

On *Elminia nigromitrata* (Reichenow, 1874) (Monarchidae): subspecies and lectotype designation

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In 1994, Dickerman described a new subspecies of Dusky Crested Flycatcher, *Elminia nigromitrata colstoni* (originally described in the genus *Trochoercus*), based on type material from Liberia, leaving the exact distribution of this western population and the geographical barriers between subspecies vague. Current taxonomy accepts the taxon as valid (e.g. Erard 1997, Dickinson 2003, Clement 2006). Apart from the holotype and other specimens from Liberia, a single individual from southern Nigeria was reluctantly assigned by the describer to *E. n. colstoni*, though subspecific determination seemed difficult. Whilst Dickerman (1994) stated that *colstoni* 'probably occupies forested regions west of the Dahomey forest gap' (despite the single specimen from Nigeria), all verified specimens of nominate *E. n. nigromitrata* (Reichenow, 1874), including its lectotype (see below), are from south-east Cameroon and further east. This leaves the question of subspecific identity of individuals of *E. nigromitrata* east of the Dahomey Gap (Benin), but west of the Cameroonian mountains, i.e. in Nigeria and south-west Cameroon.

Field data from south-west Cameroon

All eight birds mist-netted during a field survey in Banyang-Mbo (05°20'N, 09°28'E), near Nguti, south-west Cameroon, were determined as *E. n. colstoni* (see Sammler 2007). They showed the characters described by Dickerman (1994), *viz* 'similar to the nominate population but slightly paler and brighter blue both dorsally and ventrally, less dull, flat grey'. The 'distinct tendency dorsally to have a white-tinged collar' was also recorded. Additionally, in subsequent comparisons with museum specimens, a difference in tail colour was noted: blackish (Smithe 1975: colour 89, Jet Black) in *colstoni* (*contra* Clement 2006) including individuals from Banyang-Mbo, compared to brownish in the nominate (Smithe 1975: colour 119, Sepia).

Measurements of wing, tail, tarsus and bill confirm the two subspecies. Twenty-five specimens of *E. n. colstoni* from Liberia in BMNH and AMNH (for museum acronyms see Acknowledgements), and 56 specimens of *E. n. nigromitrata* from south-east Cameroon, Equatorial Guinea, Central African Republic, Democratic Republic of Congo (DRC), Uganda and Kenya, in BMNH, AMNH, ZMB and RMCA, are significantly different in these measurements (see Table 1; $p=0.004$, Monte Carlo Permutation Test, 499 permutations). Western *colstoni* has a smaller wing, and a slightly shorter tail and bill, compared to nominate *nigromitrata* (Table 1). Tarsi of both populations are similar in size. Measurements of one specimen from Nigeria (BMNH 1950.9.8) and one collected in Banyang-Mbo (BMNH 2008.2.9) are broadly similar to *colstoni* from Liberia (*cf.* Table 1).

However, nine specimens collected by W. Serle from the region of Kumba (the so-called Kumba Gap) are intermediate in coloration (tail between 89, Jet Black, and 119, Sepia in Smithe 1975) and measurements, slightly weighted towards *colstoni* ($p=0.552$ compared to *colstoni*; $p=0.048$ compared to nominate *nigromitrata*, see Table 1; Monte Carlo Permutation Test, 499 permutations). Serle (1950) himself regarded six of them, all collected pre-1950, as *nigromitrata*; the other three taken post-1950 are not discussed in his subsequent papers (Serle 1954, 1965). Given the record of *E. n. colstoni* in Banyang-Mbo, its range now extends

TABLE 1

Measurements of *Elminia nigromitrata* (Reichenow, 1874) held at BMNH, AMNH, ZMB and RMCA (for museum acronyms see Acknowledgements), by locality, from west to east, and by sex. Measurements in mm; m = male, f = female; localities per labels (countries/regions added); wing = maximum chord from carpal to tip; tail from skin to tip of longest feather; tarsus from distal margin of intertarsal joint to distal margin of last undivided scale; bill (upper mandible) from skull insertion to tip. Asterisks indicate measurements of damaged parts (not used for mean and range)—these specimens and those of uncertain subspecies (without number) were not used in the permutation test.

No	sex	Inventory numbers	subspecies	Location	date	collector (no.)	wing	tail	tarsus	bill
1	m	BMNH 1977.20.2208	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia (550 m)	12.07.1967	Forbes-Watson	60.2	59.6	16.1	13.6
2	m	BMNH 1977.20.2225	<i>colstoni</i>	Mt. Nimba, Mine Road, Liberia (1,000 m)	11.07.1968	Forbes-Watson	59.0	64.0	14.0	12.5
3	m	BMNH 1977.20.2212	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia	24.01.1969	Forbes-Watson	63.3	66.2	15.0	14.2
4	m	BMNH 1977.20.2209	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia (550 m)	13.01.1968	Forbes-Watson	61.8	65.0	15.6	13.2
5	m	BMNH 1977.20.2204	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia (550 m)	08.06.1967	Forbes-Watson	60.0	66.0	16.5	14.3
6	m	BMNH 1977.20.2205	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia (550 m)	26.07.1967	Forbes-Watson	60.8	63.3	16.0	14.3
7	m	BMNH 1977.20.2206	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia (550 m)	28.06.1967	Forbes-Watson	64.2	67.0	16.6	13.1
8	m	BMNH 1977.20.2207	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia (550 m)	23.08.1967	Forbes-Watson	60.9	63.0	16.4	13.7
9	m	BMNH 1977.20.2210	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia (550 m)	25.09.1967	Forbes-Watson	60.0	62.2	16.5	14.5
10	m	BMNH 1977.20.2213	<i>colstoni</i>	Mt. Nimba, Liberia	11.09.1965	Forbes-Watson	58.9	61.5	15.3	14.4
11	m	BMNH 1977.20.2226	<i>colstoni</i>	Mt. Nimba, Mine Area, Liberia	24.01.1968	Forbes-Watson	59.0	60.0	15.5	13.5
12	m	AMNH 827746	<i>colstoni</i>	Lofa Country, Liberia (750 m)	16.03.1990	Schmitt	63.6	66.0	15.8	15.0
13	f	BMNH 1977.20.2218	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia (550 m)	28.06.1967	Forbes-Watson	57.8	59.8	15.4	12.1
14	f	BMNH 1977.20.2216	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia (550 m)	24.08.1967	Forbes-Watson	57.6	60.0	15.4	11.5
15	f	BMNH 1977.20.2220	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia	18.01.1966	Forbes-Watson	57.0	57.0	14.3	13.5
16	f	BMNH 1977.20.2215	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia (550 m)	12.07.1967	Forbes-Watson	57.9	57.6	15.2	13.2
17	f	BMNH 1977.20.2223	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia	25.06.1966	Forbes-Watson	58.8	62.0	15.9	14.2
18	f	BMNH 1977.20.2221	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia (550 m)	14.06.1967	Forbes-Watson	58.3	61.0	14.7	14.1
19	f	BMNH 1977.20.2224	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia	23.01.1969	Forbes-Watson	58.6	58.4	15.0	13.2
20	f	BMNH 1977.20.2217	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia (550 m)	27.07.1967	Forbes-Watson	54.5	58.6	14.0	12.7
21	f	BMNH 1977.20.2222	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia (550 m)	05.06.1967	Forbes-Watson	56.0	56.5	15.3	12.3
22	f	BMNH 1977.20.2219	<i>colstoni</i>	Mt. Nimba, Grassfield, Liberia (550 m)	05.07.1976	Forbes-Watson	57.0	57.8	13.2	13.0
23	f	BMNH 1977.20.2227	<i>colstoni</i>	Mt. Nimba, Yekepa, Liberia	25.04.1968	Forbes-Watson	58.0	58.7	15.5	13.6
24	f	AMNH 827745	<i>colstoni</i>	Lofa Country, Liberia (750 m)	15.03.1990	Schmitt	57.2	55.8	15.1	14.1
25	f	AMNH 827743	<i>colstoni</i>	Lofa Country, Liberia (750 m)	13.03.1990	Carter	57.5	58.3	14.5	14.0
	m	BMNH 1950.9.8	<i>colstoni</i>	Isoba, Port Harcourt, Nigeria	23.10.1949	Marchant (334)	60.1	63.4	15.5	13.3

	f	BMNH 2008.2.9	<i>colstoni</i>	Banyang-Mbo, Cameroon	25.03.2006	Steinheimer & Sammler	56.8	56.8	15.9	14.4
	m	BMNH 1952.20.248	[intergradient]	Kumba, Cameroon (245 m)	22.09.1947	Serle (C.810)	60.2	65.0	15.1	15.1
	m	BMNH 1952.20.246	[intergradient]	Kumba, Cameroon (215 m)	02.02.1950	Serle (C.3809)	62.3	63.3	15.8	15.5
	m	BMNH 1952.20.247	[intergradient]	Kumba, Cameroon (215 m)	26.06.1950	Serle (C.4278)	65.8	56.5*	16.5	15.8
	m	BMNH 1966.16.4884	[intergradient]	Kumba, Cameroon (365 m)	09.06.1947	Serle (C.304)	57.9	58.2	15.4	13.7
	m	BMNH 1966.16.4885	[intergradient]	Kumba, Cameroon (365 m)	14.04.1947	Serle (C.85)	61.8	64.0	15.7	15.2
	f	BMNH 1952.20.243	[intergradient]	Kumba, Cameroon (245 m)	22.09.1947	Serle (C.809)	58.7	56.8	14.5	14.3
	f	BMNH 1952.20.244	[intergradient]	Kumba, Cameroon (215 m)	14.10.1949	Serle (C.3454)	59.2	55.3*	14.6	14.3
	f	BMNH 1952.20.245	[intergradient]	Kumba, Cameroon (245 m)	04.06.1947	Serle (C.287)	57.4	57.8	15.3	13.0
	f	BMNH 1966.16.4886	[intergradient]	Kumba, Cameroon (245 m)	05.02.1947	Serle (C.1055)	58.7	55.0	14.9	13.2
	m	ZMB 21935 [Lectotype]	<i>nigromitrata</i>	Cameroon River, Cameroon	30.01.1873	Reichenow (332)	65.8	66.0	16.8	12.8*
1	m	BMNH 1909.8.8.34	<i>nigromitrata</i>	Zima, Cameroon	05.10.1905	Bates	58.8	57.0	15.5	14.7
2	m	BMNH 1920.6.26.300	<i>nigromitrata</i>	Bitye, River Ja, Cameroon (610 m)	08.03.1915	Bates (5941)	63.2	62.8	15.6	14.5
3	m	BMNH 1909.8.8.35	<i>nigromitrata</i>	between Kribi and Efulen, Cameroon	25.07.1907	Bates (2561)	58.4	57.2	14.0	14.9
4	m	BMNH 1926.8.8.213	<i>nigromitrata</i>	Bitye, River Ja, Cameroon (610 m)	02.06.1924	Bates (7909)	63.8	64.2	14.7	15.0
5	m	BMNH 1906.12.14.66	<i>nigromitrata</i>	Efulen, Cameroon	03.07.1905	Bates (837)	64.9	63.8	15.5	15.0
6	m	BMNH 1909.8.8.36	<i>nigromitrata</i>	between Kribi and Efulen, Cameroon	13.07.1907	Bates (2622)	62.2	59.5	15.2	15.0
7	m	BMNH 1904.18.72	<i>nigromitrata</i>	Efulen, Cameroon	29.03.1904	Bates (408)	61.9	61.2	15.8	14.2
8	m	BMNH 1926.6.26.296	<i>nigromitrata</i>	Bitye, River Ja, Cameroon (610 m)	18.06.1910	Bates (4222)	60.7	63.0	13.5	14.0
9	m	BMNH 1906.12.14.67	<i>nigromitrata</i>	Efulen, Cameroon	07.08.1905	Bates (1012)	62.3	62.0	16.5	15.0
10	m	BMNH 1920.6.26.297	<i>nigromitrata</i>	Bitye, River Ja, Cameroon (610 m)	23.11.1910	Bates (4494)	61.3	62.7	16.1	14.8
11	m	BMNH 1903.10.26.63	<i>nigromitrata</i>	Efulen, Cameroon	23.05.1903	Bates (163)	60.0	61.4	14.5	14.9
12	m	AMNH 650074	<i>nigromitrata</i>	Bitye, Cameroon	06.07.1914	Bates (5822)	64.2	63.7	14.8	14.2
13	?	BMNH 1923.8.7.1529	<i>nigromitrata</i>	Lolodorf, South Cameroon	?	Clarke	62.0	61.3	15.0	14.3
14	?	BMNH 1923.8.7.1530	<i>nigromitrata</i>	Lolodorf, South Cameroon	?	Clarke	66.5	65.2	15.8	14.5
15	f	BMNH 1920.6.26.299	<i>nigromitrata</i>	Bitye, River Ja, Cameroon (610 m)	24.09.1909	Bates (3926)	60.3	57.5	14.6	13.2
16	f	BMNH 1903.10.26.62	<i>nigromitrata</i>	River Ja, Cameroon	01.02.1903	Bates (84)	60.0	59.0	14.1	13.4
17	f	BMNH 1920.6.26.298	<i>nigromitrata</i>	Bitye, River Ja, Cameroon (610 m)	06.07.1910	Bates (4266)	56.4	54.0	14.1	13.6
18	f	BMNH 1906.12.14.65	<i>nigromitrata</i>	Efulen, Cameroon	16.06.1905	Bates (789)	58.1	54.2	14.5	14.8
19	f	BMNH 1909.8.8.37	<i>nigromitrata</i>	between Kribi and Efulen, Cameroon	13.07.1907	Bates (2623)	62.0	58.0	13.8	13.9
20	f	BMNH 1906.12.14.68	<i>nigromitrata</i>	Efulen, Cameroon	05.08.1905	Bates (1007)	60.1	56.4	14.2	13.2
21	f	ZMB 2000.10314	<i>nigromitrata</i>	Bebai, Equatorial Guinea, border to Cameroon	16.02.1909	Tessmann (463) (ex B 599)	58.4	58.0	15.8	13.9
22	f	ZMB 2000.10315	<i>nigromitrata</i>	Nkolentangan, Equatorial Guinea	14.04.1908	Tessmann (383) (ex B 599)	57.1	58.3	14.4	14.4
23	m	RMCA 127823	<i>nigromitrata</i>	Isopo, DRC (1,330 m)	04.02.1973	Prigogine (17197)	63.0	67.4	14.8	14.9
	m	RMCA 17591	<i>nigromitrata</i>	Manda, DRC	26.03.1925	Schouteden (718)	65.5	70.6	15.2	14.1*
24	m	RMCA 34933	<i>nigromitrata</i>	Bambesa, DRC	24.03.1939	Vrydagh (10472)	62.0	65.8	16.1	15.2
25	m	RMCA 45980	<i>nigromitrata</i>	Bokungu, DRC	28.02.1949	Dupuis	62.5	62.3	14.5	14.3

26	m	RMCA 103821	<i>nigromitrata</i>	Namoya, DRC	07.01.1957	Prigogine (9722)	64.2	65.6	14.0	15.1
27	m	RMCA 80-24-A-111	<i>nigromitrata</i>	Kiloboze, Kivu, DRC (1,020 m)	05.08.1979	Prigogine (19363)	61.9	64.6	15.1	14.0
28	m	RMCA 109056	<i>nigromitrata</i>	Kakanda, DRC	22.12.1961	Prigogine (10599)	64.0	65.8	14.9	15.1
29	m	RMCA 118861	<i>nigromitrata</i>	Lukigi, DRC (1,350 m)	09.03.1969	Prigogine (13803)	64.8	66.7	14.3	15.7
30	m	RMCA 80-24-A-112	<i>nigromitrata</i>	Kiloboze, Kivu, DRC (1,030 m)	31.08.1979	Prigogine (19364)	63.8	61.3	14.4	15.4
31	m	ZMB 2000.10313	<i>nigromitrata</i>	Beni, DRC	Jan 1908	Schubotz (483)	61.2	62.7	17.1	14.6
32	m	RMCA 101193	<i>nigromitrata</i>	Lima, DRC	12.07.1959	Dyleff (Lukala)	64.8	65.0	15.6	13.9
33	f	AMNH 832193	<i>nigromitrata</i>	Bayanga, Central African Republic (350 m)	24.06.1998	Sweet	59.7	58.8	15.3	14.0
34	f	RMCA 124783	<i>nigromitrata</i>	Nyamugu, DRC (1,360 m)	13.09.1970	Prigogine (15090)	62.2	61.2	14.9	14.5
35	f	RMCA 31403	<i>nigromitrata</i>	Angumu, DRC	28.09.1934	Dyleff	58.0	60.1	13.8	13.3
36	f	RMCA 101194	<i>nigromitrata</i>	Lima, DRC	09.07.1959	Dyleff (Lukala)	65.2	67.0	15.7	15.8
	f	RMCA 125827	<i>nigromitrata</i>	Kaseberi, DRC	06.01.1971	Prigogine (15806)	57.8	57.2	13.2*	13.8*
37	f	RMCA 84767	<i>nigromitrata</i>	Namoya, DRC (730 m)	15.12.1956	Prigogine (6813)	61.0	63.4	14.4	13.9
38	f	RMCA 122568	<i>nigromitrata</i>	Kaseberi, DRC	07.02.1970	Prigogine (14603)	61.0	62.2	15.1	14.2
39	f	RMCA 118828	<i>nigromitrata</i>	Igogo, DRC	12.12.1968	Prigogine (13770)	66.8	70.5	14.9	15.8
40	f	RMCA 69560	<i>nigromitrata</i>	Masongo, DRC	18.06.1951	Prigogine (4443)	63.4	68.2	14.8	14.4
41	f	RMCA 80-24-A-113	<i>nigromitrata</i>	Kiloboze, Kivu, DRC (1,020 m)	05.08.1979	Prigogine (19365)	60.2	60.7	15.1	13.9
42	f	RMCA 77-14-A-88	<i>nigromitrata</i>	Kiloboze, Kivu, DRC (1,080 m)	08.10.1976	Prigogine (18463)	59.5	61.2	14.6	13.0
43	m	BMNH 1913.6.24.117	<i>nigromitrata</i>	Toro Forest, Sanyo Bay, Uganda (3,800 m)	29.09.1911	Neave	63.0	65.3	14.5	14.2
44	m	BMNH 1913.6.24.118	<i>nigromitrata</i>	Budongo Forest, Unyoro, Uganda (3,400 m)	12.12.1911	Neave	63.0	64.8	15.2	13.8
45	m	AMNH 650080	<i>nigromitrata</i>	Budongo, Uganda	06.06.1919	van Someren	64.8	68.8	15.2	15.0
46	m	AMNH 650082	<i>nigromitrata</i>	Budongo, Uganda	14.12.1918	van Someren	62.0	64.9	15.9	15.1
47	m	AMNH 810287	<i>nigromitrata</i>	Kagamega Forest, Nyanza, Kenya (1,615 m)	23.06.1966	Zimmerman	62.9	64.8	16.1	14.0
48	m	AMNH 831044	<i>nigromitrata</i>	Kagamega Forest, Nyanza Dist., Kenya	01.08.1963	Zimmerman	62.1	64.7	15.9	14.0
49	m	AMNH 810284	<i>nigromitrata</i>	Kagamega Forest, Nyanza, Kenya (1,615 m)	14.06.1963	Zimmerman	61.7	66.2	15.7	14.1
50	m	AMNH 810288	<i>nigromitrata</i>	Kagamega Forest, Nyanza, Kenya (1,615 m)	28.06.1966	Zimmerman	62.0	66.1	15.1	15.2
51	m	AMNH 831613	<i>nigromitrata</i>	Kagamega Forest, Nyanza, Kenya	04.08.1965	Zimmerman	61.7	69.0	15.8	15.0
	m	BMNH 1971.16.111	<i>nigromitrata</i>	Kagamega Forest, Kenya	21.06.1970	Colston	65.0*	66.8	16.8	13.7
52	f	BMNH 1933.5.29.25	<i>nigromitrata</i>	Mabira, Uganda (4,000 m)	28.10.1913	Rosenberg	61.0	59.2	15.0	14.6
	f	BMNH 1913.6.24.119	<i>nigromitrata</i>	Budongo Forest, Unyoro, Uganda (3,400 m)	12.12.1911	Neave	58.1	00.0*	13.8	13.0
53	f	AMNH 650091	<i>nigromitrata</i>	Budongo, Uganda	20.05.1907	van Someren	64.4	64.2	16.0	14.6
54	f	AMNH 650086	<i>nigromitrata</i>	Budongo, Uganda	12.12.1918	van Someren	63.0	64.3	15.3	14.9
55	f	AMNH 650097	<i>nigromitrata</i>	Mabura, Uganda	03.05.1914	van Someren	64.2	63.8	15.4	14.6
56	f	BMNH 1971.16.112	<i>nigromitrata</i>	Kakamega Forest, Kenya	22.06.1970	Colston	58.0	64.6	15.9	13.9

colstoni

Range	54.5–64.2	55.8–67.0	13.2–16.6	11.5–15.0
Mean (<i>n</i> =25, 25, 25, 25)	59.12	61.01	15.31	13.51
Standard deviation	2.36	3.33	0.86	0.84

nigromitrata

Range	56.4–66.8	54.0–70.6	13.5–17.1	13.0–15.8
Mean (<i>n</i> =60, 60, 60, 58)	61.88	62.87	15.12	14.42
Standard deviation	2.46	3.83	0.81	0.68

west to the Cameroon Mountains, where it meets and hybridises with *E. n. nigromitrata* at the Kumba Gap. In fact, the Kumba Gap probably constitutes a second contact zone after separation of the two taxa during the Pleistocene, where montane forest then prevented contact between lowland forest species on either side (cf. Rand 1951).

Lectotype designation for *Terpsiphone nigromitrata* Reichenow, 1874

Our examination of the type material of *Elminia nigromitrata* (Reichenow, 1874) in the Museum für Naturkunde der Humboldt-Universität zu Berlin (ZMB) has also shown that Reichenow (1874: 110) based the name on a mixed series of two syntypes: a juvenile female *Trochocercus nitens* Cassin, 1859 (ZMB 21936), and an adult male of the species known today as *Elminia nigromitrata* (ZMB 21935). Subsequently, Reichenow (1890: 118–119, 1903: 500) voiced his doubts about ZMB 21936, due to its glossy head, and corrected its label to read 'nitens', but without taking further action.

When Sharpe (1879) first examined Reichenow's type specimens he failed to note their different identities and, lacking typical specimens of *Trochocercus nitens*, inclined to the view that both differed from the latter. Later, after studying additional material in Leiden, he further confounded the situation by treating *nigromitrata* Reichenow as conspecific with *T. nitens* Cassin (Sharpe 1879: 301, footnote). The confusion continued (Sharpe 1904, 1907) until resolved by Bates (1911), who nevertheless still did not fix Reichenow's name firmly to the species known today as *nigromitrata*. To end this uncertainty, we designate the male specimen, of the taxon now known as *Elminia n. nigromitrata* (Reichenow, 1874) [ZMB 21935, Cameroon, collected by Reichenow (No. 332) on 30 January 1873, cf. Reichenow 1903: 500, specimen I. (Rchw.)], as the lectotype of *Terpsiphone nigromitrata* Reichenow, 1874: 110. The type locality was originally stated as 'Camerungebiet' but can formally be restricted to the 'Kamerunfluß' (Reichenow 1903: 500) = Cameroon estuary, Douala, Littoral Province, Cameroon. The female, of *Trochocercus nitens* Cassin, 1859 [ZMB 21936, Cameroon, collected by Reichenow (No. 199) on 5 November 1872] thus becomes a paralectotype.

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References:

- Bates, G. L. 1911. Further notes on the birds of Southern Cameroon. [Part 1]. *Ibis* (9)5: 479–545.
- Clement, P. 2006. Genus *Elminia* (monarch-flycatchers). Pp. 325–327 in del Hoyo, J., Elliott, A. & Christie, D. A. (eds.) *Handbook of the birds of the world*, vol. 11. Lynx Edicions, Barcelona.
- Dickerman, R. W. 1994. *Trochocercus nigromitratus colstoni* subsp. nov. P. 272 in Dickerman, R. W., Cane, W. P., Carter, M. F., Chapman, A. & Schmitt, C. G. Report on three collections of birds from Liberia. *Bull. Brit. Orn. Cl.* 114: 267–274.
- Dickinson, E. C. (ed.) 2003. *The Howard & Moore complete checklist of the birds of the world*. Third edn. Christopher Helm, London.
- Erard, C. 1997. Genus *Elminia*. Pp. 514–525 in Urban, E. K., Fry, C. H. & Keith, S. (eds.) *The birds of Africa*, vol. 5. Academic Press, London.
- Rand, A. L. 1951. Birds from Liberia: with a discussion of barriers between Upper and Lower Guinea subspecies. *Fieldiana, Zool.* 32: 561–653.
- Reichenow, A. 1874. [*Terpsiphone nigromitrata* n. sp.] *J. Orn.* 22: 110.
- Reichenow, A. 1890. Die Vögel von Kamerun. *J. Orn.* 38: 103–128.
- Reichenow, A. 1903. *Die Vögel Afrikas*, vol. 2(2). J. Neumann, Neudamm.

- Sammler, S. 2007. Studien zur Avifauna im Tieflandregenwald des Wildlife Sanctuary Banyang-Mbo, Südwestkamerun. Diploma thesis. Univ. of Rostock.
- Serle, W. 1950. A contribution to the ornithology of the British Cameroons. [Part 2]. *Ibis* 92: 602–638.
- Serle, W. 1954. A second contribution to the ornithology of the British Cameroons. *Ibis* 96: 47–80.
- Serle, W. 1965. A third contribution to the ornithology of the British Cameroons. [Part 1]. *Ibis* 107: 60–94.
- Sharpe, R. B. 1879. *Catalogue of the Passeriformes or perching birds in the collection of the British Museum. Cichlomorphae: Part I, containing the families Campophagidae and Muscicapidae. Catalogue of the birds in the British Museum*, vol. 4. Trustees of the Brit. Mus., London.
- Sharpe, R. B. 1904. On further collections of birds from the Efulen District of Camaroon [sic], West Africa. Part 2. *Ibis* (8)4: 591–638.
- Sharpe, R. B. 1907. On further collections of birds from the Efulen District of Camaroon [sic], West Africa. Part 4. *Ibis* (9)1: 416–464.
- Smithe, F. B. 1975. *Naturalist's color guide*. Amer. Mus. Nat. Hist., New York.

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