code and we do not suggest that finding a clearer formulation of Art. 50 will be easy.

In this context we draw attention to the suggestion by Dubois (2008) that citing dates for names should suffice. Even when that is done there may still be some concern over their accuracy. Confusingly, we already have a minivet name *Pericrocotus speciosus fokhiensis* proposed twice, once in 1910 by Buturlin and in 1920, with a quite different type and type locality, by Baker (*cf.* Dickinson *et al.* 2002).

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In support of Quoy and Gaimard

by Andrew Black & Richard Schodde

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Dickinson *et al.* (2013, this issue) have challenged our conclusion that J. R. C. Quoy & J. P. Gaimard are the authors of *Malurus textilis* (Western Grasswren) and *Malurus leucopterus* (White-winged Fairy-wren), both in the family Maluridae. These species were originally collected by Quoy and Gaimard, and described by them in the zoological report (hereafter the *Zoologie*) of the *Voyage autour du monde sur les corvettes de l'Uranie et la Physicienne* under the command of Louis de Freycinet. According to Sherborn & Woodward (1901), livraison 3 in which the descriptions appeared was published on 28 August 1824. Authorship of the names was accordingly attributed to Quoy & Gaimard until Mathews (1917) noticed that C. H. F. Dumont (1824) had named and described both species in a volume of the *Dictionnaire des sciences naturelles* (hereafter the *Dictionnaire*) published on 29 May 1824. That gave Dumont priority, and authorship shifted to him until we showed (Black *et al.* 2013) that Quoy & Gaimard had supplied both the names and descriptions to Dumont. It led us to the view that they, and not Dumont, should be credited with authorship under Art. 50.1.1 of the *International code of zoological nomenclature* (ICZN 1999), hereafter the Code.

Art. 50.1.1 of the Code is pivotal. It stipulates that only if Dumont's account *makes it clear* that Quoy & Gaimard *alone* are responsible for the names and descriptions of the wrens can those workers be credited with authorship. We maintain that it does. Dickinson *et al.* (2013), on the contrary, assert that these conditions are not met, and that Quoy & Gaimard's authorship can only be determined from external evidence in their subsequently published *Zoologie*.

In developing their argument, Dickinson *et al.* (2013) have made several errors in case history. Initially, when arguing for Dumont, Dickinson (*in litt.* 7 May 2013) claimed that Dumont had added information to Quoy & Gaimard's description. As a result, Quoy & Gaimard could not be held to have satisfied the criteria for availability *alone* under Art. 50.1.1. The supposedly added information concerned a wren with a deformed bill (mandibule supérieure est très-aiguë et recourbée à sa pointe) that Dickinson *et al.* (2013) mention again above. Yet this specimen and its bill were described by Quoy & Gaimard too, and in the same (albeit edited) words, as we have already made clear (Black *et al.* 2013: paragraph 4).

Rebutted on that point, Dickinson *et al.* (2013) here shift ground, arguing now that it is not 'clear from the contents' of Dumont's account that Quoy & Gaimard are the authors of the wrens. In doing so, they stress that Dumont must have prepared his description before August 1822 when he left on a 30-month voyage of exploration in *La Coquille*. That raises questions about the nature of Quoy & Gaimard's contribution once more; yet it stems from another error. The naval officer who sailed as first lieutenant in the *Coquille* in 1822 was J. S. C. Dumont D'Urville and is not the same person as C. H. F. Dumont, the ornithologist who published *Malurus textilis* and *M. leucopterus* in the *Dictionnaire* several years later. As we reported (Black *et al.* 2013), Quoy & Gaimard worked in close collaboration with Dumont the ornithologist. Mathews (1917) not only noted that they were 'very friendly' with him, but went further, recording that they 'furnished him with full particulars' of the wrens for publication.

What then is the evidence in Dumont's account for attributing authorship of the wrens to Quoy & Gaimard? Dumont (1824: 117–118) appended the new wrens to his section

on Mérimon in the *Dictionnaire*. In it he does not expressly state that Quoy and Gaimard provided the descriptions or place the copied text in quotation marks. Yet the format of his account makes it clear that he is attributing the new wrens to them. Unlike entries for other species of 'mérion', he begins by special citation of Quoy & Gaimard as the finders, authors and publishers of the wrens, as follows: 'Enfin, MM. Quoy et Gaimard ont trouvé, dans leur voyage autour du monde, deux nouvelles espèces de mérions, qui ont été figurées dans l'atlas zoologique de ce voyage. Le premier qu'ils sont nommé Mérimon natté, *Malurus textilis*, pl. 23, fig. 2 ... Le second est le Mérimon leucoptère, *Malurus leucopterus*, Q.& G., pl. 23, fig.1...'. The plate and figures are those published in the atlas of Quoy & Gaimard's *Zoologie* which appeared around the same time as the part that included their descriptions of the wrens (Zimmer 1926: 231). Dumont followed the entry for each species with a detailed description that carries on directly from the references to Quoy & Gaimard: it reads as a transcript of information supplied by them.

To test that interpretation, we obtained an opinion from a scholar and author in the French language, Peter Hambly, a Visiting Research Fellow in French Studies, Univ. of Adelaide, whose writing is listed in the Bibliothèque nationale de France catalogue. He read only Dumont's account, responding: 'he (Dumont) appears to be quoting Quoy & Gaimard directly, transcribing what they wrote about the two new species identified by them. He is following a previous text, attributing what follows to Quoy & Gaimard. There is an *immediate* [his emphasis] impression ... that it is a straight transcription' (P. Hambly *in litt.* 19 June 2013).

As we have already pointed out (Black *et al.* 2013), Dumont's descriptions of the wrens use the same descriptive terms, phrases, clauses and sentences as Quoy & Gaimard's in the *Zoologie*. Moreover, they include accounts of the habits of the birds that are identical in wording and only Quoy & Gaimard could have supplied. Dickinson *et al.* (2013) have correctly pointed out that this evidence is external. Therefore, they argue, it is inadmissible. That opinion turns on the meaning of 'clear from the contents' in Art. 50.1.1 of the Code. Citing Art. 32.5 of the Code, which explicitly excludes external evidence, they presume that Art. 50.1.1 does too, and then make the further assumption that if external evidence was permissible, Art. 50.1.1 would have said so. But interpretation of the Code does not rely on guesswork. Apart from the fact that its exclusion under Art. 32.5 serves a different purpose (control of name-tinkering), external evidence is neither explicitly included in nor excluded from Art. 50.1.1. In this case, the external evidence merely confirms that Quoy & Gaimard's responsibility for the names and descriptions of the new wrens is 'clear from the contents' of Dumont's (1824) account. Dickinson *et al.* (2013) urge that the wording of Art. 50.1.1 should be tightened to clarify its meaning. If such tightening prevents actual authors from being, in their words, 'unfortunately and accidentally usurped', we would strongly endorse it because that, surely, is the purpose of the Article.

In summary, we find it 'clear from the contents' that Dumont's account is a direct, edited transcript of Quoy & Gaimard's descriptions, that they are therefore responsible for all information in it, and that, in consequence, Quoy & Gaimard are the legitimate authors of *Malurus textilis* and *M. leucopterus*. In suggesting that our argument relies on external evidence, Dickinson *et al.* (2013) do not read Dumont or the Code as we do. We maintain that our interpretation is consistent with the meaning and purpose of Art. 50.1.1, and, while strongly supported by external evidence, is not reliant on it.

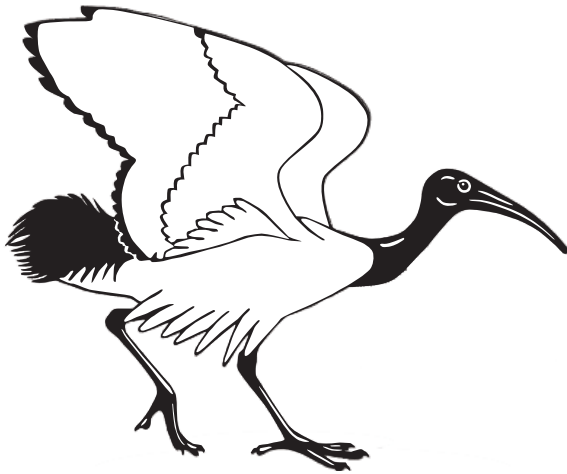
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- Addresses:* Andrew Black, Ornithology Section, South Australian Museum, North Terrace, Adelaide SA, 5000, Australia, e-mail: abblack@bigpond.com. Richard Schodde, Australian National Wildlife Collection, CSIRO Ecosystem Sciences, G.P.O. Box 1700, Canberra, ACT 2601, Australia.

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Index for Volume 133 (2013)

LIST OF AUTHORS AND CONTENTS

ARBELÁEZ-CORTÉS, E. See ROBBINS, M. B.	
ARMITAGE, P. L. See COOPER, J. H.	
AVEDAÑO, J. E. See DONEGAN, T. M.	
BEEHLER, B. M. See FREEMAN, B. G.	
BETUEL, A. See SMITH, P.	
BINFORD, L. C. See ROBBINS, M. B.	
BLACK, A. & SCHODDE, R. In support of Quoy and Gaimard	325
BLACK, A., SCHODDE, R. & PRÉVIATO, A. Early grasswren specimens in Muséum national d'Histoire naturelle, Paris, and the types of Western Grasswren <i>Amytornis textilis</i> (Maluridae).....	24
BOUR, R. See DICKINSON, E. C.	
BRAMMER, F. P. See KUZIEMKO, M.	
BRITO, G. R. R., NACINOVIC, J. B. & TEIXEIRA, D. M. First record of Redwing <i>Turdus iliacus</i> in South America	316
BUTAUD, J.-F. See THIBAUT, J.-C.	
CASILLAS, F. See NOCEDAL, J.	
CIBOIS, A. See THIBAUT, J.-C.	
CLASS, A. See FREEMAN, B. G.	
COMBE, M. See ROBBINS, M. B.	
COOPER, J. H. & ARMITAGE, P. L. A parrot of the Caribbean? A remarkable find from a 17th-century Spanish shipwreck	52
CUERVO, A. M. See ROBBINS, M. B.	
DAVIS, B. J. W. See LEES, A. C.	
DEFOS DU RAU, P. See THIBAUT, M.	
DICKINSON, E. C., DUBOIS, A. & BOUR, R. The authorship of the name <i>Amytornis textilis</i> : a reply to Black, Schodde & Préviate.....	322
DONEGAN, T. M., AVEDAÑO, J. E. & LAMBERT, F. A new tapaculo related to <i>Scytalopus rodriguezii</i> from Serranía de los Yariquíes, Colombia.....	256
DUBOIS, A. See DICKINSON, E. C.	
FJELDSÅ, J., MAYR, G., JØNSSON, K. A. & IRESTEDT, M. On the true identity of Bluntschli's Vanga <i>Hypositta perdita</i> Peters, 1996, a presumed extinct species of Vangidae	72
FREEMAN, B. G., CLASS, A., MANDEVILLE, J., TOMASSI, S. & BEEHLER, B. M. Ornithological survey of the mountains of the Huon Peninsula, Papua New Guinea	4
GALLARDO, R. J. See VALLELY, A. C.	
GUILHERME, E. A range extension for Várzea Thrush <i>Turdus sanchezorum</i> in south-west Amazonia ...	249
GUILHERME, E. & SOUZA SANTOS, G. A new locality and habitat type for Rondônia Bushbird <i>Clytoctantes atrogularis</i>	68
IRESTEDT, M. See FJELDSÅ, J.	
JACKSON, H. D. The taxonomic status of the Black-shouldered Nightjar <i>Caprimulgus nigriscapularis</i> Reichenow, 1893.....	116
JACQ, F. A. See THIBAUT, J.-C.	
JANSEN, J. J. F. J. & ROE, R. S. Tracking Cook's third voyage (1776–79) Hawaiian Rails <i>Porzana sandwichensis</i> , with some comments on their type status.....	59

JØNSSON, K. A. See FJELDSÅ, J.	
KIRWAN, G. M. See WILEY, J. W.	
KOPIJ, G. Extent of overlap between two Common Fiscal <i>Lanius collaris</i> subspecies in Lesotho	157
KUZIEMKO, M. & BRAMMER, F. P. The name of the Forest Thrush <i>Cichlherminia lherminieri</i> on Montserrat.....	318
LAMBERT, F. See DONEGAN, T. M.	
LANE, D. F. See ROBBINS, M. B.	
LECROY, M. On a possible type specimen of <i>Tropidorhynchus fuscicapillus</i> Wallace, 1862, in New York.....	78
LEES, A. C., ZIMMER, K. J., MARANTZ, C. A., WHITTAKER, A., DAVIS, B. J. W. & WHITNEY, B. M. Alta Floresta revisited: an updated review of the avifauna of the most intensively surveyed locality in south-central Amazonia.....	178
LIRA-NORIEGA, A. See ROBBINS, M. B.	
MACVAUGH, F. See MCDONALD, H. G.	
MANDEVILLE, J. See FREEMAN, B. G.	
MANN, C. F. First record of Oriental Cuckoo <i>Cuculus saturatus optatus</i> in Africa.....	161
MARANTZ, C. A. See LEES, A. C.	
MAYR, G. See FJELDSÅ, J.	
MCDONALD, H. G. & MACVAUGH, F. Notice of location of holotypes of two Miocene fossil birds.....	75
MEYER, J.-Y. See THIBAUT, J.-C.	
NACINOVIC, J. B. See BRITO, G. R. R.	
NOCEDAL, J. & CASILLAS, F. A Northern Wheatear <i>Oenanthe oenanthe</i> in mainland western Mexico	251
NYÁRI, Á. S. See ROBBINS, M. B.	
PANGIMANGEN, W. See THIBAUT, M.	
PEARMAN, M. See SMITH, P.	
PINEAU, O. See THIBAUT, M.	
POROI, E. See THIBAUT, J.-C.	
PRÉVIATO, A. See BLACK, A.	
ROBBINS, M. B., SCHULENBERG, T. S., LANE, D. F., CUERVO, A. M., BINFORD, L. C., NYÁRI, Á. S., COMBE, M., ARBELÁEZ-CORTÉS, E., WEHTJE, W. & LIRA-NORIEGA, A. Abra Maruncunca, dpto. Puno, Peru, revisited: vegetation cover and avifauna changes over a 30-year period.....	31
ROE, R. S. See JANSEN, J. J. F. J.	
SCHODDE, R. See BLACK, A.	
SCHULENBERG, T. S. The type locality of Plain-breasted Piculet <i>Picumnus castelnaui</i> is valid.....	77
SCHULENBERG, T. S. See ROBBINS, M. B.	
SMITH, P., PEARMAN, M. & BETUEL, A. An unusual record of Quebracho Crested Tinamou <i>Eudromia formosa</i> from the dry Chaco of Paraguay, with comments on distribution, breeding and vocalisations of the species.....	19
SOUZA SANTOS, G. See GUILHERME, E.	
SVENSSON, L. A taxonomic revision of the Subalpine Warbler <i>Sylvia cantillans</i>	240
TEIXEIRA, D. M. See BRITO, G. R. R.	

THIBAULT, J.-C., CIBOIS, A., BUTAUD, J.-F., JACQ, F. A., POROI, E. & MEYER, J.-Y. Breeding birds of Hatuta'a, Marquesas Islands: species inventory and influence of drought on their abundance..	168
THIBAULT, M., DEFOS DU RAU, P., PINEAU, O. & PANGIMANGEN, W. New and interesting records for the Obi archipelago (north Maluku, Indonesia), including field observations and first description of the vocalisation of Moluccan Woodcock <i>Scolopax rochussenii</i>	83
TOMASSI, S. See FREEMAN, B. G.	
TRAINOR, C. R. & VERBELEN, P. New distributional records from forgotten Banda Sea islands: the birds of Babar, Romang, Sermata, Leti and Kisar, Maluku, Indonesia	272
VALLELY, A. C. & GALLARDO, R. J. First documented record of Black Rail <i>Laterallus jamaicensis</i> in Honduras	319
VERBELEN, P. See TRAINOR, C. R.	
WEHTJE, W. See ROBBINS, M. B.	
WHITNEY, B. M. See LEES, A. C.	
WHITTAKER, A. See LEES, A. C.	
WILEY, J. W. & KIRWAN, G. M. The extinct macaws of the West Indies, with special reference to Cuban Macaw <i>Ara tricolor</i>	125
ZIMMER, K. J. See LEES, A. C.	

CORRECTIONS TO TEXT

Page 16.....line 5.....	<i>Psittacella brehmii</i> not <i>Psittacella brehmi</i>
Page 37.....line 17.....	<i>Premnornis guttuliger</i> not <i>Premornis guttuligera</i>
Page 56.....line 1.....	<i>Aratinga solstitialis</i> not <i>Aratinga soltitalis</i>
Page 80.....line 5.....	delete 'to date'
Pages 83; 84; 105; 113lines 28; 8; 21; 8.....	<i>Dicrurus hottentottus</i> not <i>Dicrurus hottentotus</i>
Page 87.....line 41.....	<i>Motacilla tschutschensis</i> not <i>Motacilla tschuschensis</i>
Page 96.....line 1.....	<i>Cacomantis sepulcralis</i> not <i>Cacomantis sepulcraris</i>
Pages 104; 105.....lines 4–6; 3, 12, 19.....	<i>Pachycephala griseonota</i> not <i>Pachycephala griseonata</i>
Page 191.....line 5.....	<i>Neocrex erythropus</i> not <i>Neocrex erythropus</i>
Page 214.....line 47.....	<i>Pyrrhura rhodogaster</i> not <i>Pyrrhurra rhodogaster</i>

INDEX TO SCIENTIFIC NAMES

All generic and specific names (of birds only) are indexed. New specific and subspecific names are indexed in bold print under generic, specific and subspecific names. Illustrations and figures are numbered in italics.

- [Anodorhynchus] martinicus 131
Accipiter bicolor 224
Accipiter fasciatus 277
Accipiter gularis 312
Accipiter hiogaster 112, 277
Accipiter melanochlamys 6
Accipiter meyerianus 4, 6
Accipiter poliogaster 224
Accipiter striatus 47
Accipiter superciliosus 224
accipitrinus, *Deroptyus* 230
acer, *Zimmerius* 214, 233
Acrocephalus mendenae 173
Acrocephalus percernis 168, 173
Actitis hypoleucos 87, 312
Actitis macularius 225
acuminata, *Calidris* 313
Adelomyia chlorospila 37
Adelomyia melanogenys 37, 48
aedon, *Troglodytes* 50, 236
Aegolius harrisi 40
aenea, *Chloroceryle* 228
aequinoctialis, *Geothlypis* 51, 202, 238
Aerodramus ceramensis 98
Aerodramus fuciphagus 287
Aerodramus infuscata 98
Aerodramus vanikorensis 98, 287
Aeronautes montivagus 47
aeruginosus, *Cacomantis* 94, 95–97, 112
aethereus, *Nyctibius* 183, 186, 188, 226
aethiops, *Thamnophilus* 230
aethopyga, *Phaethornis* 187, 227
affinis, *Caprimulgus* 285
affinis, *Megapodius* 8
affinis, *Thapsinillas* 106–107
affinis, *Veniliornis* 229
Agamia agami 200, 223
agami, *Agamia* 200, 223
agilis, *Amazona* 127
Aglaiocercus kingi 48
alba, *Ardea* 223, 311
alba, *Gygis* 172
alba, *Pterodroma* 171–172
alba, *Tyto* 47, 226
albescens, *Synallaxis* 197, 233
albicaudatus, *Geranoaetus* 47, 224
albiceps, *Elaenia* 49
albicollis, *Leucopternis* 184, 224
albicollis, *Nyctidromus* 226
albicollis, *Porzana* 224
albicollis, *Turdus* 31, 43, 50, 237
albifrons, *Conirostrum* 51
albigula, *Grallaria* 48
albigularis, *Columba* 90
albigularis, *Sclerurus* 231
albinucha, *Xenopsaris* 205, 235
albitarsis, *Ciccaba* 47
albiventer, *Fluvicola* 234
albiventer, *Tachycineta* 236
albiventris, *Dacnis* 237
albugularis, *Tyrannus* 205, 234
albovittatus, *Lepidocolaptes* 232
albonotata, *Meliphaga* 13
albonotata, *Poecilodryas* 11
albus, *Corvus* 317
Alcedo atthis 87, 307
alecto, *Myiagra* 11, 106
alnorum, *Empidonax* 49
altera, *Maracana* 56
altiloquus, *Vireo* 211, 236
Amalocichla incerta 12
Amalocichla sclateriana 4, 12
amaurocephalus, *Leptopogon* 233
amaurochalinus, *Turdus* 237
Amaurolimnas concolor 201, 224
Amauornis moluccana 279
Amauornis phoenicurus 279
Amazilia chionogaster 31, 40–41, 48
Amazilia fimbriata 227
Amazilia versicolor 227
Amazilia viridicauda 40, 41
Amazona 125, 127
Amazona agilis 127
Amazona amazonica 230
Amazona arausiaca 131
amazona, *Chloroceryle* 228
Amazona collaria 56, 127, 138
Amazona farinosa 230
Amazona imperialis 131
Amazona kawalli 183, 190, 230
Amazona leucocephala 136
Amazona mercenaria 48
Amazona ochrocephala 142, 230
Amazona violacea 131
Amazona vittata 144
Amazonetta brasiliensis 222
amazonica, *Amazona* 230
amazonicus, *Thamnophilus* 230
Amazon leucocephala 56
amazonum, *Pyrrhura* 214, 229
amboinensis, *Macropygia* 90
americana, *Chloroceryle* 228
americana, *Mycteria* 200–201, 222
americanus, *Coccyzus* 206
americanus, *Ibycter* 229
amethystina, *Calliphlox* 227
Ammodramus aurifrons 51
Ammodramus humeralis 198, 238
Ammodramus savannarum 320
Ampelion rufaxilla 50
Amytis (macrourus) macrura 26
Amytis macrura 26
Amytis modestus 29
Amytis striata 26, 28–29

- Amytornis leucopterus 323
 Amytornis modestus 27
 Amytornis striatus 28
 Amytornis textilis 24–30, 322–324
 Anabacerthia ruficaudatum 232
 Anabacerthia striaticollis 49
 Anabazenops dorsalis 232
 Anadorhynchus martinicus 131
 analis, Formicarius 231
 analis, Iridisornis 37
 analis, Iridosornis 50
 Ancistrops strigilatus 232
 andrei, Taeniotriccus 183, 192, 233
 andromedae, Zoothera 291
 angolensis, Oryzoborus 51, 238
 angustifrons, Psarocolius 51
 anhinga, Anhinga 223
 Anhinga anhinga 223
 ani, Crotophaga 225
 Anisognathus somptuosus 50
 Anodorhynchus 125, 132
 Anodorhynchus hyacinthinus 189, 229
 Anodorhynchus leari 131
 Anodorhynchus martinicus 131, 150
 Anodorhynchus purpurascens 131, 150
 Anous minutus 172
 Anous stolidus 172, 313
 Anthracothorax nigricollis 227
 Anthus lutescens 197, 237
 Anthus rufulus 308, 314
 antisanus, Pharomachrus 48
 Antrostomus rufus 186, 226
 Antrostomus sericocaudatus 186, 226
 Anurolimnas viridis 196, 224
 Aplonis minor 314
 Aplonis mysolensis 87
 Apus pacificus 9, 313
 Aquila fasciata 272, 278
 Ara ararauna 56, 129, 229
 Ara atwoodi 131, 150
 Ara autochthones 125, 130, 150
 Ara chloropterus 229
 Ara erythrocephala 127–128, 150
 Ara erythrura 127–129, 150
 Ara gossei 125, 129–130, 141, 150
 Ara guadeloupensis 130, 138, 150
 Ara macao 129, 132, 139, 141, 229
 Ara martinica 131, 150
 Ara martinicus 131–132
 Ara militaris 127–128, 132
 Ara severus 229
 Ara sp. 135
 aracari, Pteroglossus 189, 228
 arada, Cyphorhinus 236
 Aramides cajanea 224
 Aramus guarauna 224
 ararauna, Ara 56, 129, 229
 Aratinga 52–58
 Aratinga aurea 56, 195
 Aratinga canicularis 57
 Aratinga euops 134
 Aratinga leucophthalma 229
 Aratinga nana 127
 Aratinga pertinax 56–57
 Aratinga solstitialis 56–57
 Aratinga wagleri 54
 Ara tricolor 125–156, 133
 arasiaca, Amazona 131
 arctitorquis, Pachycephala 300, 303
 Ardea alba 223, 311
 Ardea cocoi 223
 Ardea sumatrana 311
 ardesiaca, Conopophaga 48
 argus, Eurostopodus 285, 315
 ariel, Fregata 171–172, 311
 Arremon assimilis 37, 44
 Arremon brunneinucha 36–37, 51
 Arremon taciturnus 238
 Arremon torquatus 31, 37, 44, 51
 Arses insularis 11
 Arses telescopthalmus 11
 Artamus cinereus 308, 314
 Artamus leucorhynchus 314
 assimilis, Arremon 37, 44
 assimilis, Tolmomyias 192, 234
 Astrapia rothschildi 4
 atavus, Palaeastur 75, 76
 ater, Daptrius 229
 ater, Melipotus 4
 aterrimus, Knipolegus 49
 Athene cucularia 226
 Atlapetes melanolaemus 51
 atra, Rhipidura 10
 atratus, Coragyps 47, 200, 223
 atratus, Scytalopus 265
 atricapilla, Donacobius 237
 atricapillus, Herpsilochmus 42
 atriceps, Zosterops 110, 111
 atrogularis, Clytoctantes 68, 68–71, 69, 210
 atronitens, Xenopipo 70
 atrothorax, Myrmeciza 231
 atrovirens, Psarocolius 51
 atthis, Alcedo 87, 307
 Atticora fasciata 236
 Atticora tibialis 236
 Attila cinnamomeus 235
 Attila phoenicurus 204, 206, 235
 Attila spadiceus 235
 atwoodi, Ara 131, 150
 Aulacorhynchus coeruleicinctis 36, 48
 Aulacorhynchus derbianus 36, 48
 aura, Cathartes 47, 195, 223
 aurantioatrocristatus, Empidonomus 205, 234
 aurantiocephala, Pyrrhula 183, 190, 191, 230
 aurea, Aratinga 56, 195
 aurea, Lalage 103
 aureliae, Haplophaedia 48
 aureoventris, Pheucticus 51
 aurescens, Heliodoxa 189, 227
 aureus, Jacamerops 228
 auriceps, Pharomachrus 48
 auriculata, Zenaida 195
 aurifrons, Ammodramus 51
 aurifrons, Picumnus 48, 229
 aurita, Conopophaga 210, 231
 auritus, Heliodytes 227

- australasia, *Todiramphus* 272, 285
 australis, *Vini* 65
 autochthones, *Ara* 125, 130, 150
Automolus infuscatus 214
Automolus ochrolaemus 232
Automolus paraensis 214, 232
Automolus rufipileatus 232
autumnalis, *Dendrocygna* 199, 222
Aviceda subcristata 87, 311
Avocettula recurvirostris 187, 227
axillaris, *Myrmotherula* 230
azarae, *Synallaxis* 49
azureus, *Ceyx* 307
bailloni, *Puffinus* 171–172
barbatus, *Myiobius* 234
barrabandi, *Pyrilia* 190, 230
Bartramia longicauda 206
Baryphthengus martii 189, 228
basalis, *Chrysococcyx* 315
Basileuterus culicivorus 238
Basileuterus punctipectus 37
Basileuterus tristriatus 37, 51
basilica, *Ducula* 83, 91, 92, 113
beauharnaesii, *Pteroglossus* 228
beccarii, *Gallicolumba* 8
bengalensis, *Centropus* 284
bergii, *Sterna* 87
bergii, *Thalasseus* 313
Berlepschia rikeri 232
berlepschi, *Hyllopezus* 231
bernsteinii, *Ptilinopus* 90
bicolor, *Accipiter* 224
bicolor, *Ducula* 87
bidentatus, *Harpagus* 223
bifasciatus, *Psarocolius* 238
bimaculatus, *Symposiachrus* 106
bitorquatus, *Pteroglossus* 229
bivittata, *Myiothlypis* 51
bivittata, *Petroica* 4, 11
boiei, *Myzomela* 304
Bolborhynchus lineola 48
boliviana, *Chiroxiphia* 50
boliviana, *Drymophila* 37
bolivianus, *Scytalopus* 48
bolivianus, *Zimmerius* 49
bonariensis, *Molothrus* 198, 239
boobook, *Ninox* 272, 284, 286
borealis, *Phylloscopus* 87
botterii, *Peucaea* 320
bourcierii, *Phaethornis* 209
Brachygalba lugubris 228
brachyura, *Chaetura* 227
brachyura, *Myrmotherula* 230
brachyurus, *Buteo* 224
bracteatus, *Dicrurus* 105
branickii, *Odontorchilus* 50
brasilianum, *Glaucidium* 209
brasilianus, *Phalacrocorax* 222
brasilensis, *Amazonetta* 222
brehmii, *Psittacella* 8, 16
brevipes, *Tringa* 312
Brotogeris chrysoptera 230
bruijini, *Grallina* 14
brunneinucha, *Arremon* 36–37, 51
brunnescens, *Premnoplex* 49
brunneus, *Turdus* 318
Bubulcus coromandus 87
Bubulcus ibis 223
Bucco capensis 228
Bucco tamatia 194, 228
bukidnensis, *Scolopax* 86, 88
Bulweria bulwerii 171–172
bulwerii, *Bulweria* 171–172
burrovianus, *Cathartes* 223
Busarellus nigricollis 199, 201, 223
Buteo brachyurus 224
Buteo nitidus 195, 224
Buteo platypterus 207, 224
Buteogallus schistaceus 201, 224
Buteogallus solitarius 47
Buteogallus urubitinga 224
Butorides striata 87, 223
cabanisi, *Synallaxis* 214, 233
cachinnans, *Herpetotheres* 229
Cacicus cela 238
Cacicus haemorrhous 238
Cacicus solitarius 212, 238
Cacomantis 95
Cacomantis aeruginosus 94, 95, 96–97, 112
Cacomantis castaneiventris 9
Cacomantis heinrichi 96
Cacomantis pallidus 315
Cacomantis sepulcralis 95, 96, 97
Cacomantis variolosus 95–97, 315
caerulescens, *Diglossa* 51
caerulescens, *Geranospiza* 224
caerulescens, *Ptilorrhoa* 9
caerulescens, *Sporophila* 51, 238
caerulescens, *Thamnophilus* 48
caeruleus, *Cyanerpes* 238
caesius, *Thamnomanes* 230
Cairina moschata 222
cajanya, *Aramides* 224
caledonicus, *Nycticorax* 311
Calidris acuminata 313
Calidris ferruginea 313
Calidris fuscicollis 207, 225
Calidris himantopus 207, 225
Calidris melanotos 206–207, 225
Calidris ruficollis 313
Calidris subminuta 313
calliparaea, *Chlorochrysa* 50
Calliphlox amethystina 227
campanisona, *Chamaeza* 49
campanisona, *Myrmothera* 231
Campephilus melanoleucos 229
Campephilus principalis 134
Campephilus rubricollis 229
Camptostoma obsoletum 49, 233
Campylopterus largipennis 227
Campylorhamphus procurvoldes 232
Campylorhamphus trochilirostris 49
Campylorhynchus turdinus 236
candidus, *Melanerpes* 197, 229
caniceps, *Myiopagis* 233
canicularis, *Aratinga* 57

- canorus, Cuculus 161, 162, 163
 cantator, Hypocnemis 214
 (cantillans), Motacilla 241
 cantillans, Sylvia 240–248, 242, 245, 247
 Cantorchilus leucotis 236
 capensis, Bucco 228
 capensis, Zonotrichia 51, 198, 238
 capistratus, Trichoglossus 282
 capitalis, Poecilotriccus 182, 183
 Capito dayi 228
 caprata, Saxicola 272, 291, 293
 Caprimulgus affinis 285
 Caprimulgus fraenatus 120
 Caprimulgus macrurus 87, 285
 Caprimulgus nigriscapularis 116–124
 Caprimulgus nubicus 121
 Caprimulgus pectoralis 116–124
 Caprimulgus ruwenzorii 121–122
 Caprimulgus tristigma 121
 Capsiempis flaveola 183, 233
 Caracara plancus 229
 carbo, Ramphocelus 50, 237
 caripennis, Steatornis 47
 carunculatus, Philesturnus 60
 Casiornis rufus 234
 castaneiventris, Cacomantis 9
 castaneiventris, Sporophila 51, 198, 238
 castaneus, Pachyramphus 236
 castanotis, Pteroglossus 189, 228
 castelnau, Picumnus 77
 Casuarius unappendiculatus 14
 Cathartes aura 47, 195, 223
 Cathartes burrovianus 223
 Cathartes melambrotus 223
 Catharus 206
 Catharus dryas 50
 Catharus fuscescens 208, 237
 Catharus minimus 211
 Catharus ustulatus 50
 caudacutus, Hirundapus 99, 313
 caudacutus, Sclerurus 231
 cayana, Cotinga 235
 cayana, Dacnis 51, 237
 cayana, Piaya 47, 225
 cayana, Tityra 235
 cayanensis, Icterus 238
 cayanensis, Leptodon 223
 cayanensis, Myiozetetes 234
 cayanus, Vanellus 224
 cayennensis, Mesembrinibis 223
 cayennensis, Panyptila 186, 227
 cayennensis, Patagioenas 47, 225
 cela, Cacicus 238
 celebensis, Hirundapus 99
 Celeus elegans 229
 Celeus flavus 229
 Celeus grammicus 229
 Celeus torquatus 229
 cenchroides, Falco 315
 Centropus bengalensis 284
 Cephalopterus ornatus 235
 cephalotes, Myiarchus 50
 ceramensis, Aerodramus 98
 ceramensis, Coracina 84, 102
 Ceratopipra rubrocapilla 235
 Cercomacra cinerascens 231
 Cercomacra manu 231
 Cercomacra nigrescens 231
 certhia, Dendrocolaptes 232
 Certhia rubra 65
 Certhiasomus stictolaemus 231
 cerulea, Procelsterna 172
 cerviniventris, Chlamydera 13
 Ceyx azureus 307
 chacuru, Nystalus 195
 Chaetorhynchus papuensis 13
 Chaetura brachyura 227
 Chaetura cinereiventris 186, 227
 Chaetura egregia 227
 Chaetura viridipennis 186, 227
 Chalcophaps longirostris 313
 Chalcopsitta duivenbodei 14
 Chalcostigma ruficeps 48
 chalybea, Progne 202, 236
 chalybeus, Lophornis 187, 227
 Chamaeza campanisona 49
 Chamaeza mollissima 49
 Chamaeza nobilis 231
 Charadrius leschenaultii 312
 Charadrius mongolus 312
 Charadrius peronii 278
 Charadrius ruficapillus 278
 Chamosyna papou 8
 Chamosyna placentis 93
 Chamosyna pulchella 8
 Chamosyna wilhelminae 8
 Chelidoptera tenebrosa 228
 cherriei, Synallaxis 233
 chilensis, Tangara 237
 chilensis, Vanellus 224
 chimachima, Milvago 229
 chinensis, Spilopelia 313
 chionogaster, Amazilia 31, 40, 41, 48
 Chiroxiphia boliviana 50
 Chiroxiphia pareola 235
 Chlamydera cerviniventris 13
 Chlamydera lauterbachii 4, 13
 Chlidonias hybrida 313
 chloris, Piprites 236
 chloris, Todiramphus 314
 Chloroceryle aenea 228
 Chloroceryle amazona 228
 Chloroceryle americana 228
 Chloroceryle inda 228
 Chlorochrysa calliparaea 50
 Chlorodrepanis virens 65
 Chlorophanes spiza 238
 Chlorophonia cyanea 51
 chloroptera, Myzomela 83, 101, 102, 112, 305
 chloropterus, Ara 229
 chlorospila, Adelomyia 37
 Chlorospingus flavopectus 51
 Chlorospingus parvirostris 51
 chlorotica, Euphonia 199, 239
 choliba, Megascops 196, 226
 Chondrohierax uncinatus 148, 223

- chopi, *Gnorimopsar* 198, 238
Chordeiles minor 226
Chordeiles nacunda 197, 226
chrysocephalus, *Myiodynastes* 50
chrysochloros, *Piculus* 229
Chrysococcyx basalis 315
Chrysococcyx lucidus 315
Chrysococcyx minutillus 272, 283
Chrysococcyx osculans 315
Chrysococcyx ruficollis 4, 9
chrysocrotaphum, *Todirostrum* 233
Chrysolampis mosquitos 203, 227
chrysopasta, *Euphonia* 239
chrysoptera, *Brotogeris* 230
chrysoptera, *Daphoenositta* 12
Ciccaba albitarsis 47
Ciccaba huhula 226
Ciccaba virgata 226
Cichlherminia lherminieri 318
Ciconia maguari 200, 222
Cinclus leucocephalus 36, 50
cincta, *Dichrozona* 183, 190, 230
cinctus, *Ptilinopus* 272, 280, 281
cinerascens, *Cercomacra* 231
cinerascens, *Monarcha* 314
cinerea, *Coccyua* 203, 204, 225
cinerea, *Motacilla* 87
cinerea, *Serpophaga* 49
cinereiceps, *Phyllomyias* 37, 49
cinereiventris, *Chaetura* 186, 227
cinereus, *Artamus* 308, 314
cinereus, *Crypturellus* 222
cinereus, *Odontorchilus* 236
cinereus, *Xenus* 312
cinnamomea, *Neopipo* 193, 234
cinnamomeiventris, *Ochthoeca* 36, 49
cinnamomeus, *Attila* 235
cinnamomeus, *Pyrrhomyias* 49
Cinnycerthia fulva 50
Cinnyris jugularis 111
Cissopis leverianus 50, 237
Cisticola exilis 295, 307
Cisticola juncidis 314
citreogularis, *Philemon* 304
citrinella, *Zosterops* 306
clamator, *Pseudoscops* 196, 226
clamosus, *Cuculus* 161
Claravis pretiosa 225
climacocerca, *Hydropsalis* 226
Clytactantes 210
Clytactantes atrogularis 68–69, 210
Cnemotriccus fuscatus 31, 43, 49, 70, 204, 234
coccinea, *Vestiaria* 60, 65
Coccyua cinerea 203, 204, 225
Coccyua minuta 225
Coccyzus americanus 206
Coccyzus erythrophthalmus 47
Coccyzus euleri 203, 204, 225
Coccyzus melacoryphus 225
cochinchinensis, *Hirundapus* 99
cochlearius, *Cochlearius* 199–200, 223
Cochlearius cochlearius 199–200, 223
cocoi, *Ardea* 223
coeligena, *Coeligena* 48
Coeligena coeligena 48
Coeligena torquata 48
Coereba flaveola 51, 238
coeruleicinctis, *Aulacorhynchus* 36, 48
coerulescens, *Saltator* 198, 238
Colaptes rubiginosus 48
Colibri coruscans 48
Colibri thalassinus 48
collaria, *Amazona* 56, 127, 138
collaris, *Lanius* 157–160, 159
collaris, *Sporophila* 198, 238
collaris, *Trogon* 227
Collocalia 98
Collocalia esculenta 87, 98, 287
Collocalia sp. 9
colma, *Formicarius* 231
Colonia colonus 49, 234
colonus, *Colonia* 49, 234
Columba albigularis 90
Columba vitiensis 90, 112, 279
Columbina squammata 196, 225
Columbina talpacoti 225
concinna, *Ducula* 282
concolor, *Amaurolimnas* 201, 224
condamini, *Eutoxeres* 48
Conirostrum albifrons 51
Conirostrum speciosum 238
connivens, *Ninox* 87
Conopophaga ardesiaca 48
Conopophaga aurita 210, 231
Conopophaga melanogaster 210
conspicillata, *Sylvia* 247
conspicillatus, *Pelecanus* 311
Contopus cooperi 49, 208, 234
Contopus fumigatus 49
Contopus sordidulus 49
Contopus virens 208, 234
cooperi, *Contopus* 49, 208, 234
Coracina ceramensis 84, 102
Coracina dispar 272, 289
Coracina montana 9
Coracina novaehollandiae 315
Coracina papuensis 87, 315
Coracina personata 286, 288
Coracina tenuirostris 112, 289
Coragyps atratus 47, 200, 223
corallirostris, *Hypositta* 72–74
coromandus, *Bubulcus* 87
coronata, *Myiothlypis* 51
coronatus, *Onychorhynchus* 234
coronatus, *Platyrrinchus* 234
coruscans, *Colibri* 48
Corvus 273
Corvus albus 317
Corvus frugilegus 126
Corvus insularis 290
Corvus macrorhynchos 290
Corvus orru 87, 290
Corvus splendens 317
Coryphospingus cucullatus 198, 238
Corythopsis torquatus 233
Cotinga cayana 235

- Coturnix ypsilophora 278
 Cranioleuca curtata 49
 Cranioleuca gutturalata 233
 Cranioleuca vulpina 233
 crassirostris, Melanocharis 12
 Crateroscelis murina 10
 Crateroscelis nigrorufa 10
 Crax fasciolata 183, 222
 Creurgops dentatus 50
 Crex sandwichensis 64
 cristata, Lophostrix 226
 cristatus, Pandion 87
 cristatus, Tachyphonus 237
 Crotophaga ani 225
 Crotophaga major 225
 cruentatus, Melanerpes 229
 Crypturellus cinereus 222
 Crypturellus obsoletus 36, 47, 222
 Crypturellus parvirostris 222
 Crypturellus soui 222
 Crypturellus strigulosus 222
 Crypturellus tataupa 222
 Crypturellus undulatus 183, 222
 Crypturellus variegatus 222
 cryptus, Cypseloides 47
 cucullatus, Coryphospingus 198, 238
 Cuculus 163
 Cuculus canorus 161–163
 Cuculus clamosus 161
 Cuculus gularis 161, 163
 Cuculus lepidus 285
 Cuculus poliocephalus 161
 Cuculus rochii 161
 Cuculus saturatus 161–164, 162, 313
 Cuculus solitarius 161
 kujubi, Pipile 222
 culicivorus, Basileuterus 238
 cunicularia, Athene 226
 curtata, Cranioleuca 49
 curucui, Trogon 227
 cyanea, Chlorophonia 51
 cyanea, Diglossa 51
 Cyanerpes caeruleus 238
 Cyanerpes cyaneus 195, 238
 Cyanerpes nitidus 195, 237
 cyaneus, Cyanerpes 195, 238
 cyanicollis, Galbula 228
 cyanicollis, Tangara 51, 237
 cyanocephala, Euphonia 51
 cyanocephala, Thraupis 51
 Cyanocompsa cyanooides 238
 Cyanocorax violaceus 50
 Cyanocorax yncas 50
 cyanooides, Cyanocompsa 238
 cyanoleuca, Grallina 315
 cyanoleuca, Pygochelidon 50
 Cyanoliseus patagonus 132
 cyanotis, Tangara 31, 44, 51
 cyanus, Hylocharis 227
 Cyclarhis gujanensis 50, 236
 Cymbilaimus lineatus 230
 Cyphorhinus arada 236
 Cyphorhinus thoracicus 50
 Cypseloides cryptus 47
 Cypseloides senex 226
 Dacnis albiventris 237
 Dacnis cayana 51, 237
 Dacnis flaviventer 237
 Dacnis lineata 237
 dactylatra, Sula 172
 Daphoenositta chrysoptera 12
 Daptrius ater 229
 dauma, Zoothera 10
 dayi, Capito 228
 dea, Galbula 228
 Deconychura longicauda 232
 decumanus, Psarocolius 51, 238
 deiroleucus, Falco 210
 delicatula, Tyto 284
 Dendrexetastes rufigula 232
 Dendrocincla fuliginosa 231
 Dendrocincla merula 192, 232
 Dendrocolaptes certhia 232
 Dendrocolaptes picumnus 232
 Dendrocygna autumnalis 199, 222
 Dendrocygna viduata 199, 222
 Dendroica striata 211
 Dendroplex picus 232
 densus, Dicrurus 308
 dentatus, Creurgops 50
 derbianus, Aulacorhynchus 36, 48
 Deropterus accipitrinus 230
 devillei, Drymophila 230
 Dicaeum 273
 Dicaeum erythrothorax 111
 Dicaeum geelvinkianum 12
 Dicaeum maugei 305
 Dicaeum schistaceiceps 111
 dichrous, Pitohui 12
 Dichrozona cincta 183, 190, 230
 Dicrurus bracteatus 105
 Dicrurus densus 308
 Dicrurus hottentottus 14, 83, 84, 105, 113
 Diglossa caerulescens 51
 Diglossa cyanea 51
 Diglossa glauca 51
 Diglossa sittoides 51
 diluta, Riparia 108, 112
 diodon, Harpagus 203, 223
 Diopsittaca nobilis 56, 142, 210
 diops, Todiramphus 87
 Discosura langsdorffi 227
 dispar, Coracina 272, 289
 Dixiphia pipra 193, 235
 dohertyi, Zoothera 291
 doliatus, Thamnophilus 197, 230
 Dolichonyx oryzivorus 206
 domesticus, Passer 239
 dominica, Pluvialis 207, 224
 dominicus, Nomonyx 199, 222
 dominicus, Tachybaptus 199, 200, 222
 Donacobius atricapilla 237
 dorsalis, Anabazenops 232
 dorsalis, Gerygone 272, 292, 293
 Doryfera ludovicae 48
 Drepanis pacifica 65

- Dromococcyx pavoninus* 226
Dromococcyx phasianellus 226
dryas, *Catharus* 50
dryas, *Rhipidura* 272–273, 298, 299, 300
Drymophila boliviana 37
Drymophila devillei 230
Drymophila striaticeps 37, 48
Dryocopus lineatus 229
Ducula basilica 83, 91, 92, 113
Ducula bicolor 87
Ducula concinna 282
Ducula pacifica 65
Ducula perspicillata 91
Ducula rosacea 282
duivenbodei, *Chalcopsitta* 14
ecaudatus, *Myiornis* 233
ecaudatus, *Rallus* 59
Eclectus roratus 94
egregia, *Chaetura* 227
Egretta intermedia 311
Egretta sacra 87, 173, 311
Egretta thula 223
eisenmanni, *Pheugopedius* 43
Elaenia albiceps 49
Elaenia gigas 49
Elaenia obscura 49
Elaenia parvirostris 205, 233
Elaenia spectabilis 233
Elanoides forficatus 47, 223
Elanus leucurus 195, 223
elatus, *Tyrannulus* 233
Electron platyrhynchum 228
elegans, *Celeus* 229
elegans, *Eudromia* 19, 20
elegans, *Pitta* 272, 287
elegans, *Xiphorhynchus* 214, 232
ellisi, *Prosobonia* 64
Empidonax alnorum 49
Empidonax aurantioatrocristatus 205, 234
Empidonax varius 50, 205, 234
Entomodestes leucotis 36, 50
Eos reticulata 283
Eos squamata 83, 93, 113
Epinecrophylla leucophthalma 230
Epinecrophylla ornata 230
episcopus, *Thraupis* 50, 237
erithacus, *Psittacus* 56, 142
erythrocephala, *Ara* 127–128, 150
erythrocerum, *Philydor* 232
erythrogaster, *Erythropitta* 99–100, 287
Erythropitta erythrogaster 99–100, 287
erythropters, *Neocrex* 191, 201, 224
erythropterum, *Philydor* 232
erythropterus, *Coccyzus* 47
erythrothorax, *Dicaeum* 111
erythrura, *Ara* 127–129, 150
Erythrura tricolor 307
erythrurus, *Terenotriccus* 234
Esacus magnirostris 313
esculenta, *Collocalia* 87, 98, 287
Eubucco versicolor 48
Euchrepomis sharpei 42, 48
Eudromia elegans 19, 20
Eudromia formosa 19–23
Eudynamys orientalis 313
Eudynamys scolopaceus 313
euleri, *Coccyzus* 203, 204, 225
euleri, *Lathrotriccus* 234
Eulipoa wallacei 112
Eumyias panayensis 84, 111–112
euophrys, *Pheugopedius* 43
euops, *Aratinga* 134
Euphonia chlorotica 199, 239
Euphonia chrysopasta 239
Euphonia cyanocephala 51
Euphonia laniirostris 213, 239
Euphonia mesochrysa 51
Euphonia minuta 239
Euphonia rufiventris 239
Euphonia violacea 213, 239
Euphonia xanthogaster 51, 239
Eurostopodus argus 285, 315
Eurypyga helias 224
Eurystomus orientalis 314–315
Euscarthmus meloryphus 183
euteles, *Trichoglossus* 282
Eutoxeres condensamini 48
examinandus, *Phylloscopus* 87
exilis, *Cisticola* 295, 307
exilis, *Ixobrychus* 200, 223
exilis, *Laterallus* 224
Falco cenchroides 315
Falco deiroleucus 210
Falco femoralis 197, 229
Falco longipennis 312
Falco moluccensis 87, 312
Falco peregrinus 206
Falco rufigularis 48, 229
Falco severus 87
Falco sp. 48
Falco sparverius 229
farinosa, *Amazona* 230
fasciata, *Aquila* 272, 278
fasciata, *Atticora* 236
fasciata, *Patagioenas* 47
fasciata, *Rallina* 272, 278
fasciatus, *Accipiter* 277
fasciatus, *Myiophobus* 49, 234
fasciicauda, *Pipra* 235
fasciolata, *Crax* 183, 222
fasciolata, *Locustella* 87
femoralis, *Falco* 197, 229
femoralis, *Scytalopus* 256
ferox, *Myiarchus* 235
ferruginea, *Calidris* 313
ferrugineipectus, *Grallaricula* 48
Ficedula hyperythra 272, 295, 296–297, 298
fimbriata, *Amazilia* 227
flava, *Piranga* 212
flaveola, *Capsiempis* 183, 233
flaveola, *Coereba* 51, 238
flavicollis, *Hemithraupis* 238
flavigula, *Piculus* 229
flavipes, *Tringa* 206–207, 225
flavirostris, *Grallaricula* 48
flavirostris, *Porphyrio* 203, 224

- flaviventer, *Dacnis* 237
 flaviventer, *Machaerirhynchus* 10
 flaviventris, *Tolmomyias* 234
 flavocinctus, *Oriolus* 272, 290, 292
 flavopectus, *Chlorospingus* 51
 flavus, *Celeus* 229
 Florisuga mellivora 227
 fluviatilis, *Muscisaxicola* 205, 234
 Fluvicola albiventer 234
 fluvialis, *Muscisaxicola* 49
 foersteri, *Melidectes* 4, 13
 foetidus, *Gymnoderus* 235
 forficatus, *Elanoides* 47, 223
 Formicarius analis 231
 Formicarius colma 231
 Formicivora grisea 230
 formosa, *Eudromia* 19–23
 Forpus modestus 229
 fraenatus, *Caprimulgus* 120
 Fregata ariel 171–172, 311
 Fregata minor 171–172, 311
 Fregata sp. 308
 frenata, *Geotrygon* 47
 freycinet, *Megapodius* 87, 112
 frontalis, *Pipreola* 50
 frugilegus, *Corvus* 126
 fuciphagus, *Aerodramus* 287
 fulgidus, *Psittichas* 8
 fulica, *Heliornis* 224
 fuliginosa, *Dendrocincla* 231
 fuliginosa, *Nesofregatta* 172
 fulva, *Cinnycerthia* 50
 fulva, *Pluvialis* 312
 fulvicauda, *Myiothlypis* 51
 fulvicauda, *Phaeothlypis* 193, 238
 fumigatus, *Contopus* 49
 fumigatus, *Picooides* 48
 fumigatus, *Turdus* 249
 furcata, *Thalurania* 227
 furcifer, *Heliomaster* 209
 fusca, *Porzana* 272, 278, 279
 fusca, *Setophaga* 37, 51
 fuscatus, *Cnemotriccus* 31, 43, 49, 70, 204, 234
 fuscatus, *Onychoprion* 170, 172
 fuscescens, *Catharus* 208, 237
 fuscicapillus, *Philemon* 78, 79
 fuscicapillus, *Tropidorhynchus* 78
 fuscicauda, *Ramphotrigon* 235
 fuscicollis, *Calidris* 207, 225
 fusciorufa, *Rhipidura* 300
 gaimardii, *Myiopagis* 233
 galatea, *Tanysiptera* 87
 Galbula cyanicollis 228
 Galbula dea 228
 Galbula leucogastra 228
 Galbula ruficauda 228
 galeata, *Gallinula* 201, 224
 galeata, *Myiagra* 106
 galeatus, *Lophotriccus* 233
 Gallicolumba beccarii 8
 Gallicolumba jobiensis 8
 Gallicolumba rubescens 168, 169, 173, 175
 Gallinula paraguaiae 203, 225
 Gallinula galeata 201, 224
 Gallinula obscura 63–64
 Gamponyx swainsonii 223
 Garritornis isidorei 14
 garrulus, *Lorius* 84, 93
 geelvinkianum, *Dicaeum* 12
 geislerorum, *Ptilorrhoea* 9
 Gelochelidon nilotica 313
 genibarbis, *Pheugopedius* 43, 50, 236
 geoffroyi, *Geoffroyus* 83, 94, 113
 geoffroyi, *Neomorphus* 212–213, 226
 geoffroyi, *Schistes* 48
 Geoffroyus geoffroyi 83, 94, 113
 Geokichla peronii 291
 Geopelia maugeus 313
 Geothlypis aequinoctialis 51, 202, 238
 Geotrygon frenata 47
 Geotrygon montana 184, 225
 Geotrygon violacea 183–184, 185, 225
 Geranoaetus albicaudatus 47, 224
 Geranoaetus polyosoma 47
 Geranospiza caerulescens 224
 Gerygone dorsalis 272, 292, 293
 gigas, *Elaenia* 49
 gilvicollis, *Micrastur* 214
 glareola, *Tringa* 312
 glauca, *Diglossa* 51
 Glaucidium brasilianum 209
 Glaucidium hardyi 226
 Glaucidium parkeri 39, 47
 Glaucidium sp. 47
 Glaucis hirsutus 227
 Glyphorhynchus spirurus 232
 Gnorimopsar chopi 198, 238
 goldiei, *Psitteuteles* 8
 gossei, *Ara* 125, 129–130, 141, 150
 gouldii, *Selenidera* 228
 Goura victoria 14
 gracilipes, *Zimmerius* 214
 Grallaria albigula 48
 Grallaria guatemalensis 323
 Grallaria squamigera 323
 Grallaria varia 231
 Grallaricula ferrugineipectus 48
 Grallaricula flavirostris 48
 Grallina bruijini 14
 Grallina cyanoleuca 315
 grammicus, *Celeus* 229
 granadensis, *Myiozetetes* 211
 Granatellus pelzelni 238
 grandis, *Nyctibius* 226
 granulifrons, *Ptilinopus* 83, 91
 grisea, *Formicivora* 230
 griseicapillus, *Sittasomus* 31, 41, 49, 232
 griseicollis, *Scytalopus* 265
 griseigula, *Timeliopsis* 14
 griseipectus, *Hemitriccus* 214, 233
 griseistricta, *Muscicapa* 87
 griseonota, *Pachycephala* 103–105, 104
 griseus, *Nyctibius* 47, 196, 226
 grossus, *Saltator* 238
 guadeloupensis, *Ara* 130, 138, 150
 guarauna, *Aramus* 224

- guarouba, Guarouba 210
 Guarouba guarouba 210
 guatimalensis, Grallaria 323
 guianensis, Morphnus 233
 guianensis, Polioptila 236
 guilielmi, Paradisaea 4, 13
 guira, Guira 196, 226
 Guira guira 196, 226
 guisei, Ptiloprora 9, 15
 gujanensis, Cyclarhis 50, 236
 gujanensis, Odontophorus 222
 gujanensis, Synallaxis 49, 233
 gularis, Accipiter 312
 gularis, Cuculus 161, 163
 gularis, Paroaria 237
 guttata, Ortalis 36, 47, 195, 222
 guttata, Taeniopygia 306
 guttatus, Tinamus 222
 guttatus, Xiphorhynchus 232
 guttuliger, Premnornis 37, 49
 gutturata, Cranioleuca 233
 Gygis alba 172
 Gymnoderus foetidus 235
 gymnops, Rhegmatorhina 231
 gyrola, Tangara 237
 Habia rubica 238
 Haematoderus militaris 211
 haematodus, Trichoglossus 282
 haemorrhous, Cacicus 238
 Haliaeetus leucogaster 87, 312
 haliaeetus, Pandion 223
 Haliastur indus 87, 312
 Haplophaedia aureliae 48
 hardyi, Glaucidium 226
 Harpagus bidentatus 223
 Harpagus diodon 203, 223
 Harpia harpyja 223
 harpyja, Harpia 223
 harrisii, Aegolius 40
 hauxwelli, Iseria 230
 hauxwelli, Turdus 237, 249, 250
 heinei, Zoothera 10
 heinrichi, Cacomantis 96
 helias, Eurypyga 224
 Heliodoxa aurescens 189, 227
 Heliodoxa leadbeateri 48
 Heliomaster furcifer 209
 Heliomaster longirostris 227
 Heliornis fulica 224
 Heliothyx auritus 227
 hellmayri, Mecocerculus 42, 49
 hemimelaena, Myrmeciza 231
 Hemiprocne mystacea 87
 Hemispingus melanotis 50
 Hemithraupis flavicollis 238
 Hemitriccus griseipectus 214, 233
 Hemitriccus minimus 233
 Hemitriccus minor 233
 Hemitriccus spodiops 42, 49
 Hemitriccus zosterops 214
 Henicorhina leucophrys 50
 heraldica, Pterodroma 171–172
 Herpetotheres cachinnans 229
 Herpsilochmus atricapillus 42
 Herpsilochmus parkeri 42
 Herpsilochmus rufimarginatus 230
 Herpsilochmus sp. 31, 42, 48
 Heterocercus linteatus 235
 Hieraaetus weiskei 7
 himantopus, Calidris 207, 225
 himantopus, Himantopus 312
 Himantopus himantopus 312
 Himantopus mexicanus 201, 224
 Himatione sanguinea 65
 hiogaster, Accipiter 112, 277
 hirsutus, Glaucis 227
 Hirundapus caudacutus 99, 313
 Hirundapus celebensis 99
 Hirundapus cochinchinensis 99
 Hirundo rustica 108, 208, 236, 314
 Hirundo tahitica 108, 314
 hispidus, Phaethornis 187, 188, 227
 hoazin, Opisthocomus 199, 201, 225
 holostictus, Thripadectes 49
 hottentottus, Dicrurus 14, 83, 84, 105, 113
 huetii, Touit 190, 210, 230
 huhula, Ciccaba 226
 humeralis, Ammodramus 198, 238
 humeralis, Parkertheraustes 238
 hyacinthinus, Anodorhynchus 189, 229
 hybrida, Chlidonias 313
 Hydropsalis climacocerca 226
 Hydropsalis maculicaudus 226
 Hydropsalis torquata 47
 Hylexetastes perrotii 232
 Hylocharis cyanus 227
 Hylocharis sapphirina 227
 Hyloctistes subulatus 232
 Hylopezus berlepschi 231
 Hylopezus macularius 231
 Hylophilus hypoxanthus 236
 Hylophilus ochraceiceps 236
 Hylophilus semicinereus 236
 Hylophylax naevius 231
 Hylophylax poecilinotus 214
 Hylophylax punctulatus 231
 hyperrhynchus, Notharchus 214, 228
 hyperythra, Ficedula 272, 295, 296–297, 298
 Hypocnemis cantator 214
 Hypocnemis hypoxantha 194, 231
 Hypocnemis striata 214, 231
 Hypocnemoides maculicauda 231
 hypoleucos, Actitis 87, 312
 hypopyrra, Laniocera 235
 Hypositta corallirostris 72–74
 Hypositta perdita 72–75, 73
 hypoxantha, Hypocnemis 194, 231
 hypoxanthus, Hylophilus 236
iberiae subsp. nov., Sylvia inornata 244–245, 247
 ibis, Bubulcus 223
 Ibycter americanus 229
 icterophrys, Satrapa 205, 234
 Icterus cayanensis 238
 Ictinia plumbea 47, 223
 ignobilis, Turdus 211
 iliacus, Turdus 316, 316–317

- immunda, Rhytipterna 70
 imperialis, Amazona 131
 incerta, Amalocichla 12
 inda, Chloroceryle 228
 indus, Haliastur 87, 312
 inerme, Ornithion 233
 Inezia inornata 205, 233
 Inezia subflava 202, 233
 infuscata, Aerodramus 98
 infuscatus, Automolus 214
 infuscatus, Phimosus 209
 ingens, Megascops 47
 inornata, Inezia 205, 233
 inornata, Sylvia 240–241, 243, 244–245, 247
 inornatus, Myiophobus 49
 inornatus, Philemon 304
 inquisitor, Tityra 235
 inscriptus, Pteroglossus 228
 insularis, Arses 11
 insularis, Corvus 290
 intermedia, Egretta 311
 intermedia, Pipreola 50
 Iodopleura isabellae 235
 Iridisornis analis 37
 Iridosornis analis 50
 isabellae, Iodopleura 235
 isabella, Stiltia 313
 isidorei, Garrinornis 14
 isidori, Spizaetus 47
 Iseria hauxwelli 230
 Ixobrychus exilis 200, 223
 Jabiru mycteria 200, 222
 Jacamerops aureus 228
 jacana, Jacana 225
 Jacana jacana 225
 jacarina, Volatinia 238
 jacquacu, Penelope 222
 jamaicensis, Laterallus 319, 319–321, 320
 javanica, Mirafraga 314
 jobiensis, Gallinolumba 8
 johni, Pachycephala 83, 103, 104, 113
 jugularis, Cinnerys 111
 juncidis, Cisticola 314
 kawalli, Amazona 183, 190, 230
 keraudrenii, Manucodius 14
 kingi, Agelaiocercus 48
 kirhocephalus, Pitohui 12
 kisserensis, Philemon 272, 291, 304
 Knipolegus aterrimus 49
 kuhli, Leucopternis 184, 224
 lacrymiger, Lepidocolaptes 49
 Lalage aurea 103
 Lalage sueurii 289
 Lamprospiza melanoleuca 237
 langsdorffi, Discosura 227
 laniirostris, Euphonia 213, 239
 Laniocera hypopyrra 235
 Lanio versicolor 237
 Lanius collaris 157–160, 159
 Lanius schach 304
 largipennis, Campylopterus 227
 Laterallus exilis 224
 Laterallus jamaicensis 319, 319–321, 320
 Laterallus melanophaius 224
 Lathrotriccus eulerei 234
 latirostris, Poecilotriccus 197, 233
 latrans, Scytalopus 265
 lauterbachi, Chlamydera 4, 13
 lawrencii, Turdus 237, 318
 leadbeateri, Heliodoxa 48
 leari, Anodorhynchus 131
 Legatus leucophaius 50, 234
 Lepidocolaptes albolineatus 232
 Lepidocolaptes lacrymiger 49
 Lepidothrix nattereri 235
 lepidus, Cuculus 285
 Leptocoma sericea 111
 Leptodon cayanensis 223
 Leptopogon amaurocephalus 233
 Leptopogon superciliosus 49
 Leptotila 213
 Leptotila rufaxilla 225
 Leptotila verreauxi 47, 196, 225
 lepturus, Phaethon 172
 leschenaultii, Charadrius 312
 leucocephala, Amazona 56
 leucocephala, Amazona 136
 leucocephalus, Cinclus 36, 50
 leucogaster, Haliaeetus 87, 312
 leucogaster, Pionites 230
 leucogaster, Sula 172
 leucogastra, Galbula 228
 leuconota, Pyriglena 48, 231
 leucophaius, Legatus 50, 234
 leucophrys, Henicorhina 50
 leucophrys, Mecocerculus 49
 leucophrys, Myrmoborus 231
 leucophrys, Rhipidura 87
 leucophrys, Vireo 50
 leucophthalma, Aratinga 229
 leucophthalma, Epinecophylla 230
 leucops, Turdus 36, 50
 leucoptera, Prosobonia 63–64
 Leucopternis albicollis 184, 224
 Leucopternis kuhli 184, 224
 Leucopternis melanops 184, 185, 224
 leucopterus, Amytornis 323
 leucopterus, Malurus 24–25, 325–326
 leucorrhous, Parabuteo 47
 leucorynchus, Artamus 314
 leucosticta, Ptilorrhoa 9
 leucostigma, Schistocichla 214
 leucotis, Cantorchilus 236
 leucotis, Entomodestes 36, 50
 leucotis, Vireolanius 236
 leucurus, Elanus 195, 223
 leucurus, Threnetes 227
 leverianus, Cissopis 50, 237
 lherminieri, Cichlherminia 318
 lherminieri, Planesticus 318
 lherminieri, Turdus 318
 Lichenostomus melanops 65
 Lichmera limbata 314
 Lichmera squamata 305
 lictor, Pitangus 234
 limbata, Lichmera 314

- limosa, *Limosa* 312
Limosa limosa 312
lineata, *Dacnis* 237
lineatum, *Tigrisoma* 223
lineatus, *Cymbilaimus* 230
lineatus, *Dryocopus* 229
lineola, *Bolborhynchus* 48
lineola, *Sporophila* 198, 206, 238
linateus, *Heterocercus* 235
Lipaugus uropygialis 31, 36, 43, 50
Lipaugus vociferans 235
littoralis, *Ochthornis* 234
lobatus, *Phalaropus* 87, 313
Lochmias nematura 36, 49
Locustella fasciolata 87
Lonchura molucca 87
Lonchura pallida 307
Lonchura punctulata 307, 315
Lonchura quincolor 308, 315
longicauda, *Bartramia* 206
longicauda, *Deconychura* 232
longipennis, *Falco* 312
longipennis, *Myrmotherula* 230
longirostris, *Chalcophaps* 313
longirostris, *Heliomaster* 227
longirostris, *Nasica* 232
longirostris, *Rallus* 62
longirostris, *Systellura* 47
longirostris, *Thapsinillas* 83, 106, 107, 113
longuemareus, *Phaethornis* 187
Lophornis chalybeus 187, 227
Lophostrix cristata 226
Lophotriccus galeatus 233
Lorius garrulus 84, 93
lucidus, *Chrysococcyx* 315
luctuosa, *Sporophila* 51
luctuosus, *Sakesphorus* 230
ludovicae, *Doryfera* 48
lugubris, *Brachygalba* 228
lunatus, *Onychoprion* 172
Lurocalis rufiventris 47
Lurocalis semitorquatus 226
luteiventris, *Myiozetetes* 211, 234
lutescens, *Anthus* 197, 237
Lycocorax pyrrhopterus 83, 106, 113
macao, *Ara* 129, 132, 139, 141, 229
Machaerirhynchus flaviventer 10
Machaeropterus pyrocephalus 235
Machetornis rixosus 195
macleayii, *Todiramphus* 315
Macropygia amboinensis 90
Macropygia magna 280
macrorhyncha, *Pachycephala* 272, 300, 301–302
macrorhynchos, *Corvus* 290
macrorhynchos, *Notharchus* 214
macrura, *Amytis* 26
macrura, *Amytis* (*macrourus*) 26
macrurus, *Caprimulgus* 87, 285
macularius, *Actitis* 225
macularius, *Hyllopezus* 231
maculatum, *Todirostrum* 233
maculatus, *Myiodynastes* 50, 234
maculatus, *Nystalus* 195
maculicauda, *Hypocnemoides* 231
maculicaudus, *Hydropsalis* 226
madagascariensis, *Oxylabes* 72, 73, 74
magellanica, *Sporagra* 51
magicus, *Otus* 97–98
magna, *Macropygia* 280
magna, *Sturnella* 320
magnirostris, *Esacus* 313
magnirostris, *Rupornis* 31, 37, 47, 224
maguari, *Ciconia* 200, 222
major, *Crotophaga* 225
major, *Schiffornis* 235
major, *Taraba* 230
major, *Tinamus* 222
Malacoptila rufa 228
malaris, *Phaethornis* 48
Malurus leucopterus 24–25, 325–326
Malurus textilis 25, 27, 325–326
manacus, *Manacus* 235
Manacus manacus 235
manadensis, *Monarcha* 11
manilata, *Orthopsittaca* 229
manu, *Cercomacra* 231
Manucodius keraudrenii 14
Maracana altera 56
maracana, *Primolius* 194, 229
margaritatus, *Megastictus* 182
Margarornis squamiger 49
marginatus, *Microcerculus* 236
marginatus, *Pachyrhamphus* 236
marshalli, *Megascops* 39, 47
martii, *Baryphthengus* 189, 228
martinica, *Ara* 131, 150
martinica, *Porphyrio* 224
martinicus, *Anodorhynchus* 131
martinicus, [*Anodorhynchus*] 131
martinicus, *Anodorhynchus* 131, 150
martinicus, *Ara* 131–132
maugei, *Dicaeum* 305
maugeus, *Geopelia* 313
maximus, *Psittacus* 128, 142
maximus, *Saltator* 51, 238
Mecocerculus hellmayri 42, 49
Mecocerculus leucophrys 49
megacephalus, *Ramphotrigon* 235
Megaceryle torquata 228
megalorhynchos, *Tanygnathus* 87, 283
Megalurus timoriensis 307
Megapodius 112
Megapodius affinis 8
Megapodius freycinet 87, 112
Megapodius reinwardt 312
Megarynchus pitangua 206, 234
Megascops choliba 196, 226
Megascops ingens 47
Megascops marshalli 39, 47
Megascops watsonii 226
Megastictus margaritatus 182
melacoryphus, *Coccyzus* 225
melambrotus, *Cathartes* 223
melancholichus, *Tyrannus* 317
melancholicus, *Tyrannus* 50, 205, 234
Melanerpes candidus 197, 229

- Melanerpes cruentatus* 229
melanocephalus, *Myioborus* 36, 51
Melanocharis crassirostris 12
melanochlamys, *Accipiter* 6
melanogaster, *Conopophaga* 210
melanogaster, *Piaya* 225
melanogenys, *Adelomyia* 37, 48
melanolaemus, *Atlapetes* 51
melanoleuca, *Lamprospiza* 237
melanoleuca, *Pygochelidon* 202, 236
melanoleuca, *Tringa* 207, 225
melanoleucos, *Campephilus* 229
melanoleucos, *Microcarbo* 311
melanoleucus, *Seleucidis* 14
melanoleucus, *Spizaetus* 47, 223
melanonota, *Pipraeidea* 212
melanophaius, *Laterallus* 224
melanopsis, *Schistochlamys* 191, 195, 237
melanops, *Leucopternis* 184, 185, 224
melanops, *Lichenostomus* 65
melanops, *Trichothraupis* 50
melanota, *Pulsatrix* 47
melanotis, *Hemispingus* 50
melanotos, *Calidris* 206–207, 225
melanura, *Pachycephala* 103
melanura, *Pyrrhura* 38
melanurus, *Ramphocaeus* 236
melanurus, *Trogon* 227
Melidectes foersteri 4, 13
Melidectes ochromelas 13
Meliphaga albonotata 13
Meliphaga montana 13
Melipotés ater 4
mellivora, *Florisuga* 227
meloryphus, *Euscarthmus* 183
mendenae, *Acrocephalus* 173
menetriesii, *Myrmotherula* 230
menstruus, *Pionus* 48, 54, 230
mentalis, *Pachycephala* 86, 103
mercenaria, *Amazona* 48
Merops ornatus 314–315
merula, *Dendrocincla* 192, 232
Mesembrinibis cayennensis 223
mesochrysa, *Euphonia* 51
Metallura tyrianthina 48
mexicana, *Tangara* 237
mexicanus, *Himantopus* 201, 224
mexicanus, *Sclerurus* 231
meyerschauenseei, *Tangara* 43–44, 51
meyerianus, *Accipiter* 4, 6
Micrastur gilvicollis 214
Micrastur mintoni 214, 229
Micrastur mirandollei 229
Micrastur ruficollis 48, 229
Micrastur semitorquatus 229
Microcarbo melanoleucos 311
Microcerculus marginatus 236
micropterus, *Scytalopus* 265
Microrhopias quixensis 230
Microxenops milleri 232
militaris, *Ara* 127–128, 132
militaris, *Haematoderus* 211
militaris, *Sturnella* 199, 239
milleri, *Microxenops* 232
Milvago chimachima 229
miniatus, *Myioborus* 51
minus, *Catharus* 211
minus, *Hemitriccus* 233
minor, *Aplonis* 314
minor, *Chordeiles* 226
minor, *Fregata* 171–172, 311
minor, *Hemitriccus* 233
minor, *Pachyrhamphus* 236
mintoni, *Micrastur* 214, 229
minuta, *Coccyua* 225
minuta, *Euphonia* 239
minutillus, *Chrysococcyx* 272, 283
minutus, *Anous* 172
minutus, *Xenops* 232
Mionectes oleagineus 233
Mionectes striaticollis 49
Mirafra javanica 314
mirandollei, *Micrastur* 229
Mitrephanes olivaceus 36
Mitrephanes phaeocercus 49
Mitu tuberosum 222
modestus, *Amytis* 29
modestus, *Amytornis* 27
modestus, *Forpus* 229
modestus, *Sublegatus* 204, 233
molinae, *Pyrrhura* 38, 39
mollissima, *Chamaeza* 49
Molothrus bonariensis 198, 239
Molothrus oryzivorus 198, 239
moltonii, *Sylvia* 246–247
molucca, *Lonchura* 87
moluccana, *Amaurornis* 279
moluccensis, *Falco* 87, 312
momota, *Momotus* 214, 228
Momotus momota 214, 228
Monarcha cinerascens 314
Monarcha manadensis 11
Monarcha rubiensis 4, 11
Monasa morphoeus 228
Monasa nigrifrons 228
mongolus, *Charadrius* 312
montagnii, *Penelope* 36, 47
montana, *Coracina* 9
montana, *Geotrygon* 184, 225
montana, *Meliphaga* 13
montanus, *Passer* 111–112, 307, 315
montanus, *Zosterops* 306
montivagus, *Aeronautes* 47
Morphnus guianensis 223
morphoeus, *Monasa* 228
moschata, *Cairina* 222
mosquitus, *Chrysolampis* 203, 227
Motacilla (cantillans) 241
Motacilla cinerea 87
Motacilla tschutschensis 87, 314
multostriata, *Myrmotherula* 214, 230
mundus, *Symposiachrus* 298
murina, *Crateroscelis* 10
murina, *Phaeomyias* 233
Muscicapa griseistriata 87
Muscicapa taitensis 65

- Muscisaxicola fluviatilis* 205, 234
Muscisaxicola fluvitalis 49
Myadestes ralloides 50
Mycteria americana 200–201, 222
mycteria, Jabiru 200, 222
Myiagra alecto 11, 106
Myiagra galeata 106
Myiagra ruficollis 298
Myiarchus cephalotes 50
Myiarchus ferox 235
Myiarchus swainsoni 205, 235
Myiarchus tuberculifer 234
Myiarchus tyrannulus 235
Myiobius barbatus 234
Myiobius villosus 49
Myioborus melanocephalus 36, 51
Myioborus miniatus 51
Myiodynastes chrysocephalus 50
Myiodynastes maculatus 50, 234
Myiopagis caniceps 233
Myiopagis gaimardii 233
Myiopagis viridicata 233
Myiophobus fasciatus 49, 234
Myiophobus inornatus 49
Myiornis ecaudatus 233
Myiotheretes striaticollis 49
Myiothlypis bivittata 51
Myiothlypis coronata 51
Myiothlypis fulvicauda 51
Myiothlypis signata 51
Myiozetetes cayanensis 234
Myiozetetes granadensis 211
Myiozetetes luteiventris 211, 234
Myiozetetes similis 50
myotherinus, *Myrmoborus* 231
Myrmeciza atrothorax 231
Myrmeciza hemimelaena 231
Myrmoborus leucophrys 231
Myrmoborus myotherinus 231
Myrmornis torquata 231
Myrmothera campanisona 231
Myrmotherula axillaris 230
Myrmotherula brachyura 230
Myrmotherula longipennis 230
Myrmotherula menetriesii 230
Myrmotherula multostriata 214, 230
Myrmotherula schisticolor 48
Myrmotherula sclateri 230
Myrmotherula surinamensis 214
mysolensis, *Aplonis* 87
mystacalis, *Pheugopedius* 43
mystacea, *Hemiprocne* 87
mystaceus, *Platyrinchus* 49
mysticalis, *Thapsinillas* 106–107
Myzomela 273
Myzomela boiei 304
Myzomela chloroptera 83, 101, 102, 112, 305
Myzomela obscura 83, 100, 101, 113
Myzomela rosenbergii 8
Myzomela sanguinolenta 304
Myzomela wakoloensis 305
nacunda, *Chordeiles* 197, 226
naevia, *Sclateria* 231
naevia, *Tapera* 196, 226
naevius, *Hylophylax* 231
nana, *Aratinga* 127
Nasica longirostris 232
nativitatis, *Puffinus* 171–172
nattereri, *Lepidothrix* 235
nebularia, *Tringa* 312
nematura, *Lochmias* 36, 49
Nemosia pileata 237
Neocrex erythrops 191, 201, 224
Neoctantes niger 68, 70
Neoctantes sp. 210
Neomorphus geoffroyi 212–213, 226
Neomorphus squamiger 212–213, 226
Neophrontops vetustus 75–76
Neopipo cinnamomea 193, 234
Nesofregatta fuliginosa 171–172
niger, *Neoctantes* 68, 70
niger, *Rynchops* 225
nigrescens, *Cercomacra* 231
nigrescens, *Nyctipolus* 226
nigricans, *Pardirallus* 209
nigricans, *Petrochelidon* 314–315
nigricans, *Sayornis* 49
nigricollis, *Anthracothonax* 227
nigricollis, *Busarellus* 199, 201, 223
nigricollis, *Phoenicircus* 193, 235
nigricollis, *Sporophila* 198, 238
nigrifrons, *Monasa* 228
nigriscapularis, *Caprimulgus* 116–124
nigrocapillus, *Nothocercus* 36, 47
nigrocincta, *Tangara* 237
nigromaculata, *Phlegopsis* 231
nigrorufa, *Crateroscelis* 10
nigroviridis, *Tangara* 51
nilotica, *Gelochelidon* 313
Ninox boobook 272, 284, 286
Ninox connivens 87
Ninox rufa 9
nitidus, *Buteo* 195, 224
nitidus, *Cyanerpes* 195, 237
nobilis, *Chamaeza* 231
nobilis, *Diopsittaca* 56, 142, 210
nobilis, *Otidiphaps* 8
Nomonyx dominicus 199, 222
Nonnula rubecula 188, 189, 228
Nonnula ruficapilla 228
Notharchus hyperrhynchus 214, 228
Notharchus macrorhynchus 214
Notharchus ordii 228
Notharchus tectus 228
Nothocercus nigrocapillus 36, 47
novaehollandiae, *Coracina* 315
novaehollandiae, *Scythrops* 315
novaehollandiae, *Tachybaptus* 277
nubicus, *Caprimulgus* 121
Numenius phaeopus 312
Nyctibius aethereus 183, 186, 188, 226
Nyctibius grandis 226
Nyctibius griseus 47, 196, 226
Nycticorax caledonicus 311
nycticorax, *Nycticorax* 209
Nycticorax nycticorax 209

- Nyctidromus albicollis* 226
Nyctiphrynus 226
Nyctiphrynus ocellatus 40, 47
Nyctipolus nigrescens 226
Nystalus chacuru 195
Nystalus maculatus 195
Nystalus striolatus 228
obscura, *Elaenia* 49
obscura, *Gallinula* 63–64
obscura, *Myzomela* 83, 100, 101, 113
obscurior, *Sublegatus* 183, 191, 192, 233
obscurus, *Rallus* 59, 63, 66
obscurus, *Tiaris* 51
obsoletum, *Camptostoma* 49, 233
obsoletus, *Crypturellus* 36, 47, 222
obsoletus, *Xiphorhynchus* 232
ocellatus, *Nyctiphrynus* 40, 47
ocellatus, *Xiphorhynchus* 49
ochraceiceps, *Hylophilus* 236
ochrocephala, *Amazona* 142, 230
ochrolaemus, *Automolus* 232
ochromelas, *Melidectes* 13
Ochthoeca cinnamomeiventris 36, 49
Ochthoeca pulchella 49
Ochthornis littoralis 234
Ocreatus underwoodii 48
Odontophorus gujanensis 222
Odontophorus speciosus 36, 47
Odontorchilus branickii 50
Odontorchilus cinereus 236
oenanthe, *Oenanthe* 251–252, 252
Oenanthe oenanthe 251–252, 252
oleagineus, *Mionectes* 233
olivacea, *Piranga* 51
olivaceus, *Mitrephanes* 36
olivaceus, *Rhynchocyclus* 233
olivaceus, *Vireo* 205, 236
Onychoprion fuscatus 170, 172
Onychoprion lunatus 172
Onychorhynchus coronatus 234
opacus, *Scytalopus* 267
ophthalmicus, *Phylloscartes* 49
Opisthocomus hoazin 199, 201, 225
ordii, *Notharchus* 228
orientalis, *Eudynamis* 313
orientalis, *Eurystomus* 314–315
orientalis, *Sylvia* 247
Oriolus flavocinctus 272, 290, 292
Oriolus sagittatus 315
ornata, *Epinecrophylla* 230
ornatus, *Cephalopterus* 235
ornatus, *Merops* 314–315
ornatus, *Spizaetus* 223
Ornithion inerme 233
orru, *Corvus* 87, 290
Ortalis guttata 36, 47, 195, 222
Orthopsittaca manilata 229
oryzivorus, *Dolichonyx* 206
oryzivorus, *Molothrus* 198, 239
Oryzoborus angolensis 51, 238
osculans, *Chrysococcyx* 315
Otidiphaps nobilis 8
Otus magicus 97–98
Oxylabes madagascariensis 72, 73, 74
Pachycephala 273
Pachycephala arctitorquis 300, 302, 303
Pachycephala arctitorquis 302
Pachycephala griseonota 103–105
Pachycephala johni 83, 103, 104, 113
Pachycephala macrorhyncha 272, 300, 301–302
Pachycephala melanura 103
Pachycephala mentalis 86, 103
Pachycephala pectoralis 86, 103
Pachycephala schlegelii 12
Pachyramphus castaneus 236
Pachyramphus marginatus 236
Pachyramphus minor 236
Pachyramphus polychropterus 236
Pachyramphus validus 206, 236
Pachyramphus versicolor 36, 50
pacifica, *Drepanis* 65
pacifica, *Ducula* 65
pacificus, *Apus* 9, 313
pacificus, *Puffinus* 172
Palaeastur atavus 75–76
palliatus, *Thamnophilus* 48, 230
pallida, *Lonchura* 307
pallidus, *Cacomantis* 315
palmarum, *Thraupis* 51, 237
panayensis, *Eumyias* 84, 111–112
Pandion cristatus 87
Pandion haliaetus 223
Panyptila cayennensis 186, 227
papa, *Sarcoramphus* 223
papou, *Charmosyna* 8
papuensis, *Chaetorhynchus* 13
papuensis, *Coracina* 87, 315
papuensis, *Sericornis* 4, 10
Parabuteo leucorrhous 47
Paradisaea guilielmi 4, 13
Paradisaea minor 13
Paradisaea raggiana 13
paraensis, *Automolus* 214, 232
paraguaiae, *Gallinago* 203, 225
Pardirallus nigricans 209
pareola, *Chiroxiphia* 235
parkeri, *Glaucidium* 39, 47
parkeri, *Herpsilochmus* 42
Parkerthraustes humeralis 238
Paroaria gularis 237
Parotia raggiana 5
Parotia wahnesi 4
parvirostris, *Chlorospingus* 51
parvirostris, *Crypturellus* 222
parvirostris, *Elaenia* 205, 233
parvirostris, *Scytalopus* 48
parvulus, *Setopagis* 226
Passer domesticus 239
Passer montanus 111–112, 307, 315
Patagioenas cayennensis 47, 225
Patagioenas fasciata 47
Patagioenas picazuro 196, 225
Patagioenas plumbea 31, 37, 47, 225
Patagioenas speciosa 194, 225
Patagioenas subvinacea 225
patagonus, *Cyanoliseus* 132

- pavoninus, *Dromococcyx* 226
 pavoninus, *Pharomachrus* 227
 pectoralis, *Caprimulgus* 116–124
 pectoralis, *Pachycephala* 86, 103
 Pelecanus *conspicillatus* 311
 pella, *Topaza* 187, 227
 pelzelni, *Granatellus* 238
 Penelope *jacquacu* 222
 Penelope *montagnii* 36, 47
 percernis, *Acrocephalus* 168, 173
 perdita, *Hypositta* 72–75, 73
 peregrinus, *Falco* 206
 perlata, *Pyrrhura* 214, 229
 Pernis *ptilorhynchus* 312
 peronii, *Charadrius* 278
 peronii, *Geokichla* 291
 perrotii, *Hylexetastes* 232
 personata, *Coracina* 286, 288
 personatus, *Trogon* 48
 perspicillata, *Ducula* 91
 perspicillata, *Pulsatrix* 226
 perspicillatus, *Sericornis* 10
 perstriata, *Ptiloprora* 15
 pertinax, *Aratinga* 56–57
 peruviana, *Vini* 65
 peruvianus, *Rupicola* 50
 Petrochelidon *nigricans* 314–315
 Petrochelidon *pyrrhonota* 206
 Petroica *bivittata* 4, 11
 Peucaea *botterii* 320
 phaeocercus, *Mitrephanes* 49
 Phaeomyias *murina* 233
 phaeopus, *Numenius* 312
 Phaeothlypis *fulvicauda* 193, 238
 Phaeothlypis *rivularis* 193, 238
 Phaethon *lepturus* 171–172
 Phaethon *rubricauda* 171–172, 273
 Phaethornis *aethopyga* 187, 227
 Phaethornis *bourcierii* 209
 Phaethornis *hispidus* 187, 188, 227
 Phaethornis *longuemareus* 187
 Phaethornis *malaris* 48
 Phaethornis *ruber* 187, 227
 Phaethornis *rupurumii* 187
 Phaethornis *superciliosus* 227
 Phaetusa *simplex* 225
 Phalacrocorax *brasilianus* 222
 Phalacrocorax *sulcirostris* 311
 Phalaropus *lobatus* 87, 313
 Pharomachrus *antisianus* 48
 Pharomachrus *auriceps* 48
 Pharomachrus *pavoninus* 227
 phasianellus, *Dromococcyx* 226
 Pheucticus *aureoventris* 51
 Pheugopedius *eisenmanni* 43
 Pheugopedius *euophrys* 43
 Pheugopedius *genibarbis* 43, 50, 236
 Pheugopedius *mystacalis* 43
 Philemon *citreogularis* 304
 Philemon *fuscicapillus* 78, 79
 Philemon *inornatus* 304
 Philemon *kisserensis* 272, 291, 304
 Philesturnus *carunculatus* 60
 Philydor *erythrocerum* 232
 Philydor *erythropterum* 232
 Philydor *pyrrhodes* 190, 232
 Phimosus *infuscatus* 209
 Phlegopsis *nigromaculata* 231
 Phoenicircus *nigricollis* 193, 235
 phoenicurus, *Amaurornis* 279
 phoenicurus, *Attila* 204, 206, 235
 Phylloscopus *cinereiceps* 37, 49
 Phylloscopus *sclateri* 49
 Phylloscartes *ophthalmicus* 49
 Phylloscartes *poecilotis* 37, 49
 Phylloscartes *ventralis* 49
 Phylloscopus *borealis* 87
 Phylloscopus *examinandus* 87
 Phylloscopus *poliocephalus* 83–84, 95, 109–110, 113
 Phylloscopus *sarasinorum* 110
 Phylloscopus *xanthodryas* 87
 Piaya *cayana* 47, 225
 Piaya *melanogaster* 225
 picazuro, *Patagioenas* 196, 225
 Picoides *fumigatus* 48
 picta, *Psittacella* 8
 picta, *Pyrrhura* 214
 Piculus *chrysochloros* 229
 Piculus *flavigula* 229
 Picumnus *aurifrons* 48, 229
 Picumnus *castelnau* 77
 picumnus, *Dendrocolaptes* 232
 picus, *Dendroplex* 232
 pileata, *Nemosia* 237
 pileatus, *Pilherodius* 223
 Pilherodius *pileatus* 223
 Pionites *leucogaster* 230
 Pionus 52–58
 Pionus *menstruus* 48, 54, 230
 Pionus *sordidus* 57
 Pipile *cujubi* 222
 pipra, *Dixiphia* 193, 235
 Pipraeidea *melanonota* 212
 Pipra *fasciicauda* 235
 Pipreola *frontalis* 50
 Pipreola *intermedia* 50
 Piprites *chloris* 236
 Piranga *flava* 212
 Piranga *olivacea* 51
 Piranga *rubra* 51, 212
 pitangua, *Megarynchus* 206, 234
 Pitangus *lector* 234
 Pitangus *sulphuratus* 234
 pituiyumi, *Setophaga* 51
 Pitohui *dichrous* 12
 Pitohui *kirhocephalus* 12
 Pitta *elegans* 272, 287
 placentis, *Charmosyna* 93
 plancus, *Caracara* 229
 Planesticus *lherminieri* 318
 Platalea *regia* 311
 platypterus, *Buteo* 207, 224
 platyrhynchos, *Platyrinchus* 234
 platyrhynchum, *Electron* 228
 Platyrinchus *coronatus* 234
 Platyrinchus *mystaceus* 49

- Platyrinchus platyrhynchos* 234
Platyrinchus saturatus 234
plicatus, *Rhyticeros* 99
plumbea, *Ictinia* 47, 223
plumbea, *Patagioenas* 31, 37, 47, 225
plumbeiceps, *Poecilotriccus* 49
Pluvialis dominica 207, 224
Pluvialis fulva 312
podiceps, *Podilymbus* 209
Podilymbus podiceps 209
poecilinotus, *Hylophylax* 214
poecilinotus, *Willisornis* 214, 231
Poecilodryas albonotata 11
poecilotis, *Phylloscartes* 37, 49
Poecilotriccus capitalis 182–183
Poecilotriccus latirostris 197, 233
Poecilotriccus plumbeiceps 49
Poecilotriccus senex 70
poliocephalus, *Cuculus* 161
poliocephalus, *Phylloscopus* 83–84, 95, 109–110, 113
poliocephalus, *Tolmomyias* 234
poliogaster, *Accipiter* 224
Polioptila guianensis 236
polychopterus, *Pachyramphus* 236
polyosoma, *Geranoaetus* 47
Polytmus theresiae 70, 201, 227
Porphyrio flavirostris 203, 224
Porphyrio martinica 224
porphyrolaema, *Porphyrolaema* 235
Porphyrolaema porphyrolaema 235
Porzana albicollis 224
Porzana fusca 272, 278–279
Porzana sandwichensis 59–67
Porzana tabuensis 65, 173
Premnoplex brunnescens 49
Premnornis guttuliger 37, 49
pretiosa, *Claravis* 225
Primolius maracana 194, 229
principalis, *Campephilus* 134
Procelsterna cerulea 172
procurvoides, *Campylorhamphus* 232
Progne chalybea 202, 236
Progne subis 208, 236
Progne tapera 236
promeropirhynchus, *Xiphocolaptes* 49, 232
Prosobonia ellisi 64
Prosobonia leucoptera 63–64
Psarocolius angustifrons 51
Psarocolius atrovirens 51
Psarocolius bifasciatus 238
Psarocolius decumanus 51, 238
Pseudoscops clamator 196, 226
Pseudotriccus simplex 36, 49
psittacea, *Psittirostra* 65
Psittacella brehmii 8, 16
Psittacella picta 8
Psittacus erithacus 56, 142
Psittacus maximus 128, 142
Psittacus tricolor 147
Psittacus viridis 142
Psitteuteles goldiei 8
Psittirostra psittacea 65
Psittichas fulgidus 8
Psophia viridis 224
Pterodroma alba 171–172
Pterodroma heraldica 171–172
Pteroglossus aracari 189, 228
Pteroglossus beauharnaesii 228
Pteroglossus bitorquatus 229
Pteroglossus castanotis 189, 228
Pteroglossus inscriptus 228
Ptilinopus bernsteinii 90
Ptilinopus cinctus 272, 280, 281
Ptilinopus granulifrons 83, 91
Ptilinopus regina 280, 281
Ptilinopus superbus 91
Ptiloprora guisei 9, 15
Ptiloprora perstriata 15
ptilorhynchus, *Pernis* 312
Ptilorrhoa caerulea 9
Ptilorrhoa geislerorum 9
Ptilorrhoa leucosticta 9
Puffinus bailloni 171–172
Puffinus nativitatis 171–172
Puffinus pacificus 171–172
pulchella, *Charmosyna* 8
pulchella, *Ochthoeca* 49
Pulsatrix melanota 47
Pulsatrix perspicillata 226
punctata, *Tangara* 51, 237
punctipectus, *Basileuterus* 37
punctulata, *Lonchura* 307, 315
punctulatus, *Hylophylax* 231
punicea, *Xipholena* 235
purpurascens, *Anodorhynchus* 131, 150
purpurata, *Querula* 211
purpuratus, *Touit* 210
Pygiptila stellaris 230
Pygochelidon cyanoleuca 50
Pygochelidon melanoleuca 202, 236
Pyriglena leuconota 48, 231
Pyrilia aurantiocephala 183, 190, 191, 230
Pyrilia barrabandi 190, 230
pyrocephalus, *Machaeropterus* 235
Pyrocephalus rubinus 234
pyrrhodes, *Philydor* 190, 232
Pyrrhomyias cinnamomeus 49
pyrrhonota, *Petrochelidon* 206
pyrrhopterus, *Lycocorax* 83, 106, 113
Pyrrhura amazonum 214, 229
Pyrrhura melanura 38
Pyrrhura molinae 38, 39
Pyrrhura perlata 214, 229
Pyrrhura picta 214
Pyrrhura rhodogaster 214
Pyrrhura rupicola 38, 39
Pyrrhura sp. 38, 39, 48
Querula purpurata 211
quinticolor, *Lonchura* 308, 315
quixensis, *Microrhoptias* 230
raggiana, *Paradisaea* 13
raggiana, *Parotia* 5
Rallina fasciata 272, 278
ralloides, *Myadestes* 50
Rallus ecaudatus 59

- Rallus longirostris* 62
Rallus obscurus 59, 63, 66
Rallus sandwichensis 60–61, 64, 66
ramonianus, Trogon 214, 227
Ramphastos tucanus 228
Ramphastos vitellinus 228
Ramphocaenus melanurus 236
Ramphocelus carbo 50, 237
Ramphotrigon fuscicauda 235
Ramphotrigon megacephalum 235
Ramphotrigon ruficauda 235
recurvirostris, Avocettula 187, 227
regia, Platalea 311
regina, Ptilinopus 280, 281
reinwardt, Megapodius 312
reticulata, Eos 283
Rhagmatorhina gymnops 231
Rhipidura atra 10
Rhipidura dryas 272–273, 298, 299, 300
Rhipidura fuscorufa 300
Rhipidura leucophrys 87
Rhipidura rufifrons 105, 112, 298
Rhipidura rufiventris 83–84, 105, 113, 273, 299, 300
rhodogaster, Pyrrhura 214
rhodogastra, Sylvia 247
Rhynchocyclus olivaceus 233
Rhyticeros plicatus 99
Rhytipterna immunda 70
Rhytipterna simplex 234
rikeri, Berlepschia 232
Riparia diluta 108, 112
riparia, Riparia 108, 112, 208, 236
Riparia riparia 108, 112, 208, 236
rivularis, Phaethlypis 193, 238
rixosus, Machetornis 195
robbinsi, Scytalopus 259
rochii, Cuculus 161
rochussenii, Scolopax 83–84, 86, 88, 89, 112, 115
rodriguezi, Scytalopus 256–271, 260–264, 266
roratus, Eclectus 94
rosacea, Ducula 282
rosenbergii, Myzomela 8
Rostrhamus sociabilis 223
rothschildi, Astrapia 4
rubecula, Nonnulla 188, 189, 228
ruber, Phaethornis 187, 227
rubescens, Gallicolumba 168, 169, 173, 175
rubica, Habia 238
rubiensis, Monarcha 4, 11
rubiginosus, Colaptes 48
rubinus, Pyrocephalus 234
rubra, Certhia 65
rubra, Piranga 51, 212
rubricauda, Phaethon 171–172, 273
rubricollis, Campophilus 229
rubritorquis, Trichoglossus 282
rubrocapilla, Ceratopipra 235
rufa, Malacoptila 228
rufa, Ninox 9
rufaxilla, Ampelion 50
rufaxilla, Leptotila 225
ruficapilla, Nonnulla 228
ruficapilla, Synallaxis 215
ruficapillus, Charadrius 278
ruficapillus, Thamnophilus 48
ruficauda, Galbula 228
ruficauda, Ramphotrigon 235
ruficaudatum, Anaberceria 232
ruficeps, Chalcostigma 48
ruficeps, Thlypopsis 50
ruficervix, Tangara 51
ruficollis, Calidris 313
ruficollis, Chrysococcyx 4, 9
ruficollis, Micrastur 48, 229
ruficollis, Myiagra 298
ruficollis, Stelgidopteryx 50, 236
rufifacies, Schistocichla 214, 231
rufifrons, Rhipidura 105, 112, 298
rufigula, Dendrexetastes 232
rufigularis, Falco 48, 229
rufigularis, Sclerurus 231
rufimarginatus, Herpsilochmus 230
rufipileatus, Automolus 232
rufiventris, Euphonia 239
rufiventris, Lurocalis 47
rufiventris, Rhipidura 83–84, 105, 113, 273, 299, 300
rufosuperciliata, Syndactyla 49
rufulus, Anthus 308, 314
rufus, Antrostomus 186, 226
rufus, Casiornis 234
rufus, Tachyphonus 197, 237
rufus, Trogon 227
Rupicola peruvianus 50
rupicola, Pyrrhura 38, 39
Rupornis magnirostris 31, 37, 47, 224
rupurumii, Phaethornis 187
rustica, Hirundo 108, 208, 236, 314
rusticola, Scolopax 88
rutilans, Synallaxis 233
rutilans, Xenops 49, 192, 232
rutila, Streptoprocne 47
ruwenzorii, Caprimulgus 121–122
Rynchops niger 225
sacra, Egretta 87, 173, 311
sagittatus, Oriolus 315
Sakesphorus luctuosus 230
Saltator coerulescens 198, 238
Saltator grossus 238
Saltator maximus 51, 238
sanchezorum, Turdus 249, 249–251, 250
sanctus, Todyramphus 314–315
sandwichensis, Crex 64
sandwichensis, Porzana 59–67
sandwichensis, Rallus 60–61, 64, 66
sanguinea, Himantion 65
sanguinolenta, Myzomela 304
sapphirina, Hylocharis 227
sarasinorum, Phylloscopus 110
Sarcoramphus papa 223
Satrapa icterophrys 205, 234
saturatus, Cuculus 161–164, 162, 313
saturatus, Platyrinchus 234
saturninus, Thamnomanes 230
saurophagus, Todyramphus 87
savana, Tyrannus 205, 234
savannarum, Ammodramus 320

- savanna, Tyrannus 320
 Saxicola caprata 272, 291, 293
 Sayornis nigricans 49
 schach, Lanius 304
 Schiffornis major 235
 Schiffornis turdina 235
 schistaceiceps, Dicaeum 111
 schistaceus, Buteogallus 201, 224
 schistaceus, Thamnophilus 230
 Schistes geoffroyi 48
 schisticolor, Myrmotherula 48
 Schistochlamys melanopsis 191, 195, 237
 Schistocichla leucostigma 214
 Schistocichla rufifacies 214, 231
 schlegelii, Pachycephala 12
 schrankii, Tangara 237
 sclateriana, Amalocichla 4, 12
 Sclateria naevia 231
 sclateri, Myrmotherula 230
 sclateri, Phyllomyias 49
 Sclerurus albigularis 231
 Sclerurus caudacutus 231
 Sclerurus mexicanus 231
 Sclerurus rufigularis 231
 scolopaceus, Eudynamis 313
 Scolopax bukidnensis 86, 88
 Scolopax rochussenii 83–84, 86, 88, 89, 112, 115
 Scolopax rusticola 88
 scutata, Synallaxis 31, 41, 49
 Scytalopus atratus 265
 Scytalopus bolivianus 48
 Scytalopus femoralis 256
 Scytalopus griseicollis 265
 Scytalopus latrans 265
 Scytalopus micropterus 265
 Scytalopus opacus 267
 Scytalopus parvirostris 48
 Scytalopus robbinsi 259
 Scytalopus rodriguezi 256–271, 260–264, 266
Scytalopus rodriguezi yariguiorum, subsp. nov.
 259
 Scytalopus spillmanni 265, 267
 Scytalopus stilesi 259
 Scytalopus vicinior 256, 259
 Scythrops novaehollandiae 315
 segmentata, Uropsalis 47
 Selenidera gouldii 228
 Seleucidis melanoleucus 14
 semicinereus, Hylophilus 236
 semifasciata, Tityra 50, 235
 semitorquatus, Lurocalis 226
 semitorquatus, Micrastur 229
 senex, Cypseloides 226
 senex, Poecilotriccus 70
 sepulcralis, Cacomanthis 95, 96, 97
 sericea, Leptocoma 111
 sericocaudatus, Anrostomus 186, 226
 Sericornis papuensis 4, 10
 Sericornis perspicillatus 10
 Serpophaga cinerea 49
 serranus, Turdus 36, 50
 Setopagis parvulus 226
 Setophaga fusca 37, 51
 Setophaga pitiayumi 51
 severus, Ara 229
 severus, Falco 87
 sharpei, Euchrepomis 42, 48
 sibilator, Sirystes 234
 signata, Myiothlypis 51
 similis, Myiozetetes 50
 simplex, Phaetusa 225
 simplex, Pseudotriccus 36, 49
 simplex, Rhytipterna 234
 Sirystes sibilator 234
 Sittasomus griseicapillus 31, 41, 49, 232
 sittoides, Diglossa 51
 sociabilis, Rostrhamus 223
 solitaria, Tringa 206, 225
 solitarius, Buteogallus 47
 solitarius, Cacicus 212, 238
 solitarius, Cuculus 161
 solstitialis, Aratinga 56–57
 solstitialis, Troglodytes 50
 somptuosus, Anisognathus 50
 sordida, Thlypopsis 212
 sordidulus, Contopus 49
 sordidus, Pionus 57
 soui, Crypturellus 222
 spadiceus, Attila 235
 sparverius, Falco 229
 speciosa, Patagioenas 194, 225
 speciosum, Conirostrum 238
 speciosus, Odontophorus 36, 47
 spectabilis, Elaenia 233
 spillmanni, Scytalopus 265, 267
 Spilopelia chinensis 313
 spirurus, Glyphorhynchus 232
 spixii, Xiphorhynchus 214, 232
 spiza, Chlorophanes 238
 Spizaetus isidori 47
 Spizaetus melanoleucus 47, 223
 Spizaetus ornatus 223
 Spizaetus tyrannus 223
 splendens, Corvus 317
 spodiops, Hemitriccus 42, 49
 Sporagra magellanica 51
 Sporagra xanthogastra 31, 44, 51
 Sporophila caerulescens 51, 238
 Sporophila castaneiventris 51, 198, 238
 Sporophila collaris 198, 238
 Sporophila lineola 198, 206, 238
 Sporophila luctuosa 51
 Sporophila nigricollis 198, 238
 squamata, Eos 83, 93, 113
 squamata, Lichmera 305
 squamata, Tachornis 227
 squamigera, Grallaria 323
 squamiger, Margarornis 49
 squamiger, Neomorphus 212–213, 226
 squammata, Columbina 196, 225
 Steatornis caripennis 47
 Stelgidopteryx ruficollis 50, 236
 stellaris, Pygiptila 230
 Sterna bergii 87
 Sternula superciliaris 225
 stictocephalus, Thamnophilus 230

- stictolaemus, *Certhiasomus* 231
 stilesi, *Scytalopus* 259
Stiltia isabella 313
 stolidus, *Anous* 172, 313
 stolzmanni, *Tyrannus* 235
Streptopelia 132
Streptoprocne rutila 47
Streptoprocne zonaris 47, 226
 striata, *Amytis* 26, 28–29
 striata, *Butorides* 87, 223
 striata, *Dendroica* 211
 striata, *Hypocnemis* 214, 231
 striaticeps, *Drymophila* 37, 48
 striaticollis, *Anabacerthia* 49
 striaticollis, *Mionectes* 49
 striaticollis, *Myiotheretes* 49
 striatus, *Accipiter* 47
 striatus, *Amytornis* 28
 strigilatus, *Ancistrops* 232
 strigulosus, *Crypturellus* 222
 striolatus, *Nystalus* 228
Sturnella magna 320
Sturnella militaris 199, 239
 subalpina, *Sylvia* 240–241, 245, 246–247
 subcristata, *Aviceda* 87, 311
 subflava, *Inezia* 202, 233
 subis, *Progne* 208, 236
Sublegatus modestus 204, 233
Sublegatus obscurior 183, 191, 192, 233
 subminuta, *Calidris* 313
 subulata, *Urosphena* 272, 293, 294–296
 subulatus, *Hylactistis* 232
 subvinacea, *Patagioenas* 225
 sueurii, *Lalage* 289
Sula dactylatra 171–172
Sula leucogaster 171–172
 sula, *Sula* 171–172
Sula sula 171–172
 sulcirostris, *Phalacrocorax* 311
 sulphuratus, *Pitangus* 234
 sulphurea, *Tyrannopsis* 234
 sulphurescens, *Tolmomyias* 49, 233
 sumatrana, *Ardea* 311
 superbus, *Ptilinopus* 91
 superciliaris, *Leptopogon* 49
 superciliaris, *Sternula* 225
 superciliosus, *Accipiter* 224
 superciliosus, *Phaethornis* 227
 surinamensis, *Myrmotherula* 214
 swainsonii, *Gampsonyx* 223
 swainsoni, *Myiarchus* 205, 235
Sylvia cantillans 240–248, 242, 245
Sylvia conspiciata 247
Sylvia inornata 240–241, 243, 244–245, 247
***Sylvia inornata iberiae*, subsp. nov. 244–245, 247**
Sylvia moltonii 246–247
Sylvia orientalis 247
Sylvia rhodogastra 247
Sylvia subalpina 240–241, 245, 246–247
Sylvia turdella 247
Symposiachrus bimaculatus 106
Symposiachrus mundus 298
Symposiachrus trivirgatus 314
Synallaxis albescens 197, 233
Synallaxis azarae 49
Synallaxis cabanisi 214, 233
Synallaxis cherriei 233
Synallaxis gujanensis 49, 233
Synallaxis ruficapilla 215
Synallaxis rutilans 233
Synallaxis scutata 31, 41, 49
Syndactyla rufosuperciliata 49
Syndactyla ucayalae 232
Systellura longirostris 47
 tabuensis, *Porzana* 65, 173
Tachornis squamata 227
Tachybaptus dominicus 199–200, 222
Tachybaptus novaehollandiae 277
Tachybaptus tricolor 277, 311
Tachycineta albiventer 236
Tachyphonus cristatus 237
Tachyphonus luctuosus 237
Tachyphonus rufus 197, 237
 taciturnus, *Arremon* 238
Taeniopygia guttata 306
Taeniotriccus andrei 183, 192, 233
 tahitica, *Hirundo* 108, 314
 taitensis, *Muscicapa* 65
 talpacoti, *Columbina* 225
 tamatia, *Bucco* 194, 228
Tangara chilensis 237
Tangara cyanicollis 51, 237
Tangara cyanotis 31, 44, 51
Tangara gyrola 237
Tangara mexicana 237
Tangara meyerdeschauensei 43–44, 51
Tangara nigrocincta 237
Tangara nigroviridis 51
Tangara punctata 51, 237
Tangara ruficervix 51
Tangara schrankii 237
Tangara varia 193, 237
Tangara vassorii 51
Tangara velia 237
Tangara viridicollis 51
Tangara xanthocephala 51
Tanygnathus megalorhynchus 87, 283
Tanysiptera galatea 87
 tao, *Tinamus* 222
Tapera naevia 196, 226
 tapera, *Progne* 236
 Taraba major 230
 tataupa, *Crypturellus* 222
 tectus, *Notharchus* 228
 telescopthalmus, *Arses* 11
 tenebrosa, *Chelidoptera* 228
 tenuirostris, *Coracina* 112, 289
 tenuirostris, *Xenops* 191, 192, 232
Terenotriccus erythrurus 234
Tersina viridis 51, 237
 textilis, *Amytornis* 24–30, 322–324
 textilis, *Malurus* 25, 27, 325–326
Thalasseus bergii 313
 thalassinus, *Colibri* 48
Thalurania furcata 227
Thamnomanes caesius 230

- Thamnomanes saturninus 230
 Thamnophilus aethiops 230
 Thamnophilus amazonicus 230
 Thamnophilus caerulescens 48
 Thamnophilus doliatus 197, 230
 Thamnophilus palliatus 48, 230
 Thamnophilus ruficapillus 48
 Thamnophilus schistaceus 230
 Thamnophilus stictocephalus 230
 Thapsinillas affinis 106–107
 Thapsinillas longirostris 83, 106, 107, 113
 Thapsinillas mysticalis 106–107
 theresiae, Polytmus 70, 201, 227
 Thlypopsis ruficeps 50
 Thlypopsis sordida 212
 thoracicus, Cyphorhinus 50
 Thraupis cyanocephala 51
 Thraupis episcopus 50, 237
 Thraupis palmarum 51, 237
 Threnetes leucurus 227
 Thripadectes holostictus 49
 thula, Egretta 223
 Tiaris obscurus 51
 tibialis, Atticora 236
 Tigrisoma lineatum 223
 Timeliopsis griseigula 14
 timoriensis, Megalurus 307
 Tinamus guttatus 222
 Tinamus major 222
 Tinamus tao 222
 Tityra cayana 235
 Tityra inquisitor 235
 Tityra semifasciata 50, 235
 Todiramphus australasia 272, 285
 Todiramphus chloris 314
 Todiramphus diops 87
 Todiramphus macleayii 315
 Todiramphus sanctus 314–315
 Todiramphus saurophagus 87
 Todirostrum chrysocrotaphum 233
 Todirostrum maculatum 233
 Tolmomyias assimilis 192, 234
 Tolmomyias flaviventris 234
 Tolmomyias poliocephalus 234
 Tolmomyias sulphurescens 49, 233
 Topaza pella 187, 227
 torquata, Coeligena 48
 torquata, Hydropsalis 47
 torquata, Megaceryle 228
 torquata, Myrmornis 231
 torquatus, Arremon 31, 37, 44, 51
 torquatus, Celeus 229
 torquatus, Corythopsis 233
 Touit huetii 190, 210, 230
 Touit purpuratus 210
 triangularis, Xiphorhynchus 49
 Trichoglossus capistratus 282
 Trichoglossus euteles 282
 Trichoglossus haematodus 282
 Trichoglossus rubitorquis 282
 Trichothraupis melanops 50
 tricolor, Ara 125–156, 133
 tricolor, Erythrura 307
 tricolor, Psittacus 147
 tricolor, Tachybaptus 277, 311
 Tringa brevipes 312
 Tringa flavipes 206–207, 225
 Tringa glareola 312
 Tringa melanoleuca 207, 225
 Tringa nebularia 312
 Tringa solitaria 206, 225
 tristigma, Caprimulgus 121
 tristriatus, Basileuterus 37, 51
 trivirgatus, Symposiachrus 314
 trochilirostris, Campylorhynchus 49
 Troglodytes aedon 50, 236
 Troglodytes solstitialis 50
 Trogon collaris 227
 Trogon curucui 227
 Trogon melanurus 227
 Trogon personatus 48
 Trogon ramonianus 214, 227
 Trogon rufus 227
 Trogon violaceus 214
 Trogon viridis 214, 227
 Tropidorhynchus fuscicapillus 78
 tschutschensis, Motacilla 87, 314
 tuberculifer, Myiarchus 234
 tuberosum, Mitu 222
 tucanus, Ramphastos 228
 turdella, Sylvia 247
 turdina, Schiffornis 235
 turdinus, Campylorhynchus 236
 Turdus albicollis 31, 43, 50, 237
 Turdus amaurochalinus 237
 Turdus brunneus 318
 Turdus fumigatus 249
 Turdus hauxwelli 237, 249, 250
 Turdus ignobilis 211
 Turdus iliacus 316, 316–317
 Turdus lawrencii 237, 318
 Turdus leucops 36, 50
 Turdus lherminieri 318
 Turdus sanchezorum 249, 249–251, 250
 Turdus serranus 36, 50
 Tyranneutes stolzmanni 235
 Tyrannopsis sulphurea 234
 Tyrannulus elatus 233
 tyrannulus, Myiarchus 235
 Tyrannus albogularis 205, 234
 Tyrannus melancholicus 317
 Tyrannus melancholicus 50, 205, 234
 Tyrannus savana 205, 234
 Tyrannus savanna 320
 tyrannus, Spizaetus 223
 tyrianthina, Metallura 48
 Tyto alba 47, 226
 Tyto delicatula 284
 ucayalae, Syndactyla 232
 unappendiculatus, Casuarius 14
 uncinatus, Chondrohierax 148, 223
 underwoodii, Ocreatus 48
 undulatus, Cryptorellus 183, 222
 undulatus, Zebriulus 199–200, 223
 unicolor, Xenopipo 37, 50
 Urosalis segmentata 47

- uropygialis, Lipaugus 31, 36, 43, 50
 Urosphena subulata 272, 293, 294–296
 urubitinga, Buteogallus 224
 ustulatus, Catharus 50
 validus, Pachyramphus 206, 236
 Vanellus cayanus 224
 Vanellus chilensis 224
 vanikorensis, Aerodramus 98, 287
 varia, Grallaria 231
 varia, Tangara 193, 237
 variegatus, Crypturellus 222
 variolosus, Cacomantis 95–97, 315
 varius, Empidonomus 50, 205, 234
 vassorii, Tangara 51
 velia, Tangara 237
 Veniliornis affinis 229
 ventralis, Phylloscartes 49
 verreauxi, Leptotila 47, 196, 225
 versicolor, Amazilia 227
 versicolor, Eubucco 48
 versicolor, Lanio 237
 versicolor, Pachyramphus 36, 50
 Vestiaria coccinea 60, 65
 vetustus, Neophrontops 75–76
 vicinior, Scytalopus 256, 259
 victoria, Goura 14
 viduata, Dendrocygna 199, 222
 vidua, Willisornis 214, 231
 villosus, Myiobius 49
 Vini australis 65
 Vini peruviana 65
 violacea, Amazona 131
 violacea, Euphonia 213, 239
 violacea, Geotrygon 183–184, 185, 225
 violaceus, Cyanocorax 50
 violaceus, Trogon 214
 virens, Chlorodrepanis 65
 virens, Contopus 208, 234
 Vireo altiloquus 211, 236
 Vireolanius leucotis 236
 Vireo leucophrys 50
 Vireo olivaceus 205, 236
 virgata, Ciccaba 226
 viridicata, Myiopagis 233
 viridicauda, Amazilia 40–41
 viridicollis, Tangara 51
 viridipennis, Chaetura 186, 227
 viridis, Anurolimnas 196, 224
 viridis, Psittacus 142
 viridis, Psophia 224
 viridis, Tersina 51, 237
 viridis, Trogon 214, 227
 vitellinus, Ramphastos 228
 vitiensis, Columba 90, 112, 279
 vittata, Amazona 144
 vociferans, Lipaugus 235
 Volatinia jacarina 238
 vulpina, Cranioleuca 233
 wagleri, Aratinga 54
 wahnesi, Parotia 4
 wakoloensis, Myzomela 305
 wallacei, Eulipoa 112
 watsonii, Megascops 226
 weiskei, Hieraaetus 7
 wilhelminae, Chamosyna 8
 Willisornis poecilinotus 214, 231
 Willisornis vidua 214, 231
 xanthocephala, Tangara 51
 xanthodryas, Phylloscopus 87
 xanthogaster, Euphonia 51, 239
 xanthogastra, Sporagra 31, 44, 51
 Xenopipo atronitens 70
 Xenopipo unicolor 37, 50
 Xenopsaris albinucha 205, 235
 Xenops minutus 232
 Xenops rutilans 49, 192, 232
 Xenops tenuirostris 191, 192, 232
 Xenus cinereus 312
 Xiphocolaptes promeropirhynchus 49, 232
 Xipholena punicea 235
 Xiphorhynchus elegans 214, 232
 Xiphorhynchus guttatus 232
 Xiphorhynchus obsoletus 232
 Xiphorhynchus ocellatus 49
 Xiphorhynchus spixii 214, 232
 Xiphorhynchus triangularis 49
yariguorum subsp. nov., Scytalopus rodriguezi
259
 yncas, Cyanocorax 50
 ypsilophora, Coturnix 278
 Zebrilus undulatus 199–200, 223
 Zenaida auriculata 195
 Zimmerius acer 214, 233
 Zimmerius bolivianus 49
 Zimmerius gracilipes 214
 zonaris, Streptoprocne 47, 226
 Zonotrichia capensis 51, 198, 238
 Zoothera andromedae 291
 Zoothera dauma 10
 Zoothera dohertyi 291
 Zoothera heinei 10
 Zosterops atriceps 110, 111
 Zosterops citrinella 306
 zosterops, Hemitriccus 214
 Zosterops montanus 306

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Volume 133 Number 4, pages 253-352

CONTENTS

Club Announcements.....	253
DONEGAN, T. M., AVEDAÑO, J. E. & LAMBERT, F. A new tapaculo related to <i>Scytalopus rodriguezii</i> from Serranía de los Yariguíes, Colombia.....	256
TRAINOR, C. R. & VERBELEN, P. New distributional records from forgotten Banda Sea islands: the birds of Babar, Romang, Sermata, Leti and Kisar, Maluku, Indonesia.....	272
BRITO, G. R. R., NACINOVIC, J. B. & TEIXEIRA, D. M. First record of Redwing <i>Turdus iliacus</i> in South America.....	316
KUZIEMKO, M. & BRAMMER, F. P. The name of the Forest Thrush <i>Cichlherminia lherminieri</i> on Montserrat.....	318
VALLELY, A. C. & GALLARDO, R. J. First documented record of Black Rail <i>Laterallus jamaicensis</i> in Honduras.....	319
DICKINSON, E. C., DUBOIS, A. & BOUR, R. The authorship of the name <i>Amytornis textilis</i> : a reply to Black, Schodde & Préviate.....	322
BLACK, A. & SCHODDE, R. In support of Quoy and Gaimard.....	325
Index for Volume 133 (2013).....	328

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