

Chestnut-bellied and Spotted Sandgrouse. Near Thumrayt, Oman. 3rd November 2008.
Photo: Killian Mullarney.



List of Sandgrouse with References

Compiled by Joe Hobbs



Introduction

I have endeavoured to keep typos, errors, omissions etc in this list to a minimum, however when you find more I would be grateful if you could mail the details during 2016 & 2017 to: josephobbs@gmail.com.

Please note that this and other Reference Lists I have compiled are **not exhaustive** and are best employed in conjunction with other sources.

Grateful thanks to Killian Mullarney for the cover images. All images © the photographer.

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The general order of species follows the International Ornithologists' Union World Bird List (**Gill, F. & Donsker, D.** (eds.) 2016. IOC World Bird List. Available from: <http://www.worldbirdnames.org/> [version 6.1 accessed February 2016]).

Version

Version 1.0 (May 2016).

Cover

Main image: Chestnut-bellied and Spotted Sandgrouse. Near Thumrayt, Oman. 3rd November 2008. Picture by Killian Mullarney.

Vignette: Spotted Sandgrouse. Near Thumrayt, Oman. 3rd November 2008. Picture by Killian Mullarney.

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Relevant Publications

- Beaman, M.** 1994. *Palaearctic birds: a checklist of the birds of Europe, North Africa and Asia north of the foothills of the Himalayas*. Harrier Publications, Stonyhurst, Lancashire.
- Cramp, S.** (ed.) 1985. *Handbook of the Birds of Europe, the Middle East and North Africa, The Birds of the Western Palearctic, Volume 4 - Terns to Woodpeckers*. Oxford University Press.
- del Hoyo, J. et al.** (eds.) 1997. *Handbook of the Birds of the World. Volume 4. Sandgrouse to Cuckoos*. Lynx Edicions, Barcelona.
- Johnsgard, P.A.** 1991. *Bustards, Hemipodes and Sandgrouse: birds of dry places*. Oxford University Press.
- Lewington, I. et al.** 1991. *A Field Guide to the Rare Birds of Britain and Europe*. HarperCollins.
- Maclean, G.L.** 1996 & 2011. *Ecophysiology of Desert Birds - Adaptations of Desert Organisms*. Springer-Verlag Berlin.
- Madge, S. & McGowan, P.** 2002. *Pheasants, Partridges and Grouse*. Christopher Helm, London.
- Snow, D.W. & Perrins, C.M.** (eds.) 1998. *The Birds of the Western Palearctic Concise Edition Volume 1, Non-Passerines*. Oxford University Press.
- Urban, E.K. et al.** 1986. *The Birds of Africa: volume 2 - Game Birds to Pigeons*. Academic Press, London.
- van Duivendijk, N.** 2010. *Advanced Bird ID Guide, The Western Palearctic*. New Holland.
- van Duivendijk, N.** 2011. *Advanced Bird ID Handbook, The Western Palearctic*. New Holland.
- Vinicombe, K. et al.** 1989. *The Macmillan Field Guide to Bird Identification*. Macmillan Press, London and Basingstoke.

General Notes

- al Mahdhoury, S.S.H.** 2008. Sandgrouse ecology at Jaalouni, central Oman. *Phoenix* 24: 20-21.
- Cade, T.C. & Maclean, G.L.** 1967. Transport of water by adult Sandgrouse to their young. *The Condor* 69(4): 323-343.
- Cade, T.J. et al.** 1966. Drinking behavior of sandgrouse in the Namib and Kalahari deserts. *The Auk* 83(1): 124-126.
- Ferns, P.N. & Hinsley, S.A.** 1995. Importance of topography in the selection of drinking sites by Sandgrouse. *Functional Ecology* 9(3): 371-375.
- Maclean, G.L.** 1983. Water transport by Sandgrouse. *BioScience* 33(6): 365-369.
- Porter, R.F. & Suleiman, A.S.** 2013. The populations and distribution of the breeding birds of the Socotra archipelago, Yemen: 1. Sandgrouse to Buntings. *Sandgrouse* 35(1): 43-82.
- Shufeldt, R.W.** 1901. On the systematic position of the Sand Grouse (*Pterocles*; *Syrhaptus*). *The American Naturalist* 35(409): 11-16.
- Thomas, D.H.** 1984. Adaptations of desert birds: Sandgrouse (*Pteroclididae*) as highly successful inhabitants of Afro-Asian arid lands. *Journal of Arid Environments* 7(2): 157-181.
- van den Berg, A.B.** 2016. Dutch Birding-vogelnamen [Dutch Birding bird names] [online PDF]. Available from: http://www.dutchbirding.nl/page.php?page_id=228 [Accessed January 2016].
- Ward, P.** 1972. The functional significance of mass drinking flights by Sandgrouse: *Pteroclididae*. *Ibis* 114(4): 533-536.

Tibetan Sandgrouse

- Syrhaptus tibetanus*** [Gould 1850, Tso Morari Lake, Kashmir].
Tibetan plateau W to Kashmir & Pamir Mts (Tajikistan) and N to Astin Tagh & Nan Shan Mts (NW China) and E to Qinghai and NW Sichuan (C China).
- Jännes, H. & Dernjatin, P.** 2004. Tibet - a bird trip to the top of the world. *Alula* 10(4): 138-148.
- Mallon, D.P.** 1987. The winter birds of Ladakh. *Forktail* 3: 27-41 (p. 32 & plate, p. 33).
- Mishra, C. & Humbert-Droz, B.** 1998. Avifaunal survey of Tsomoriri Lake and adjoining Nuro Sumdo Wetland in Ladakh, Indian trans-Himalaya. *Forktail* 14: 67-70 (70).
- Pfister, O.** 2001. Birds recorded during visits to Ladakh, India from 1994 to 1997. *Forktail* 17: 81-90 (84).
- Shah, K.B. et al.** 2002. Tibetan Sandgrouse *Syrhaptus tibetanus* Gould, 1850 (*Pteroclididae*): a new species for Nepal. *Danphe* 11(3): 1-2.
- Timmins, R.J.** 2008. *A survey of the breeding birds of the Wakhan Corridor*. The Wildlife Conservation Society Afghanistan Program, Kabul.

Pallas's Sandgrouse

Syrrhaptes paradoxus [Pallas 1773, S Tartarian Desert].

Kazakhstan & Uzbekistan thru Xinjiang (NW China) & Mongolia E to Gansu (NC China) and S to Kunlun Shan & Qaidam Basin (Qinghai, WC China) and sporadically E to Inner Mongolia & Heilongjiang (NE China) mainly between 40° N & 50° N and periodic irruptive movements far W of its normal range.

Peter Simon Pallas (1741-1811), German zoologist who worked in Russia and one of the greatest 18th century naturalists. In addition to various bird species his name is commemorated in the vernacular and scientific names of mammals and fish.

Davenport, D.L. et al. 1967. Notes: Pallas's Sandgrouse in Kent. *British Birds* 60(10): 416-419.

Eds. 2013. Frontispiece: Pallas's Sandgrouse, Khongoryn Els, Gobi Desert, Mongolia, June 2011 - picture by James Lidster. *Birding World* 26(4): 133.

Holbourn, J.G. & Gear, M. 1970. Pallas's Sandgrouse in Shetland. *Scottish Birds* 6: 204-209.

Hordowski, J. 2014. [Occurrence of the Pallas's Sandgrouse *Syrrhaptes paradoxus* in Poland]. *Ornis Polonica* 55(1): 1-21 [in Polish with English summary].

Knystautas, A.J. 1992. Birds in the CIS - Birds of steppes and deserts. *Dutch Birding* 14(3): 95-98 (plate 84, p. 95).

Leivo, M. & Dernjatin, P. 2000. Kazakhstan - The land of the Pallas's Sandgrouse. *Alula* 6(2): 42-51.

Lidster, J. 2009. Mongolia - vagrants and speciality birds. *Birding World* 22(8): 336-350 (plate 1, p. 336).

Lissak, W. 1990. Ein bislang unbekannter Nachweis des Steppenuhns (*Syrrhaptes paradoxus*) aus Ostfrankreich [Previously unknown record of Pallas's Sandgrouse from eastern France]. *Journal für Ornithologie* 131(3): 337-339.

Newton, A. 1864. On the Irruption of Pallas's Sand-Grouse (*Syrrhaptes paradoxus*) in 1863. *Ibis* 6(2): 185-222.

Newton, A. 1890. On the young of Pallas's Sand-Grouse (*Syrrhaptes paradoxus*). *Ibis* 32(2): 207-214.

Osborn, K. & Suddaby, D. 1990. Pallas's Sandgrouse in Shetland. *Birding World* 3: 161-163.

Purevdorj, A. & Sundev, G. 2012. The assessment of high risk utility lines and conservation of globally threatened pole nesting steppe raptors in Mongolia. *Ornis Mongolica* 1: 2-12.

Roselaar, C.S. & Aliabadian, M. 2009. Review of rare birds in Iran, 1860s-1960s. *Podoces* 4(1): 1-27 (14).

Scott, D.A. 2008. Rare birds in Iran in the late 1960s and 1970s. *Podoces* 3(1-2): 1-30 (15).

Vasamies, H. 2004. Museum rarities. *Alula* 10(4): 162-166 (163).

Wassink, A. & Oreel, G.J. 2008. Birds of Kazakhstan: new and interesting data. *Dutch Birding* 30(2): 93-100 (96).

Wilkinson, R. & Manning, N. 1986. Breeding Pallas' Sandgrouse (*Syrrhaptes paradoxus*) at Chester Zoo. *Avicultural Magazine* 92: 121-124.

Pin-tailed Sandgrouse

Pterocles alchata [Linnaeus 1766, Spain].

[*P.a. alchata*] Iberian Peninsula & SE France.

[*P.a. caudacutus*] Morocco E to N Libya and SE Turkey & the Middle East E thru Iraq & Iran to Uzbekistan & S Kazakhstan.

Benitez-Lopez, A. & Garcia-Egea, I. 2015. First record of an aberrantly colored Pin-tailed Sandgrouse (*Pterocles alchata*). *The Wilson Journal of Ornithology* 127(4): 755-759.

Benitez-Lopez, A. et al. 2011. An improved night-lighting technique for the selective capture of sandgrouse and other steppe birds. *European Journal of Wildlife Research* 57(2): 389-393.

Benitez-Lopez, A. et al. 2014. Modelling sandgrouse (*Pterocles* spp.) distributions and large-scale habitat requirements in Spain: implications for conservation. *Environmental Conservation* 41(2): 132-143.

Benitez-Lopez, A. et al. 2014. Niche-habitat mechanisms and biotic interactions explain the coexistence and abundance of congeneric sandgrouse species. *Oecologia* 176(1): 193-206.

Benitez-Lopez, A. et al. 2015. Individual traits and extrinsic factors influence survival of the threatened pin-tailed sandgrouse (*Pterocles alchata*) in Europe. *Biological Conservation* 187: 192-200.

Casas, F. et al. 2015. Assessing the short-term effects of capture, handling and tagging of sandgrouse. *Ibis* 157(1): 115-124.

- Ferguson-Lees, I.J.** 1969. Studies of less familiar birds: 156 Pin-tailed Sandgrouse. *British Birds* 62(12): 533-541.
- Ferns, P.N. & Hinsley, S.A.** 1994. Effects of raptors on the activities of Sandgrouse. *Journal of Raptor Research* 28(4): 236-241.
- Ferns, P.N. & Hinsley, S.A.** 1995. Importance of topography in the selection of drinking sites by sandgrouse. *Functional Ecology* 9(3): 371-375.
- Ghaemi, R.** 1999. The status of Pin-tailed Sandgrouse *Pterocles alchata* in Galestan Province, Iran. *Sandgrouse* 21(2): 180-181.
- Guichard, G.** 1961. Note sur la biologie du Ganga cata (*Pterocles a. alchata* L.) [Notes on Pin-tailed Sandgrouse]. *Oiseau* 31: 1-8.
- Hinsley, S.A. & Ferns, P.** 2000. Notes: Juvenile plumage of European sandgrouse. *British Birds* 93(2): 91-93.
- Hinsley, S.A. & Ferns, P.N.** 1994. Time and energy budgets of breeding males and females in sandgrouse *Pterocles* species. *Ibis* 136(3): 261-270.
- Hinsley, S.A.** 1994. Daily time budgets and activity patterns of sandgrouse (Pteroclididae) in contrasting arid habitats in Spain and Israel. *Journal of Arid Environments* 26(4): 373-382.
- Hinsley, S.A. et al.** 1993. Black-bellied Sandgrouse (*Pterocles orientalis*) and Pin-tailed Sandgrouse (*Pterocles alchata*): Closely Related Species with Differing Bioenergetic Adaptations to Arid Zones. *Physiological Zoology* 66(1): 20-42.
- Lierz, M. & Fenske, M.** 2004. Plasma chemistry reference values in Pin-tailed Sandgrouse (*Pterocles alchata*). *Veterinary Record* 154(7): 210-211.
- Marchant, S.** 1961. Observations on the breeding of the Sandgrouse *Pterocles alchata* and *senegallus*. *Bulletin of the British Ornithologist' Club* 81: 134-141.
- Marchant, S.** 1962. Watering of young in *Pterocles alchata*. *Bulletin of the British Ornithologist' Club* 82: 123-124.
- Martín, C.A. et al.** 2010. Positive interactions between vulnerable species in agrarian pseudo-steppes: habitat use by Pin-tailed Sandgrouse depends on its association with the Little Bustard. *Animal Conservation* 13(4): 383-389.
- Martín, C.A. et al.** 2010. Seasonal variations in habitat preferences of the pin-tailed sandgrouse in agrarian pseudo-steppes. *Ardeola* 57: 191-198.
- Martínez, C. et al.** 1998. Distribution and abundance of the Pin-tailed Sandgrouse *Pterocles alchata* and the Black-bellied Sandgrouse *Pterocles orientalis* in Spain. *Ardeola* 45: 11-20.
- Mougeot, F. et al.** 2014. A temperature-based monitoring of nest attendance patterns and disturbance effects during incubation by ground-nesting sandgrouse. *Journal of Arid Environments* 102: 89-97.
- Suárez, F. et al.** 1997. Conservation status and farmland requirements of pin-tailed sandgrouse *Pterocles alchata* and black-bellied sandgrouse *Pterocles orientalis* in Spain. *Biological Conservation* 82(1): 73-80.
- Thomas, D.H. & Robin, A.P.** 1977. Comparative studies of thermoregulatory and osmoregulatory behaviour and physiology of five species of sandgrouse (Aves: Pterocliidae) in Morocco. *Journal of Zoology* 183(2): 229-249.
- Vaughan, R.** 1996. Notes: Juvenile plumage of European sandgrouse. *British Birds* 89(2): 95-96.
- Washikies, I.C. et al.** 2005. First record of Pin-tailed Sandgrouse *Pterocoles alchata* for Egypt since 1917? *Sandgrouse* 27(2): 163 & 165.
- Yosef, R. & Zduniak, P.** 2011. Drinking schedule of four sandgrouse species (*Pterocles* spp.) in relation to sunrise and season. *Acta Ethologica* 14(1): 35-41.

Namaqua Sandgrouse

Pterocles namaqua [J.F. Gmelin 1789, Hantams Berg, N of Calvinia, W Cape Province].
SW Angola & Namibia E to SW Zimbabwe and S thru Botswana, W Transvaal & Orange Free State to S Cape Province.

- Clancey, P.A.** 1979. On *Pterocles namaqua* in South West Africa. *Madoqua* 11: 261-265.
- Cowley, T.E. et al.** 2003. The drinking frequency of wing-tagged Namaqua Sandgrouse, *Pterocles namaqua*, at a Namib desert waterhole. *Namibia Scientific Society Journal* 51: 7-14.
- Delport, W. et al.** 2007. Population growth confounds phylogeographic inference in Namaqua Sandgrouse. *Journal of Heredity* 98(2): 158-164.
- Dixon, J. & Louw, G.** 1978. Seasonal effects on nutrition, reproduction and aspects of thermoregulation in the Namaqua Sandgrouse *Pterocles namaqua*. *Madoqua* 11: 19-29.
- Dixon, J.E. et al.** 1970. Miscellaneous notes on South West African birds. *Madoqua* 10(2): 149-151.

- Grant, W.S. et al.** 1997. Temporal and geographical genetic variability in Namaqua and Burchell's Sandgrouse. *Journal of Arid Environments* 35(1): 123-139.
- Kopij, G. et al.** 1999. Diet of the Namaqua Sandgrouse *Pterocles namaqua* and the Laughing Dove *Streptopelia senegalensis* in South Africa. *Mirafra* 16: 36-38.
- Little, R.M. & Earle, R.A.** 1995. Sandgrouse (pterocleididae) and sociable weavers *Philetarius socius* lack avian haematozoa in semi-arid regions of South Africa. *Journal of Arid Environments* 30(3): 367-370.
- Little, R.M. et al.** 1993. The use of counts of Namaqua sandgrouse at watering sites for population estimates. *South African Journal of Wildlife Research* 23(1): 26-28.
- Little, R.M. et al.** 1996. Conservation implications of long-term population trends, environmental correlates and predictive models for Namaqua Sandgrouse *Pterocles namaqua*. *Biological Conservation* 75(1): 93-101.
- Lloyd, P.** 1996. Desert Nomad Extraordinaire: The Namaqua Sandgrouse. *Africa - Birds & Birding* 1(5): 26-32.
- Lloyd, P.** 1998. *A Study of the Ecology of the Namaqua Sandgrouse and Other Arid-Zone Birds*. D.Phil. thesis, University of Cape Town.
- Lloyd, P.** 1999. The science and policy behind managing sandgrouse for sustainable utilisation in southern Africa. *South African Journal of Wildlife Research* 29(2): 35-42.
- Lloyd, P. et al.** 2000. Daily activity pattern of a Namaqua Sandgrouse, *Pterocles namaqua*, population. *Ostrich* 71: 427-429.
- Lloyd, P. et al.** 2000. Nest-site selection, egg pigmentation and clutch predation in the ground-nesting Namaqua Sandgrouse *Pterocles namaqua*. *Ibis* 142(1): 123-131.
- Lloyd, P. et al.** 2001. Food availability and seasonal variation in nest predation pressure as factors influencing the timing of breeding in the Namaqua Sandgrouse in the Nama Karoo, South Africa. *African Zoology* 36: 1-11.
- Lloyd, P. et al.** 2001. Rainfall and food availability as factors influencing the migration and breeding activity of Namaqua Sandgrouse, *Pterocles namaqua*. *Ostrich* 72: 50-62.
- Lloyd, P. et al.** 2001. The breeding biology of the Namaqua Sandgrouse, *Pterocles namaqua*. *Ostrich* 72: 169-178.
- Maclean, G.L.** 1968. Field Studies on the Sandgrouse of the Kalahari Desert. *Living Bird* 7: 209-235.
- MacLeod, J.G.R.** 1966. Namaqua Sandgrouse, *Pterocles namaqua* nesting in south-western Cape. *Ostrich* 37: 199-201.
- Malan, G. et al.** 1993. The effects of hunting effort and weather on hunting success and population dynamics of Namaqua sandgrouse. *South African Journal of Wildlife Research* 23(4): 107-111.
- Malan, G. et al.** 1994. Temporal and spatial patterns of abundance and breeding activity of Namaqua Sandgrouse in South Africa. *South African Journal of Zoology* 29(2): 162-167.
- McLachlan, G.R.** 1985. The breeding season of the Namaqua Sandgrouse. *Ostrich* 56: 210-212.
- Willoughby, E.J.** 1969. Desert coloration in birds of the central Namib Desert. *Scientific Papers of the Namib Desert Research Station* 44: 39-68.

Chestnut-bellied Sandgrouse

Pterocles exustus [Temminck 1825, Senegal].

[*P.e. exustus*] Mauritania & Senegambia E to Sudan.

[*P.e. ellioti*] SE Sudan to N Ethiopia & Somalia.

[*P.e. olivascens*] S Ethiopia S to Tanzania.

[*P.e. erlangeri*] W & S Arabia.

[*P.e. hindustan*] SE Iran, Pakistan and most of India. Birds, probably of this race, were released for 'sporting' purposes on Hawaii, Molokai and Kauai in the early 1960s. Some may be still established on Hawaii only.

[*P.e. floweri*] Nile Valley (C Egypt). Considered extinct at one time and not recorded between the 1930s and 2012 when a team of Austrian and German ornithologists rediscovered this form in the Nile Valley of Egypt (Khil *et al.* 2012).

Other names: Indian Sandgrouse, Small Pin-tailed Sandgrouse, Lesser Pin-tailed Sandgrouse.

Bruslund, S. et al. 2007. Husbandry of the Chestnut-bellied Sandgrouse at Al Wabra wildlife preservation. *International Zoo News* 54(2): 80-84.

Bundy, G. 1990. Notes: Sandgrouse taking water from its own breast feathers. *British Birds* 83(8): 332.

Christensen, G.C. & Bohl, W.H. 1964. *A Study and Review of the Common Indian Sandgrouse and the Imperial Sandgrouse*. U.S. Fish and Wildlife Service, Special Scientific Report - Wildlife No. 84.

- Christensen, G.C.** 1962. Use of the Clap Net for Capturing Indian Sand Grouse. *The Journal of Wildlife Management* 26(4): 399-402.
- Eds.** 2010. Frontispage: Chestnut-bellied Sandgrouse, Oman, November 2009 - picture by Mathias Schäf. *Birding World* 23(4): 133.
- Gregory, G. & Fagel, P.** 2006. Chestnut-bellied Sandgrouse in the western Palearctic. *Birding World* 19(2): 64-65.
- Habib, M.I.** 2015. Surveys of Chestnut-bellied Sandgrouse in Egypt in 2013-14. *Dutch Birding* 37(2): 95-97.
- Kalchreuter, H.** 1980. The breeding season of the Chestnut-bellied Sandgrouse *Pterocles exustus* and the Black-faced Sandgrouse *P. decoratus* in northern Tanzania and its relation to rainfall. *Proceedings of the 4th Pan-African Ornithological Congress* pp. 277-282.
- Khil, L. et al.** 2012. Rediscovery of Chestnut-bellied Sandgrouse in Egypt in March 2012. *Dutch Birding* 34(4): 213-218.
- Kylänpää, J.** 2000. Birds of Dera Ismail Khan District of North West Frontier Province in Pakistan. *Forktail* 16: 15-28 (18).
- Morris, R.P. & Oatham, M.P.** 1992. Chestnut-bellied Sandgrouse on Ghanadah Island, UAE. *Phoenix* 9: 9-10.
- Njoroge, P. et al.** 1997. The validity of open seasons for sandgrouse shooting: analysis of an 11-year data set from Kenya. *African Journal of Ecology* 35(3): 186-193.
- Paton, P.W.C. et al.** 1982. Chestnut-bellied Sandgrouse in Hawaii. *'Elepaio* 43: 9-11.

Spotted Sandgrouse

Pterocles senegallus [Linnaeus 1771, Senegal; error = Algeria].

S Morocco, Western Sahara & Mauritania E thru the Sahara to Ethiopia & N Somalia and Arabian peninsula & Iraq E to Pakistan & NW India.

Other name: Saharan Sandgrouse.

- Araba, W.** 2005. Distribution and habitat associations of selected breeding birds in Wadi Araba, Jordan. *Sandgrouse* 27(1): 24-29 (27).
- Dixon, J.E. et al.** 1970. Miscellaneous notes on South West African birds. *Madoqua* 10(2): 149-151.
- Hinsley, S.A.** 1994. Daily time budgets and activity patterns of sandgrouse (Pteroclididae) in contrasting arid habitats in Spain and Israel. *Journal of Arid Environments* 26(4): 373-382.
- Kirwan, G.M.** 2000. Spotted Sandgrouse at Birecik, Turkey, in June 1999. *Dutch Birding* 22(1): 17-18.
- Maclean, G.L.** 1968. Field Studies on the Sandgrouse of the Kalahari Desert. *Living Bird* 7: 209-235.
- Marchant, S.** 1961. Observations on the breeding of the Sandgrouse *Pterocles alchata* and *senegallus*. *Bulletin of the British Ornithologist' Club* 81: 134-141.
- Marder, J. et al.** 1986. Cutaneous evaporation in heat-stressed Spotted Sandgrouse. *The Condor* 88: 99-100.
- Payne, R.B.** 1969. Overlap of Breeding and Molting Schedules in a Collection of African Birds. *The Condor* 71(2): 140-145.
- Prendergast, H.D.V.** 1993. Crop contents of a Spotted Sandgrouse. *Bulletin of the Ornithological Society of the Middle East* 31: 29-31.
- Thomas, D.H. & Robin, A.P.** 1977. Comparative studies of thermoregulatory and osmoregulatory behaviour and physiology of five species of sandgrouse (Aves: Pteroclididae) in Morocco. *Journal of Zoology* 183(2): 229-249.
- Yosef, R. & Zduniak, P.** 2011. Drinking schedule of four sandgrouse species (*Pterocles* spp.) in relation to sunrise and season. *Acta Ethologica* 14(1): 35-41.

Black-bellied Sandgrouse

Pterocles orientalis [Linnaeus 1758, Anatolia, Turkey].

[*P.o. orientalis*] Fuerteventura & Lanzarote (Canary Islands), Iberian peninsula and Morocco E to NW Libya and Cyprus, Israel, Anatolia & Armenia

[*P.o. arenarius*] NW Kazakhstan E to NW Xinjiang (NW China) and S to Iran, Afghanistan & Baluchistan (SW Pakistan).

Other names: Imperial Sandgrouse, Oriental Sandgrouse, Large Sandgrouse.

- Aourir, M. et al.** 2008. Reproductive parameters in captive hand-reared Black-bellied Sandgrouse. *Zoo Biology* 27(4): 269-281.
- Aourir, M. et al.** 2013. Wild-laid versus captive-laid eggs in the Black-bellied Sandgrouse: Is there any effect on chick productivity? *Zoo Biology* 32(6): 592-599.

- Benitez-Lopez, A. et al.** 2011. An improved night-lighting technique for the selective capture of sandgrouse and other steppe birds. *European Journal of Wildlife Research* 57(2): 389-393.
- Benitez-Lopez, A. et al.** 2014. Modelling sandgrouse (*Pterocles* spp.) distributions and large-scale habitat requirements in Spain: implications for conservation. *Environmental Conservation* 41(2): 132-143.
- Benitez-Lopez, A. et al.** 2014. Niche-habitat mechanisms and biotic interactions explain the coexistence and abundance of congeneric sandgrouse species. *Oecologia* 176(1): 193-206.
- Cardoso, A.C. et al.** 2007. Factors responsible for the presence and distribution of Black-bellied Sandgrouse *Pterocles orientalis* in the Natura Park 'Vale do Guadiana'. *Ardeola* 54(2): 205-215.
- Casas, F. et al.** 2015. Assessing the short-term effects of capture, handling and tagging of sandgrouse. *Ibis* 157(1): 115-124.
- Christensen, G.C. & Bohl, W.H.** 1964. *A Study and Review of the Common Indian Sandgrouse and the Imperial Sandgrouse*. U.S. Fish and Wildlife Service, Special Scientific Report - Wildlife No. 84.
- Defayes, M. & Praz, J.C.** 1978. Notes on habitat and distribution of montane birds in southern Iran. *Bonner Zoologische Beiträge* 29(1-3): 18-37 (33).
- Du Plessis, G.J.** 1995. Large aggregations of Black-winged Pratincoles *Glareola nordmanni* in eastern Free State. *Ostrich* 66(1): 40-41.
- Ferns, P.N. & Hinsley, S.A.** 1994. Effects of raptors on the activities of Sandgrouse. *Journal of Raptor Research* 28(4): 236-241.
- Hinsley, S.A. & Ferns, P.N.** 1994. Time and energy budgets of breeding males and females in sandgrouse *Pterocles* species. *Ibis* 136(3): 261-270.
- Hinsley, S.A.** 1994. Daily time budgets and activity patterns of sandgrouse (Pteroclididae) in contrasting arid habitats in Spain and Israel. *Journal of Arid Environments* 26(4): 373-382.
- Hinsley, S.A. et al.** 1993. Black-bellied Sandgrouse (*Pterocles orientalis*) and Pin-tailed Sandgrouse (*Pterocles alchata*): Closely Related Species with Differing Bioenergetic Adaptations to Arid Zones. *Physiological Zoology* 66(1): 20-42.
- Malik, M.S.** 2009. A quest for the Black-bellied Sandgrouse. *Flamingo* 7(1-2): 5-7.
- Martinez, C. et al.** 1998. Distribution and abundance of the Pin-tailed Sandgrouse *Pterocles alchata* and the Black-bellied Sandgrouse *Pterocles orientalis* in Spain. *Ardeola* 45: 11-20.
- Mougeot, F. et al.** 2014. A temperature-based monitoring of nest attendance patterns and disturbance effects during incubation by ground-nesting sandgrouse. *Journal of Arid Environments* 102: 89-97.
- Seoane, J. et al.** 2010. Population size and habitat relationships of Black-bellied Sandgrouse *Pterocles orientalis* in the Canary Islands, Spain. *Bird Conservation International* 20: 161-175.
- Suárez, F. et al.** 1997. Conservation status and farmland requirements of pin-tailed sandgrouse *Pterocles alchata* and black-bellied sandgrouse *Pterocles orientalis* in Spain. *Biological Conservation* 82(1): 73-80.
- Thomas, D.H. & Robin, A.P.** 1977. Comparative studies of thermoregulatory and osmoregulatory behaviour and physiology of five species of sandgrouse (Aves: Pteroclididae) in Morocco. *Journal of Zoology* 183(2): 229-249.
- Traba, J. et al.** 2013. Habitat selection and partitioning of the Black-bellied Sandgrouse (*Pterocles orientalis*), the Stone Curlew (*Burhinus oedichnemus*) and the Cream-coloured Courser (*Cursorius cursor*) in arid areas of North Africa. *Journal of Arid Environments* 94: 10-17.
- Vaughan, R.** 1996. Notes: Juvenile plumage of European sandgrouse. *British Birds* 89(2): 95-96.
- Yosef, R. & Zduniak, P.** 2011. Drinking schedule of four sandgrouse species (*Pterocles* spp.) in relation to sunrise and season. *Acta Ethologica* 14(1): 35-41
- Znari, M. et al.** 2008. Breeding biology of the Black-bellied Sandgrouse *Pterocles orientalis* in west-central Morocco. *Ostrich* 79: 53-60.

Yellow-throated Sandgrouse

Pterocles gutturalis [A. Smith 1836, near Kurrichane, W Transvaal, South Africa].
 [*P.g. gutturalis*] S Zambia & W Zimbabwe S thru Botswana to N Cape Province & W Transvaal.
 [*P.g. saturator*] Ethiopia S thru Kenya & Tanzania to extreme N Zambia.

- Blane, S. & Tarboton, W.R.** 1990. A year with the Yellow-throated Sandgrouse. *African Wildlife* 44: 272-274.
- Brooke, R.K.** 1968. On the status of the Yellow-throated Sandgrouse south of the Zambezi. *Ostrich* 39(1): 33-34.
- Lloyd, P.** 1999. The science and policy behind managing sandgrouse for sustainable utilisation in southern Africa. *South African Journal of Wildlife Research* 29(2): 35-42.

Tarboton, W.R. et al. 1999. The biology of the Yellow-throated Sandgrouse *Pterocles gutturalis* in a South African agricultural landscape. *Ostrich* 70(3-4): 214-219.

Crowned Sandgrouse

Pterocles coronatus [Lichtenstein 1823, Nubia].

[*P.c. coronatus*] Sahara Desert of S Morocco & Western Sahara E to N Sudan & the Red Sea.

[*P.c. vastitas*] Sinai & adjacent parts of Israel & Jordan.

[*P.c. saturatus*] Interior Oman.

[*P.c. atratus*] S Arabia NE thru Iran to S Afghanistan.

[*P.c. ladas*] Pakistan.

Eds. 1990. Country varia: Morocco. *Dutch Birding* 12(1): 27-30 (plate 18, p. 28).

Eds. 1991. Country varia: Israel. *Dutch Birding* 13(1): 20-28 (plate 22, p. 22).

Sehhatisabet, M.E. et al. 2006. Further significant extensions of migrant distribution and breeding and wintering ranges in Iran for over sixty species. *Sandgrouse* 28(2): 146-155.

Thomas, D.H. & Robin, A.P. 1977. Comparative studies of thermoregulatory and osmoregulatory behaviour and physiology of five species of sandgrouse (Aves: Pterocliidae) in Morocco. *Journal of Zoology* 183(2): 229-249.

Yosef, R. & Zduniak, P. 2011. Drinking schedule of four sandgrouse species (*Pterocles* spp.) in relation to sunrise and season. *Acta Ethologica* 14(1): 35-41.

Black-faced Sandgrouse

Pterocles decoratus [Cabanis 1868, Lake Jipe, Kenya-Tanzania border].

[*P.d. decoratus*] SE Kenya & E Tanzania.

[*P.d. ellenbecki*] NE Uganda & N Kenya E to S Ethiopia & S Somalia and E Ethiopia.

[*P.d. loveridgei*] W Kenya & W Tanzania.

Kalchreuter, H. 1980. The breeding season of the Chestnut-bellied Sandgrouse *Pterocles exustus* and the Black-faced Sandgrouse *P. decoratus* in northern Tanzania and its relation to rainfall.

Proceedings of the 4th Pan-African Ornithological Congress pp. 277-282.

Lack, P.C. 1986. Ecological correlates of migrants and residents in a tropical African savanna. *Ardea* 74: 111-119.

Njoroge, P. et al. 1997. The validity of open seasons for sandgrouse shooting: analysis of an 11-year data set from Kenya. *African Journal of Ecology* 35(3): 186-193.

Madagascar Sandgrouse

Pterocles personatus [Gould 1843, Majambo Bay, Madagascar].

Madagascar except for the east of the island.

Other name: Masked Sandgrouse.

Pons, P. & Wendenburg, C. 2005. The impact of fire and forest conversion into savanna on the bird communities of West Madagascan dry forests. *Animal Conservation* 8: 183-193.

Lichtenstein's Sandgrouse

Pterocles lichtensteinii [Temminck 1825, Nubia].

[*P.l. lichtensteinii*] S Israel, Sinai, SE Egypt & Sudan S to N Ethiopia & N Somalia and Socotra.

[*P.l. targius*] Sahara & Sahel of S Morocco & Mauritania E to Chad.

[*P.l. sukensis*] SE Sudan & S Ethiopia S to C Kenya.

[*P.l. arabicus*] S Arabia E thru S Iran, S Afghanistan to Pakistan.

[*P.l. ingramsi*] E Yemen.

Other names: Close-barred Sandgrouse, Abyssinian Sandgrouse.

Martin Hinrich Carl Lichtenstein (1780-1857), German physician, traveller and ornithologist who founded the Berlin Zoo and one time Director of the Zoological Museum, Berlin.

Anon. 1991. Country varia: Israel. *Dutch Birding* 13(1): 20-28 (plates 20 & 21, p. 22).

Araba, W. 2005. Distribution and habitat associations of selected breeding birds in Wadi Araba, Jordan. *Sandgrouse* 27(1): 24-29 (27).

Burton, A.R. 1918. Close-barred Sandgrouse at Muscat. *Journal of the Bombay Natural History Society* 25: 751-752.

- Cowan, P.J.** 2009. Photospot: Lichtenstein's Sandgrouse. *Sandgrouse* 31(2): 189-192.
- Cunningham, P.** 2002. Confirmed breeding of the Lichtenstein Sandgrouse, *Pterocles lichtensteinii*, from the United Arab Emirates. *Zoology in the Middle East* 25: 15.
- Moeller, E.** 1993. The Problem of counting Lichtenstein's Sandgrouse *Pterocles lichtensteinii*. *Emirates Bird Report* 17: 9-10.
- Olsen, K.M.** 1983. Lichtenstein's Sandgrouse in Israel and Sinai. *Dutch Birding* 5(2-3): 75-76.
- Porter, R.F. & Suleiman, A.S.** 2013. The populations and distribution of the breeding birds of the Socotra archipelago, Yemen: I. Sandgrouse to Buntings. *Sandgrouse* 35: 43-81 (53 & 63).
- Roselaar, C.S. & Aliabadian, M.** 2009. Review of rare birds in Iran, 1860s-1960s. *Podoces* 4(1): 1-27 (14).
- Shirihai, H. et al.** 1999. Photospot: Lichtenstein's Sandgrouse. *Sandgrouse* 21(1): 5-8.
- Thomas, D.H. & Robin, A.P.** 1977. Comparative studies of thermoregulatory and osmoregulatory behaviour and physiology of five species of sandgrouse (Aves: Pterocliidae) in Morocco. *Journal of Zoology* 183(2): 229-249.
- Thomas, D.H. & Robin, A.P.** 1981. Description of the downy young of Lichtenstein's Sandgrouse *Pterocles lichtensteinii* and the significance of 'unpatterned' downy young in the Pterocliidae. *Bulletin of the British Ornithologists' Club* 101: 140.

Painted Sandgrouse

Pterocles indicus [J.F. Gmelin 1789, Coromandel, India].
 Punjab & Rajasthan E to Bihar and S to Tamil Nadu (Indian subcontinent).
 Other name: Indian Sandgrouse.

- Allen, G.O.** 1919. Habits of the Painted Sand Grouse *Pterocles fasciatus*. *Journal of the Bombay Natural History Society* 26(2): 672.
- Frend, G.V.R.** 1947. Painted Sandgrouse and other game birds in Mysore. *Journal of the Bombay Natural History Society* 46(4): 725-727.
- Kasambe, R. & Wadtkar, J.** 2007. Birds of Pohara-Malkhed Reserve Forest, Amravati, Maharashtra-an updated annotated checklist. *Zoos' Print Journal* 22(7): 2768-2770 (2769).
- Mavadia, D.** 2006. Painted Sandgrouse at Kevadia colony, Gujarat. *Indian Birds* 2(1): 23.
- Mundkur, T.** 1984. Painted Sandgrouse at Katraj Ghat, Pune. *Newsletter for Birdwatchers* 24(5-6): 17.
- Varu, S.N.** 2008. Sighting of Painted Sandgrouse from Kachchh. *Flamingo* 6(1-2): 9-10.
- Waite, H.W.** 1925. Breeding of the Painted Sandgrouse *Pterocles indicus* in the Punjab Salt Range. *Journal of the Bombay Natural History Society* 30(4): 917.

Four-banded Sandgrouse

Pterocles quadricinctus [Temminck 1815, Coromandel; error, Senegal].
 Senegambia, Mali, Niger, Chad & Sudan E to Ethiopia and S to Ghana, Nigeria, N Uganda & NW Kenya.
 Other name: Lowe's Four-banded Sandgrouse.
Percy Roycroft Lowe (1870-1948), British ornithologist who was President of the British Ornithologists' Union between 1933 and 1943.

- Portier, B. et al.** 2002. Birding in Burkina Faso, more than just birdwatching. *Dutch Birding* 24(3): 127-141 (plate 115, p. 132).

Double-banded Sandgrouse

Pterocles bicinctus [Temminck 1815, Great Fish River, SE Namibia].
 [*P.b. bicinctus*] Namibia, Botswana & NW Cape Province (South Africa).
 [*P.b. ansorgei*] SW Angola.
 [*P.b. multicolor*] S & E Zambia, S Malawi & W Mozambique S to Transvaal (South Africa).

- Berry, H.E. et al.** 2001. Synchrony of drinking in Double-banded Sandgrouse *Pterocles bicinctus*, at Etosha National Park, Namibia. *Ostrich* 72: 109-113.
- Cowley, T.E. et al.** 2005. Notes on the drinking behaviour of the Double-banded Sandgrouse, *Pterocles bicinctus*, from southern Namibia. *Namibia Scientific Society Journal* 53: 27-36.
- Dixon, J.E. et al.** 1970. Miscellaneous notes on South West African birds. *Madoqua* 10(2): 149-151.
- Hinsley, S.A. & Ferns, P.** 2000. Notes: Juvenile plumage of European sandgrouse. *British Birds* 93(2): 91-93.

- Hinsley, S.A. & Hockey, D.J.** 1989. Breeding and breeding behaviour of Double-banded Sandgrouse *Pterocles bicinctus*. *Avicultural Magazine* 95: 62-73.
- Hinsley, S.A.** 1992. Bioenergetics of a desert specialist, the double-banded sandgrouse, and the problem of stress induced by experimental conditions. *Comparative Biochemistry and Physiology Part A: Physiology* 102(3): 433-439.
- Little, R.M. & Earle, R.A.** 1995. Sandgrouse (pterocleidae) and sociable weavers *Philetarius socius* lack avian haematozoa in semi-arid regions of South Africa. *Journal of Arid Environments* 30(3): 367-370.
- Lloyd, P.** 1999. The science and policy behind managing sandgrouse for sustainable utilisation in southern Africa. *South African Journal of Wildlife Research* 29(2): 35-42.
- MacDonald, J.D.** 1954. Notes on the Double-banded Sandgrouse. *Bulletin of the British Ornithologist' Club* 74: 6-8.
- van Niekerk, J.H.** 2012. Observations on movements of Double-banded Sandgrouse (*Pterocles bicinctus*) in Borakalalo National Park, North West province, South Africa. *Chinese Birds* 3(1): 47-53.

Burchell's Sandgrouse

Pterocles burchelli [W.L. Sclater 1922, near Griquatown, Griqualand West, Cape Province, South Africa].

SE Angola, Namibia & Botswana E to SW Zambia, Zimbabwe & NW Transvaal and S to N Cape Province & W Orange Free State.

The proposed form *makarikari* is not considered valid.

Other names: Variegated Sandgrouse, Southern Spotted Sandgrouse.

William John Burchell (1781-1863), English explorer who spent time in South Africa.

Grant, W.S. et al. 1997. Temporal and geographical genetic variability in Namaqua and Burchell's Sandgrouse. *Journal of Arid Environments* 35(1): 123-139.

Little, R.M. & Earle, R.A. 1995. Sandgrouse (pterocleidae) and sociable weavers *Philetarius socius* lack avian haematozoa in semi-arid regions of South Africa. *Journal of Arid Environments* 30(3): 367-370.

Lloyd, P. 1999. The science and policy behind managing sandgrouse for sustainable utilisation in southern Africa. *South African Journal of Wildlife Research* 29(2): 35-42.