

HOST LIST OF AVIAN BROOD PARASITES - 5 - PASSERIFORMES; Viduidae

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Friedmann (1960) provided an initial monographic review of the systematics and host lists of African brood parasitic finches (*Vidua* and *Anomalospiza*). The information in Friedmann's monograph has been extended and corrected by extensive studies by Robert B. Payne and colleagues. Most recent authoritative references for taxonomy and host lists are Payne (1996, 1997 [this latter reference updates and corrects taxonomy presented in Sibley and Monroe 1990], 2004), Sorenson et al. (2003), and Sorenson et al. (2004). Relationships between *Vidua* species and their hosts show close ties in several aspects of their biology: male *Vidua* sing the song of the host that raised the male; female *Vidua* mate with those male *Vidua* that sing the song of the host species that raised the female; mouth pattern of young *Vidua* mimic mouth pattern of their hosts' as do their begging calls.

Field evidence for brood parasitism among indigobirds is known only for 6 species: Village Indigobird *Vidua chalybeata*, Purple Indigobird *Vidua purpurascens*, Dusky Indigobird *Vidua funerea*, Black-faced Firefinch Indigobird *Vidua larvaticola*, Pale-winged/Bar-breasted Firefinch Indigobird *Vidua wilsoni*, and Goldbreast Indigobird *Vidua raricola* (Payne 1998b).

Phylogenetic studies of mtDNA have suggested a single origin for the African brood parasitic finches (i.e., both *Anomalospiza* and *Vidua*) and of brood parasitism (Sorenson and Payne 2001, see also Lahti and Payne 2003, Sorenson et al. 2003, Sorenson et al. 2004) but this is not certain (Mayr 2013). Phylogenetic studies of mtDNA restriction sites support independent colonization model of speciation within *Vidua* (Klein and Payne 1998: 566): "The parasite-host associations of the *Vidua* finches are known through field studies of behavior, song mimicry, and mouth mimicry. In most species, each male *Vidua* mimics the songs of only one kind of estrildid finch. For each of these species of *Vidua* whose behavior has been determined in the field, the finch whose song is mimicked is the host species that raises the young *Vidua* (C. J. Skead 1957; D. M. Skead 1975; Friedmann 1960; Nicolai 1964, 1973; M.-Y. Morel 1973; Payne 1973a, 1977a,b, 1982, 1985a,b, 1990; Payne and Payne 1994)."

% - known record of host species rearing brood parasitic young; brown text indicate primary hosts of *Vidua* species as indicated by Sorenson et al. 2003 [supplemental material] based on known records of parasitism or based on mimicry of song of suspected host.

Anomalospiza

Anomalospiza Shelley 1901, Bulletin of the British Ornithologists' Club 12, p. 30.

Cuckoo Finch, *Anomalospiza imberbis* (Cabanis) 1868, Journal für Ornithologie 16, p. 412, (East Africa, probably on the coast opposite Zanzibar).

Distribution. – Sub-Saharan Africa.

Host list. – From Payne 1997, 2004; see also Friedmann 1960, Vernon 1964, Dean 2004 [=

Tarboton 2001, Tarboton et al. 1987], Spottiswoode and Stevens 2011:

CISTICOLIDAE

Red-faced Cisticola, *Cisticola erythrops*

% Singing Cisticola, *Cisticola cantans*

% Rattling Cisticola, *Cisticola chinianus*

% Winding Cisticola, *Cisticola galactotes*

% Tinkling Cisticola, *Cisticola tinniens*

Croaking Cisticola, *Cisticola natalensis*

Piping Cisticola, *Cisticola fulvicapillus*

% Zitting Cisticola, *Cisticola juncidis*

% Desert Cisticola, *Cisticola aridulus*

Cloud Cisticola, *Cisticola textrix*

- Pale-crowned Cisticola, *Cisticola cinnamomeus*
- % Pectoral-patch Cisticola, *Cisticola brunnescens*
- % Wing-snapping Cisticola, *Cisticola ayresii* [not listed in Friedmann 1960]
- % Tawny-flanked Longtail, *Prinia subflava*
- % Black-chested Longtail, *Prinia flavicans*

Vidua

Vidua Cuvier 1816 [1817], Le Règne animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Par M. le baron Cuvier, ... Avec figures dessinées d'après nature. 1, p. 388.

Village Indigobird, *Vidua chalybeata* (P. L. S. Müller) 1776, Des Ritters C. von Linne...vollständiges Natursystem nach der zwölften Lateinischen Ausgabe und nach Anleitung des Hollandischen Houttuynischen Werks, mit einer ausführlichen Erklärung ausgefertigt von P. L. S. Müller., p. 166, (Senegal).

Distribution. – *chalybeata* group in west Africa; *ultramarina* group in northeast Africa; *amauropteryx* group in southeast and south Africa. Interbreeds with *Vidua funerea* in eastern Zaire (Payne 1973a: 9-16); and with *Vidua purpurascens* in Tanzania (Payne 1976).

Taxonomic notes. – Friedmann (1960) included *Hypochera aenea* Hartlaub 1854 and *Fringilla nitens* Gmelin 1789 as synonyms and treated the following named forms as subspecies: *Hypochera codringtoni* Neave 1907, *Hypochera neumanni* Alexander 1908, *Hypochera ultramarina* var. *orientalis* Reichenow 1894 and *Hypochera ultramarina* Gmelin 1789. The following forms are presently considered subspecies (Peterson 2013):

Vidua chalybeata amauropteryx (Sharpe) 1890 Cat.BirdsBrit.Mus. 13 p.308,309

Vidua chalybeata centralis (Neunzig) 1928 Zool.Anz. 78 p.113

Vidua chalybeata chalybeata (Statius Müller) 1776 Natursyst.Suppl. p.166

Vidua chalybeata neumanni (Alexander) 1908 BBOC 23 p.33

Vidua chalybeata okavangoensis Payne 1973 Orn.Monogr. 11 p.234

Vidua chalybeata ultramarina (Gmelin) 1789 Syst.Nat. 1 pt2 p.927

Host list. – Mimics Red-billed Firefinch *Lagonosticta senegala* (Payne 1998b). Host list from Payne 1996, 2004 (see also Morel 1959, Payne 1982) and Sorenson et al. 2003; possible additional host Bronze Munia *Spermestes cucullatus* (reported by V. G. L. Van Someren to H. Friedmann in Friedmann 1960).

ESTRILDIDAE

% Red-billed Firefinch, *Lagonosticta senegala*

% Brown Firefinch, *Lagonosticta nitidula* (novel host; Payne et al. 2002)

Peters' Twinspot Indigobird, *Vidua codringtoni* (Neave) 1907, Memoirs and proceedings of the Manchester literary and philosophical society, Manchester, England 51, p. 94, pl. 1, (Molilo's, Loangwa Valley, northeast Rhodesia).

Distribution. – Southeast Africa.

Taxonomic notes. – This taxon treated as a subspecies of *Vidua chalybeata* in Friedmann (1960) and has also been treated as a subspecies of *Vidua funerea*.

Host list. – Mimics Peters' Twinspot *Hypargos niveoguttatus* (Payne et al. 1992, 1993, Payne 1998b). Host list from Payne 1996, 2004 (see also Payne et al. 1992, Colahan 1995, [Sorenson et al. 2003](#)):

ESTRILDIDAE

% Peter's Twinspot, *Hypargos niveoguttatus* (presumed host)

Pink-throated Twinspot, *Hypargos margaritatus*

Dusky Indigobird, *Vidua funerea* (de Tarragon) 1847, Revue Zoologique, par la Societé Cuvierienne...Journal mensuel publié sous la direction de M. F. E. Guérin-Ménéville. 10, p. 180, (Natal).

Distribution. – West, central and south Africa. Interbreeds with *Vidua chalybeata* in eastern Zaire and with *Vidua purpurascens* in southeastern Zaire.

Taxonomic notes. – Friedmann (1960) included *Hypochaera nigerrima* Sharpe 1871 and *Hypochera funerea wilsoni* Hartert 1901 as subspecies.

Host list. – Mimics African Firefinch *Lagonosticta rubricata* (Payne 1973, Payne et al. 1992, 1993). No definite host records known to Friedmann 1960. Host list from Payne 1996, 2004 (see also Friedmann 1960, Traylor 1966, Payne et al. 1992, Sorenson et al. 2003). Possible additional hosts are Common Waxbill *Estrilda astrild*, and less likely Red-billed Firefinch *Lagonosticta senegala* (see Friedmann 1960).

ESTRILDIDAE

% African Firefinch, *Lagonosticta rubricata*

Purple Indigobird, *Vidua purpurascens* (Reichenow) 1883, Journal für Ornithologie 31, p. 221, (Usequa, i.e., Usegua, Tanganyika).

Distribution. – East and southern Africa. Interbreeds with *Vidua chalybeata* in northeastern Tanzania and with *Vidua funerea* in Cameroon and southeastern Zaire.

Taxonomic notes. – This taxon was treated as synonym of *Vidua nigerrima* in Friedmann (1960).

Host list. – Mimics Jameson's Firefinch *Lagonosticta rhodopareia* (Payne 1973, Payne et al. 1992, 1993). Host list from Payne 1996, 2004 (see also Nicolai 1967, Friedmann 1960; Sorenson et al. 2003):

ESTRILDIDAE

% Jameson's Firefinch, *Lagonosticta rhodopareia*.

African Firefinch, *Lagonosticta rubricata* (possible [?] additional host species)

Black-faced Firefinch Indigobird, *Vidua larvaticola* Payne 1982, Miscellaneous Publications of the Museum of Zoology, University of Michigan, no. 162.

Distribution. – West and north-central Africa.

Host list. – Mimics Black-faced Firefinch *Lagonosticta larvata* (Payne 1998b); host species originally presumed to be Black-bellied Firefinch *Lagonosticta rara* (Payne 1982; see Payne 1998b). Host list from Payne 1996, 2004, Sorenson et al. 2003; see also Payne and Barlow 2003).

ESTRILDIDAE

% Black-faced throated Firefinch, *Lagonosticta larvata* (includes the form *Lagonosticta larvata nigricollis* which is sometimes treated as *Lagonosticta vinacea nigricollis* [Sibley and Monroe 1990])

Mali Firefinch, *Lagonosticta virata*

Jos Plateau Indigobird, *Vidua maryae* Payne 1982, Miscellaneous Publications of the Museum of Zoology, University of Michigan, no 162.

Distribution. – Nigeria.

Taxonomic notes. – Systematic history of this species given in Payne (1998b): This green indigobird recorded in Nigeria in 1968 and referred to as *nigeriae* (which taxon originally described from eastern Nigeria) but *nigeriae* considered then to be a form of *Vidua funerea* (Payne 1968); *nigeriae* later thought to be color form of *Vidua wilsoni* (Payne 1973a) and then as color form of *Vidua funerea* which encompassed *Vidua funerea wilsoni* as a subspecies with several color forms (Payne 1976). For a while, the name *nigeriae* was considered *nomen dubium* (Payne 1982; until Payne and Payne 1994 established identity of its type) and the name *Vidua funerea maryae* used as replacement name for green indigobirds of Nigeria (Payne 1982). However, the bright green birds of Nigeria were found to be

considered specifically distinct from dull green birds of Nigeria permitting assignment of the name *Vidua nigeriae* to the dull green species and the name *Vidua maryae* to the bright green species (Payne 1994, 1996, Payne and Payne 1994).

Host list. – In mistaken confusion of taxonomy of both *Vidua* and *Lagonosticta* in Nigeria, host of *Vidua maryae* was thought to be Blue-billed Firefinch *Lagonosticta rubricata* (Payne 1996) but now *Vidua maryae* known to mimic the song of **Rock Firefinch** *Lagonosticta sanguinodorsalis* its presumed host (Payne 1998b, 2004; see also Sorenson et al. 2003).

ESTRILDIDAE

Rock Firefinch, *Lagonosticta sanguinodorsalis* (presumed host)

Pale-winged/Bar-breasted Firefinch Indigobird, *Vidua wilsoni* (Hartert) 1901, Novitates Zoologicae 8, p. 342, (Yelwa, Middle Niger).

Distribution. – Sub-Saharan Africa.

Taxonomic notes. – Includes *Vidua lorentzi* Nicolai 1972. *Vidua incognita* Nicolai 1972, here included as subspecies of *Vidua wilsoni*, may be distinct species. This taxon treated as subspecies of *Vidua funerea* in Friedmann (1960).

Host list. – Mimics **Bar-breasted Firefinch** *Lagonosticta rufopicta* (Payne 1998b). Host list from Payne 1996 (see also Friedmann 1960; Sorenson et al. 2003):

ESTRILDIDAE

% **Bar-breasted Firefinch**, *Lagonosticta rufopicta* (host of *Vidua wilsoni wilsoni*)

Brown Firefinch, *Lagonosticta nitidula* (host of *Vidua wilsoni incognita*)

Cameroon Fönio-Indigobird, *Vidua camerunensis* (Grote) 1922, Journal für Ornithologie 70, p. 398, (between Cola and Mbaiki, southeast Cameroons).

Distribution. – West central Africa.

Taxonomic notes. – This taxon treated as synonym of *Vidua nigeriae* in Friedmann (1960). This species comprised of several song mimicry populations that appear not to differ morphologically and which may possibly be a complex of several species; however no genetic differences known (see Payne et al. 2005).

Host list. – This species mimics Black-bellied Firefinch, *Lagonosticta rara* in Guinea-Conakry, Guinea-Bissau, Sierra Leone, Ghana, and Cameroon; mimics African Firefinch, *Lagonosticta rubricata* in Guinea-Bissau and Cameroon; mimics Brown Twinspot, *Clytospiza monteiri* in Nigeria; and mimics Dybowski's Twinspot, *Euschistospiza dybowskii* in Guinea-Conakry and Sierra Leone (Payne et al. 2005; see also Payne 1998b, Payne and Payne 1994, 1995). Different mimicry song populations are sympatric at locations in Cameroon (mimics of Black-bellied Firefinch and African Firefinch), Sierra Leone (mimics of African Firefinch and Dybowski's Twinspot) and Guinea-Conakry (mimics of Black-bellied Firefinch and Dybowski's Twinspot; Payne et al. 2005).

Host list from Payne 1996, 2004, Sorenson et al. 2003:

ESTRILDIDAE

% African Firefinch, *Lagonosticta rubricata*

% **Black-bellied Firefinch**, *Lagonosticta rara*

% Brown Twinspot, *Clytospiza monteiri*

% Dybowski's Twinspot, *Euschistospiza dybowskii*

Quail-finch Indigobird, *Vidua nigeriae* (Alexander) 1908, Bulletin of the British Ornithologists' Club 23, p 33 (Kiri, Gongola River, northern Nigeria).

Distribution. – Nigeria.

Taxonomic notes. – Treated as subspecies of *Vidua amauropteryx* (Sharpe 1890) [= Village Indigobird, *Vidua chalybeata amauropteryx*] in Friedmann (1960).

Host list. – Mimics African Quail-finch *Ortygospiza atricollis* (Payne and Payne 1994, Payne 1998b). Friedmann knew of no authentic host record. Host list from Payne 1996, 2004, Sorenson et al. 2003:

ESTRILDIDAE

% African Quailfinch, *Ortygospiza atricollis*

Goldbreast Indigobird, *Vidua raricola* Payne 1982, Miscellaneous Publications of the Museum of Zoology, University of Michigan, no. 162.

Distribution. – West and north-central Africa.

Host list. – Mimics Zebra Waxbill/~~Goldbreast~~ *Amandava subflava* (Payne and Payne 1994, Payne 1998b, 2004; see also Sorenson et al. 2003).

ESTRILDIDAE

% Zebra Waxbill, *Amandava subflava*

Black-bellied Firefinch, *Lagonosticta rara* (possible host; Payne 1982)

Shaft-tailed Whydah, *Vidua regia* (Linnaeus) 1766, Systema Naturae per Regna Tria Naturae, Secundum Classes, Ordines, Genera, Species, Cum Characteribus, Differentiis, Synonymis, Locis., ed. 12, p. 313, (Africa, south Angola).

Distribution. – Southern Africa.

Host list. – From Payne 1997; see also Friedmann 1960, Sorenson et al. 2003. Additional dubious or questionable hosts include African Quail-finch *Ortygospiza atricollis*; Green-winged Pytilia, *Pytilia melba*; and Cordon Bleu *Estrilda angolensis*

ESTRILDIDAE

% Common Grenadier, *Granatina granatina*¹

Scaly Weaver, *Sporopipes squamifrons*

CISTICOLIDAE

Black-chested Prinia, *Prinia flavicans*

Straw-tailed Whydah, *Vidua fischeri* (Reichenow) 1882, Ornithologisches Centralblatt 7, p. 91, (Usegua).

Distribution. – Northeast Africa.

Host list. – No hosts known (Payne 1997; see also Friedmann 1960, Nicolai 1989, Sorenson et al. 2003):

ESTRILDIDAE

Purple Grenadier, *Granatina ianthinogaster*¹ (presumed host)

Steel-blue Whydah, *Vidua hypocherina* J. Verreaux & E. Verreaux 1856, Revue et Magasin de Zoologie Pure et Appliquée (2) 8, p. 260, pl. 16, (West Africa, probably East Africa).

Distribution. – Northeast Africa.

Taxonomic notes. – See Hockey and Brooke (1987) for species status.

Host list. – From Payne 1997; see also Friedmann 1960, Nicolai 1989, Sorenson et al. 2003:

ESTRILDIDAE

% Black-cheeked Waxbill, *Estrilda erythronotos*

% Red-rumped Waxbill, *Estrilda chamosyna*

Pin-tailed Whydah, *Vidua macroura* (Pallas) 1764, in Catalogue raisonne, d'une collection supérieurement belle d'oiseaux, tant exotiques qu'Européens, de quadrupèdes et d'insectes. empaillés & arrangés avec beaucoup d' art en situations & attitudes extrêmement naturelles, & garantis de la corruption d'une façon particulière. Le tout rassemblé & arrangé, pendant un longue suite d'années, avec beaucoup de peines & à grand frais, par A. Vroeg, p. 3, No. 144 (East Indies-Angola, ex Edwards and Brisson, error = Angola).

Distribution. – Africa. Introduced to Puerto Rico.

Host list. – From Payne 1997, 2004 (see also Friedmann 1960, Payne 1977b, 1985, Maclean 1984, Mines 1999, Sorenson et al. 2003). Several other species have also been listed as uncertain, dubious, or questionable hosts: Spot-backed Weaver *Ploceus cucullatus*; African Firefinch *Lagonosticta rubricata*; Black-bellied Firefinch *Lagonosticta rara*; Red-bellied Firefinch *Lagonosticta senegala* [based on 3 records in nest record card scheme which are possibly mis-identifications of the eggs of the Village Indigobird *Vidua chalybeata*; Mines 1999]; Black-cheeked Waxbill *Estrilda erythronotos*; Scaly Weaver *Sporopipes squamifrons*; Grosbeak Weaver *Amblyospiza albifrons*; Long-tailed Widowbird *Euplectes progne* (Friedmann 1960); and African Quail-finch *Ortygospiza atricollis* (1 case in nest record card scheme; Mines 1999).

CISTICOLIDAE

Tawny-flanked Prinia, *Prinia subflava* – (1 record, Friedmann 1960; possibly this record may actually represent parasitism by Cuckoo Finch *Anomalospiza imberbis*, Mines 1999)

Piping Cisticola, *Cisticola fulvicapillus* – (1 record, Friedmann 1960; possibly this record may actually represent parasitism by Cuckoo Finch *Anomalospiza imberbis*, Mines 1999)

ESTRILDIDAE

Red-collared Widowbird, *Euplectes ardens* – (1 record; Friedmann 1960, Mines 1999)

% Swee Waxbill, *Coccyzygia melanotis*¹ – (2 records, Mines 1999)

Yellow-bellied Waxbill, *Coccyzygia quartinia*¹

Fawn-breasted Waxbill, *Estrilda paludicola* – (1 record; Friedmann 1960)

% Orange-cheeked Waxbill, *Estrilda melpoda*

% Crimson-rumped Waxbill, *Estrilda rhodopyga*

% Black-rumped Waxbill, *Estrilda troglodytes*

% Common Waxbill, *Estrilda astrild* – (41 of 77 records; Friedmann 1960)

% Zebra Waxbill, *Amandava subflava* (see Mines 1999)

African Silverbill, *Euodice cantans*

Magpie Munia, *Lonchura fringilloides* – (1 record, Friedmann 1960, Mines 1999)

?% Bronze Munia, *Spermestes cucullatus*¹ (claimed as host; 2 records, Mines 1999)

FRINGILLIDAE

Streaky Seedeater, *Crithagra striolata* – (1 record; Friedmann 1960)

EMBERIZIDAE

African Golden-breasted Bunting, *Emberiza flaviventris*

Paradise Whydah, *Vidua paradisaea* (Linnaeus) 1758, Systema Naturae per Regna Tria Naturae, Secundum Classes, Ordines, Genera, Species, Cum Characteribus, Differentiis, Synonymis, Locis, ed. 10, p. 178, (Africa, restricted to Angola, Linnaeus).

Distribution. – East and south Africa.

Taxonomic notes. – In Friedman 1960, this taxon included *Steganura paradisaea aucupum* Neumann 1908, *Steganura paradisaea togoensis* Grote 1923, *Steganura paradisaea kudugliensis* Bowen 1931, *Steganura paradisaea interjecta* Grote 1922, *Vidua paradisaea orientalis* Heuglin 1871 and *Steganura aucupum obtusa* Chapin 1922 as subspecies.

Host list. – From Payne 1997, 2004 (see also Nicolai 1974, 1977). Other species have been suggested as hosts based on questionable records: Cape Sparrow *Passer melanurus*; Gray-headed Sparrow *Passer griseus*; Cardinal Dioch *Quela cardinalis*; Red Bishop *Euplectes orix*; Yellow Bishop *Euplectes capensis*; Cut-throat Finch *Amadina fasciata* Report of nest of Purple Grenadiers *Granatina ianthinogaster* containing 2 grenadiers plus 1 *V. paradisaea* and 1 *V. fischeri* (Nicolai 1969).

ESTRILDIDAE

% Green-winged Pytilia, *Pytilia melba*.

Broad-tailed Paradise Whydah, *Vidua obtusa* (Chapin) 1922², American Museum Novitates, no. 43, p. 6, (Luchenza, Nyasaland).

Distribution. – Central and south Africa.

Taxonomic notes. – This taxon treated as subspecies of *Vidua paradisaea* in Friedmann (1960).

Host list. – From Payne 1997, 2004 (see also Nicolai 1977, Sorenson et al. 2003):

ESTRILDIDAE

% Orange-winged Pytilia, *Pytilia afra*

West African Paradise Whydah, *Vidua orientalis* Heuglin 1871, Ornithologie Nordost-Afrika's, der Nilquellen- und Küsten-Gebiete des Rothen Meeres und des nördlichen Somal-Landes, vol. 1, p. 583, (Bogosland, type from Keren).

Distribution. – Sub-Sahara Africa.

Taxonomic notes. – This taxon treated as subspecies of *Vidua paradisaea* in Friedmann (1960).

The following forms are presently considered subspecies (Peterson 2013):

Vidua orientalis aucupum (Neumann) 1908 BBOC 21 p.43

Vidua orientalis orientalis Heuglin 1870 Orn.NordostAfr. 1 p.583

Host list. – From Payne 1997, 2004 (see also Sorenson et al. 2003):

ESTRILDIDAE

% Melba Finch, *Pytilia melba citerior* (described as host of *Vidua orientalis aucupum*; Friedmann 1960)

Exclamatory Paradise Whydah, *Vidua interjecta* (Grote) 1922, Journal für Ornithologie 70, p. 402, (Weg Nola, eastern Cameroons).

Distribution. – Central Africa.

Taxonomic notes. – This taxon treated as subspecies of *Vidua paradisaea* in Friedmann (1960).

Host list. – From Payne 1997, 2004 (see also Nicolai 1977, Sorenson et al. 2003):

ESTRILDIDAE

% Red-winged Finch, *Pytilia phoenicoptera*

Lineated Pytilia, *Pytilia lineata*

% Red-faced Pytilia, *Pytilia hypogrammica* (possibly)

Togo Paradise Whydah, *Vidua togoensis* (Grote) 1923, Ornithologische Monatsberichte 31, p. 43, (Kete, Togoland).

Distribution. – West Africa from Sierra Leone to Togo.

Taxonomic notes. – This taxon treated as subspecies of *Vidua paradisaea* in Friedmann (1960).

Host list. – From Payne 1997, 2004 (record in Nicolai 1977 of "*Vidua togoensis*" parasitizing *Pytilia hypogrammica* in se. Nigeria actually applies to *Vidua interjecta* [Payne 2004]).

ESTRILDIDAE

% Red-faced Pytilia, *Pytilia hypogrammica* (presumed)

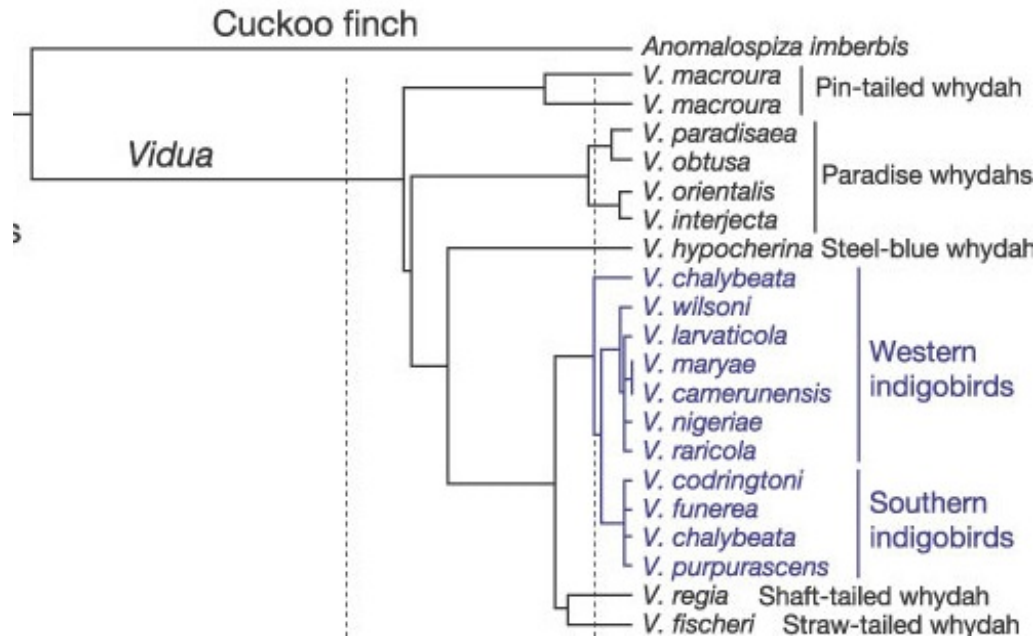
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Fig. From Sorenson et al. 2003 (see also Sorenson et al. 2004)



Notes:

1. Host taxonomy follows Sibley and Monroe 1990 except for the following:
 - Granatina granatina* here is listed in Sibley and Monroe as *Uraeginthus granatina*
 - Granatina ianthinogaster* here is listed as *Uraeginthus ianthinogaster*
 - Coccopygia melanotis* here is listed as *Estrilda melanotis*
 - Coccopygia quartinia* here is listed as *Estrilda quartinia*
 - Spermestes cucullatus* here is listed as *Lonchura cucullata*
2. Broad-tailed Paradise Whydah, *Vidua obtusa* not considered part of *paradisaea* group by Sibley and Monroe 1990 but work of Sorenson et al. (2003, 2004) suggest close association with other species in *paradisaea* group.