

ONLINE RESOURCE 1: *PARAMORMYROPS AND PARAMORMYROPS KINGSLEYAE* DIAGNOSIS

Online Supplement to: Signal variation and its morphological correlates in *Paramormyrops kingsleyae* provide insight into the evolution of electrogenic signal diversity in Mormyrid electric fish.

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For the convenience of the reader, the following material is provided as a direct quote, available from:

Hopkins CD, Lavoué S, Sullivan JP (2007) Mormyridae. In: Stiassny MLJ, Teugels GG, Hopkins CD (eds) Poissons D'eaux Douces Et Saumâtres De Basse Guinée: ouest de l'Afrique Central vol 1. Faune Et Flore Tropicales. IRD Éditions, Paris, pp 220-334.

Ordering information for this volume is available at the following website
<http://www.ird.fr/editions/catalogue/ouvrage.php?livre=534>

Genus *Paramormyrops* Taverne, Thys van den Audenaerde & Heymer, 1977 *Brienomyrus (Brienomyrus)* Taverne, 1971 partim

A new diagnosis and key is provided for *Paramormyrops* so that taxonomic nomenclature is consistent with recent molecular phylogenetic results (Alves-Gomes & Hopkins, 1997; Lavoué et al., 2000; Lavoué et al., 2003; Sullivan et al., 2000; Sullivan et al., 2002).

Body moderately elongate, somewhat compressed laterally, dorsal and ventral profiles parallel for much of the length; body depth, 15-25% SL. Head length approximately equal to or slightly greater than the body depth, snout non-tubular, often bluntly rounded or tapering to a gently pointed snout, snout profile blunt (U-shaped) or sharp (V-shaped) when viewed from above. Mouth small and terminal to subterminal; teeth bicuspid and pincer-like, 5-7 in upper jaw, 6-8 in lower. Chin fleshy, somewhat bulbous, covered with electroreceptors, not forward protruding. Dorsal and anal fins originating well posterior

to mid-body length; anal fin equal or slightly longer than dorsal and containing an equal number or a few additional rays. Origins of last anal and last dorsal fin rays are vertically aligned. Base of last anal and dorsal fin rays vertically aligned. Nostrils well separated and positioned approximately half-way between eye and tip of snout. Circumpeduncular scales, 12-20. Electrocytes, type Pa (Penetrating stalks with anterior innervation) or NPp (Non-penetrating stalks with posterior innervation). Lateral ethmoid reduced or absent.

The distal tips of the last anal and last dorsal fin rays are aligned in *Paramormyrops* rather than offset as they are in *Brienomyrus* (Mamonekene & Teugels, 1993). The same is true for the origins of these last fin rays. *Paramormyrops* have U- or V-shaped head profiles when viewed from above while *Brienomyrus* and *Brevimyrus* all have rounded head profiles that appear U-shaped from above. There are eight species of *Paramormyrops* of which seven are known from Lower Guinea. Previously known as the ‘Gabon-clade *Brienomyrus*’, this newly diagnosed genus has a number of undescribed taxa from Lower Guinea (see Sullivan et al., 2000, 2002, 2004). The centre of diversity appears to be in the Ogowé River of Gabon.

- 1 Teeth notched, seven in upper jaw, eight in lower
..... *Paramormyrops hopkinsi*
Teeth notched, five in upper jaw, six in lower 2
- 2 16 or more scales around caudal peduncle 3
Fewer than 16 scales (typically 12) around the caudal peduncle
..... 4
- 3 Caudal peduncle length more than 24.5% SL; lateral line scales 73 or more
..... *Paramormyrops longicaudatus*
Caudal peduncle less than 24.5% SL; lateral line scales fewer than 73
..... *Paramormyrops batesii*
- 4 Head profile U-shaped when viewed from above 5
Head profile V-shaped when viewed from above 6
- 5 Upper profile of head slightly concave; HL 24.9-27.6% of SL; caudal peduncle slender, its depth 3.7-4.7% SL; interorbital distance short, 110-133% of snout length
..... *Paramormyrops gabonensis*
Upper profile of head rounded; HL 19.5-28.7% SL; caudal peduncle depth 4.1-7.5% SL; interorbital distance 121-212% of snout length
..... *Paramormyrops kingsleyae*
- 6 Upper profile of head slightly concave; mouth subterminal; HL 21.13% SL or greater
..... *Paramormyrops curvifrons*
Upper profile of head rounded; mouth inferior; HL 22.2% SL or less
..... *Paramormyrops sphekodes*

Paramormyrops kingsleyae

(Günther 1896)

Brienomyrus kingsleyae (Günther, 1896)

Description: a medium-sized *Paramormyrops* with five teeth in the upper jaw, six in the lower, 12 circumpeduncular scales and a U-shaped head when viewed from above. The dorsal profile of head is rounded, not concave. Head short, 19.5-28.7% SL. Caudal peduncle moderately thick, its depth 4.1-7.5% SL. Interorbital distance large, 121-212% of snout length. Body depth 14.8-24.9% SL. Head length 19.5-28.7% SL, head depth 13.5-20.2% SL. Eye diameter 7.4-16.3% HL, 27.8-79.7% of snout length. Snout 18-29% HL. Interorbital distance 121-212% of snout length, 40-67% of postorbital length. Postorbital length 54-82% HL; 202-385% of snout length. Mouth width 14.2-22.2% HL. Internarine distance 18-41% of snout length. Dorsal fin 15-21% SL with 15-19 rays including an initial single unbranched, unsegmented ray. Anal fin 18-28% SL with 21-26 rays including a single unbranched, unsegmented initial ray. Pectoral 13-20% SL. Pelvic fin 9-14% SL with six rays. Caudal peduncle moderately short and thick, its length 14-22% SL, its depth 4.1-7.5% SL, 21-43% of caudal peduncle length. Predorsal distance 64-74% SL, preanal distance 58-70% SL. Lateral line with 55-62 scales total; 9-10 scales above lateral line, 9-12 below.

Maximum size: 160 mm SL.

Colour: the fish varies from dark chocolate-brown to lighter brown with violet spots above, lighter brown to yellow-gold on the underside. EOD: figure 12.66 has two main peaks, P1 and P2, sometimes preceded by a very small initial P0 peak. The overall duration is $1.93 \text{ msec} \pm 0.57$ (std. dev.). The mean height of the initial peak, P0, is only 2% of the peak to peak height. The height of peak P1 is 37% of the peak to peak height. The peak of the power spectrum is at $675 \text{ Hz} \pm 125$. The electric organ is variable in form.

Those specimens with no P0 have electrocytes that are all Type NPp, those with a small P0 have some or all of the electrocytes of type Pa.

Distribution: a Lower Guinea endemic with a widespread distribution throughout the Ogowe River basin including the Ivindo, the Woleu, the Nyanga and coastal drainages of southern Gabon. The types of *Marcusenius cabrae* Boulenger from Mayumbe Chiloango River extend its range south of the Gabon border.

Remark: Teugels & Hopkins (1998) have analysed the morphology of the holotype of *Mormyrus kingsleyae* Gunther, 1896, with the stated type locality of 'Old Calabar' near the mouth of the Cross River (present-day Nigeria) and concluded that the type locality may have been reported in error because no *Paramormyrops kingsleyae*-like specimens have since been recovered from this area. These authors concluded that it is more likely that the holotype originates from Gabon, where Mary Kingsley travelled in 1895 after her visit to Old Calabar in May 1895 (Kingsley, 1897). This fish has been referred to as *Brienomyrus* bp1 and B. bn1 and as B. cab. in previous publications (Sullivan et al., 2002, 2004; Arnegard 2005).

ONLINE RESOURCE 2: SPECIMENS CONSIDERED IN THIS STUDY, WITH THEIR ACCESSION

NUMBERS IN THE CORNELL MUSEUM OF VERTEBRATES

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<u>CUMV Accession Number</u>	<u>VoucherNum</u>	<u>Locality Number</u>	<u>Collection Date</u>	<u>Locality</u>	<u>SL</u>	<u>Sex</u>	<u>Latitude</u>	<u>Longitude</u>
CU80812	2004	1998-007	11-Jan-1998	Ivindo	101	male	0.519722222	12.79958333
CU80812	2006	1998-007	11-Jan-1998	Ivindo	75	juvenile	0.519722222	12.79958333
CU80812	2014	1998-007	11-Jan-1998	Ivindo	82	juvenile	0.519722222	12.79958333
CU80812	2116	1998-030-A	18-Jan-1998	Ivindo	-	male	0.538333333	12.82566667
CU80816	2118	1998-030-A	18-Jan-1998	Ivindo	91	female	0.538333333	12.82566667
CU80816	2119	1998-030-A	18-Jan-1998	Ivindo	85	juvenile	0.538333333	12.82566667
CU80811	2215	1998-054	23-Jan-1998	Ivindo	95	male	0.532608333	12.83333333
CU80811	2216	1998-054	23-Jan-1998	Ivindo	66	male	0.532608333	12.83333333
CU80853	2287	1998-083	30-Jan-1998	Ivindo	101	male	0.50225	12.79666667
CU80896	2311	1998-095	31-Jan-1998	Ivindo	95	female	0.519722222	12.79875
CU80896	2313	1998-095	31-Jan-1998	Ivindo	70	juvenile	0.519722222	12.79875
CU80855	2317	1998-100	02-Feb-1998	Ivindo	95	male	0.516111111	12.79388889
CU80867	2426	1998-115	12-Feb-1998	Libreville	150	male	0.551305556	9.34666667
CU80867	2427	1998-115	12-Feb-1998	Libreville	58	juvenile	0.551305556	9.34666667
CU80867	2428	1998-115	12-Feb-1998	Libreville	132	female	0.551305556	9.34666667
CU80867	2429	1998-115	12-Feb-1998	Libreville	128	male	0.551305556	9.34666667
CU80867	2430	1998-115	12-Feb-1998	Libreville	112	female	0.551305556	9.34666667
CU80867	2431	1998-115	12-Feb-1998	Libreville	114	female	0.551305556	9.34666667
CU80867	2432	1998-115	12-Feb-1998	Libreville	117	female	0.551305556	9.34666667
CU80867	2433	1998-115	12-Feb-1998	Libreville	115	female	0.551305556	9.34666667
CU80867	2434	1998-115	12-Feb-1998	Libreville	120	female	0.551305556	9.34666667
CU80867	2435	1998-115	12-Feb-1998	Libreville	74	juvenile	0.551305556	9.34666667
CU80867	2436	1998-115	12-Feb-1998	Libreville	110	male	0.551305556	9.34666667
CU80867	2437	1998-115	12-Feb-1998	Libreville	135	female	0.551305556	9.34666667
CU80867	2438	1998-115	12-Feb-1998	Libreville	67	juvenile	0.551305556	9.34666667
CU84663	2570	1998B-019	09-Sep-1998	Mouvanga	116	female	-2.323194444	11.68836111
CU84663	2572	1998B-019	09-Sep-1998	Mouvanga	112	male	-2.323194444	11.68836111
CU84663	2573	1998B-019	09-Sep-1998	Mouvanga	105	female	-2.323194444	11.68836111
CU84663	2574	1998B-019	09-Sep-1998	Mouvanga	95	female	-2.323194444	11.68836111
CU84663	2575	1998B-019	09-Sep-1998	Mouvanga	132	male	-2.323194444	11.68836111
CU84663	2578	1998B-019	09-Sep-1998	Mouvanga	78	juvenile	-2.323194444	11.68836111
CU84663	2579	1998B-019	09-Sep-1998	Mouvanga	105	male	-2.323194444	11.68836111
CU84663	2580	1998B-019	09-Sep-1998	Mouvanga	86	juvenile	-2.323194444	11.68836111
CU84663	2582	1998B-019	09-Sep-1998	Mouvanga	87	male	-2.323194444	11.68836111
CU84663	2584	1998B-019	09-Sep-1998	Mouvanga	98	female	-2.323194444	11.68836111
CU84663	2586	1998B-019	09-Sep-1998	Mouvanga	93	male	-2.323194444	11.68836111
CU84663	2587	1998B-019	09-Sep-1998	Mouvanga	83	male	-2.323194444	11.68836111
CU84663	2588	1998B-019	09-Sep-1998	Mouvanga	95	male	-2.323194444	11.68836111
CU84663	2589	1998B-019	09-Sep-1998	Mouvanga	88	female	-2.323194444	11.68836111
CU84663	2590	1998B-019	09-Sep-1998	Mouvanga	90	male	-2.323194444	11.68836111
CU84663	2609	1998B-019	09-Sep-1998	Mouvanga	87	female	-2.323194444	11.68836111
CU84663	2610	1998B-019	09-Sep-1998	Mouvanga	85	male	-2.323194444	11.68836111
CU84663	2611	1998B-019	09-Sep-1998	Mouvanga	74	male	-2.323194444	11.68836111
CU84663	2612	1998B-019	09-Sep-1998	Mouvanga	84	female	-2.323194444	11.68836111
CU84663	2613	1998B-019	09-Sep-1998	Mouvanga	79	male	-2.323194444	11.68836111
CU84663	2614	1998B-019	09-Sep-1998	Mouvanga	89	female	-2.323194444	11.68836111
CU84663	2615	1998B-019	09-Sep-1998	Mouvanga	83	female	-2.323194444	11.68836111
CU84663	2616	1998B-019	09-Sep-1998	Mouvanga	83	juvenile	-2.323194444	11.68836111
CU84663	2617	1998B-019	09-Sep-1998	Mouvanga	87	male	-2.323194444	11.68836111
CU84663	2618	1998B-019	09-Sep-1998	Mouvanga	47	juvenile	-2.323194444	11.68836111
CU84663	2627	1998B-019	09-Sep-1998	Mouvanga	96	female	-2.323194444	11.68836111
CU84663	2631	1998B-019	09-Sep-1998	Mouvanga	95	male	-2.323194444	11.68836111
CU84663	2632	1998B-019	09-Sep-1998	Mouvanga	86	male	-2.323194444	11.68836111
CU84663	2633	1998B-019	09-Sep-1998	Mouvanga	95	male	-2.323194444	11.68836111
CU84663	2634	1998B-019	09-Sep-1998	Mouvanga	88	female	-2.323194444	11.68836111
CU84663	2635	1998B-019	09-Sep-1998	Mouvanga	88	male	-2.323194444	11.68836111
CU84663	2636	1998B-019	09-Sep-1998	Mouvanga	92	male	-2.323194444	11.68836111
CU84663	2637	1998B-019	09-Sep-1998	Mouvanga	78	juvenile	-2.323194444	11.68836111
CU84581	2639	1998B-023	11-Sep-1998	Mouvanga	108	male	-2.323194444	11.68836111
CU84581	2640	1998B-023	11-Sep-1998	Mouvanga	102	male	-2.323194444	11.68836111
CU84581	2641	1998B-023	11-Sep-1998	Mouvanga	103	male	-2.323194444	11.68836111
CU84659	2684	1998B-032	15-Sep-1998	LowerLouetsi	118	male	-2.21875	11.46391667
CU84659	2685	1998B-032	15-Sep-1998	LowerLouetsi	76	female	-2.21875	11.46391667
CU84659	2686	1998B-032	15-Sep-1998	LowerLouetsi	95	male	-2.21875	11.46391667
CU84659	2687	1998B-032	15-Sep-1998	LowerLouetsi	77	female	-2.21875	11.46391667
CU84659	2688	1998B-032	15-Sep-1998	LowerLouetsi	78	female	-2.21875	11.46391667
CU84659	2689	1998B-032	15-Sep-1998	LowerLouetsi	71	juvenile	-2.21875	11.46391667
CU84659	2690	1998B-032	15-Sep-1998	LowerLouetsi	59	juvenile	-2.21875	11.46391667

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CU84659	2691	1998B-032	15-Sep-1998	LowerLouetsi	54	juvenile	-2.21875	11.46391667
CU84581	2694	1998B-023	11-Sep-1998	Mouvanga	98	male	-2.323194444	11.68836111
CU84581	2695	1998B-023	11-Sep-1998	Mouvanga	114	male	-2.323194444	11.68836111
CU84581	2696	1998B-023	11-Sep-1998	Mouvanga	100	male	-2.323194444	11.68836111
CU84581	2697	1998B-023	11-Sep-1998	Mouvanga	113	male	-2.323194444	11.68836111
CU84581	2698	1998B-023	11-Sep-1998	Mouvanga	95	female	-2.323194444	11.68836111
CU84581	2699	1998B-023	11-Sep-1998	Mouvanga	97	male	-2.323194444	11.68836111
CU84581	2700	1998B-023	11-Sep-1998	Mouvanga	95	male	-2.323194444	11.68836111
CU84581	2701	1998B-023	11-Sep-1998	Mouvanga	87	female	-2.323194444	11.68836111
CU84581	2702	1998B-023	11-Sep-1998	Mouvanga	77	male	-2.323194444	11.68836111
CU84581	2703	1998B-023	11-Sep-1998	Mouvanga	84	female	-2.323194444	11.68836111
CU84581	2704	1998B-023	11-Sep-1998	Mouvanga	40	juvenile	-2.323194444	11.68836111
CU84566	2718	1998B-033	16-Sep-1998	LowerLouetsi	124	male	-2.238055556	11.46175
CU80230	2817	1999-007	05-Jul-1999	Ogoue	107	female	-0.659833333	10.32475
CU80230	2818	1999-007	05-Jul-1999	Ogoue	115	male	-0.659833333	10.32475
CU80230	2819	1999-007	05-Jul-1999	Ogoue	85	juvenile	-0.659833333	10.32475
CU80230	2820	1999-007	05-Jul-1999	Ogoue	76	juvenile	-0.659833333	10.32475
CU80230	2821	1999-007	05-Jul-1999	Ogoue	66	juvenile	-0.659833333	10.32475
CU80230	2822	1999-007	05-Jul-1999	Ogoue	71	juvenile	-0.659833333	10.32475
CU80230	2825	1999-007	05-Jul-1999	Ogoue	63	juvenile	-0.659833333	10.32475
CU80230	2826	1999-007	05-Jul-1999	Ogoue	77	juvenile	-0.659833333	10.32475
CU80230	2842	1999-007	05-Jul-1999	Ogoue	63	juvenile	-0.659833333	10.32475
CU80230	2843	1999-007	05-Jul-1999	Ogoue	61	juvenile	-0.659833333	10.32475
CU80232	2846	1999-010	07-Jul-1999	Ogoue	105	male	-0.668111111	10.33663889
CU80232	2847	1999-010	07-Jul-1999	Ogoue	91	juvenile	-0.668111111	10.33663889
CU80232	2848	1999-010	07-Jul-1999	Ogoue	91	juvenile	-0.668111111	10.33663889
CU80232	2849	1999-010	07-Jul-1999	Ogoue	93	female	-0.668111111	10.33663889
CU80232	2850	1999-010	07-Jul-1999	Ogoue	96	female	-0.668111111	10.33663889
CU80232	2852	1999-010	07-Jul-1999	Ogoue	134	male	-0.668111111	10.33663889
CU80232	2853	1999-010	07-Jul-1999	Ogoue	132	male	-0.668111111	10.33663889
CU80232	2854	1999-010	07-Jul-1999	Ogoue	101	male	-0.668111111	10.33663889
CU80232	2855	1999-010	07-Jul-1999	Ogoue	67	juvenile	-0.668111111	10.33663889
CU80232	2856	1999-010	07-Jul-1999	Ogoue	156	male	-0.668111111	10.33663889
CU80232	2857	1999-010	07-Jul-1999	Ogoue	113	male	-0.668111111	10.33663889
CU80232	2858	1999-010	07-Jul-1999	Ogoue	148	male	-0.668111111	10.33663889
CU80232	2859	1999-010	07-Jul-1999	Ogoue	147	male	-0.668111111	10.33663889
CU80355	3016	1999-044	22-Jul-1999	Mouvanga	102	male	-2.323194444	11.68836111
CU80355	3020	1999-044	22-Jul-1999	Mouvanga	83	juvenile	-2.323194444	11.68836111
CU80323	3040	1999-043	22-Jul-1999	Mouvanga	76	juvenile	-2.323194444	11.68836111
CU80323	3041	1999-043	22-Jul-1999	Mouvanga	65	juvenile	-2.323194444	11.68836111
CU80323	3042	1999-043	22-Jul-1999	Mouvanga	60	juvenile	-2.323194444	11.68836111
CU80323	3043	1999-043	22-Jul-1999	Mouvanga	66	juvenile	-2.323194444	11.68836111
CU80343	3118	1999-047	23-Jul-1999	Bambomo	80	juvenile	-2.163555556	11.46177778
CU80343	3119	1999-047	23-Jul-1999	Bambomo	82	juvenile	-2.163555556	11.46177778
CU80343	3120	1999-047	23-Jul-1999	Bambomo	88	juvenile	-2.163555556	11.46177778
CU80343	3121	1999-047	23-Jul-1999	Bambomo	103	male	-2.163555556	11.46177778
CU80343	3122	1999-047	23-Jul-1999	Bambomo	114	male	-2.163555556	11.46177778
CU80521	3125	1999-048	23-Jul-1999	UpperLouetsi	125	male	-2.233333333	11.45
CU81318	3126	1999-049	24-Jul-1999	Bambomo	100	juvenile	-2.163555556	11.46177778
CU81318	3127	1999-049	24-Jul-1999	Bambomo	118	male	-2.163555556	11.46177778
CU81318	3128	1999-049	24-Jul-1999	Bambomo	153	male	-2.163555556	11.46177778
CU81318	3129	1999-049	24-Jul-1999	Bambomo	130	male	-2.163555556	11.46177778
CU81318	3130	1999-049	24-Jul-1999	Bambomo	104	male	-2.163555556	11.46177778
CU81318	3141	1999-049	24-Jul-1999	Bambomo	131	male	-2.163555556	11.46177778
CU81318	3142	1999-049	24-Jul-1999	Bambomo	114	male	-2.163555556	11.46177778
CU81318	3143	1999-049	24-Jul-1999	Bambomo	94	juvenile	-2.163555556	11.46177778
CU81319	3144	1999-049	24-Jul-1999	Bambomo	103	male	-2.163555556	11.46177778
CU81318	3145	1999-049	24-Jul-1999	Bambomo	73	juvenile	-2.163555556	11.46177778
CU81318	3146	1999-049	24-Jul-1999	Bambomo	71	juvenile	-2.163555556	11.46177778
CU81318	3147	1999-049	24-Jul-1999	Bambomo	84	juvenile	-2.163555556	11.46177778
CU81318	3148	1999-049	24-Jul-1999	Bambomo	81	juvenile	-2.163555556	11.46177778
CU81318	3149	1999-049	24-Jul-1999	Bambomo	81	juvenile	-2.163555556	11.46177778
CU81318	3150	1999-049	24-Jul-1999	Bambomo	80	juvenile	-2.163555556	11.46177778
CU81318	3151	1999-049	24-Jul-1999	Bambomo	76	juvenile	-2.163555556	11.46177778
CU81318	3152	1999-049	24-Jul-1999	Bambomo	106	juvenile	-2.163555556	11.46177778
CU81318	3153	1999-049	24-Jul-1999	Bambomo	-	juvenile	-2.163555556	11.46177778
CU81318	3154	1999-049	24-Jul-1999	Bambomo	-	juvenile	-2.163555556	11.46177778
CU81318	3155	1999-049	24-Jul-1999	Bambomo	88	juvenile	-2.163555556	11.46177778

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CU81318	3156	1999-049	24-Jul-1999	Bambomo	83	juvenile	-2.163555556	11.46177778
CU81318	3157	1999-049	24-Jul-1999	Bambomo	87	juvenile	-2.163555556	11.46177778
CU81318	3158	1999-049	24-Jul-1999	Bambomo	80	juvenile	-2.163555556	11.46177778
CU81318	3159	1999-049	24-Jul-1999	Bambomo	-	juvenile	-2.163555556	11.46177778
CU81318	3160	1999-049	24-Jul-1999	Bambomo	87	juvenile	-2.163555556	11.46177778
CU81318	3161	1999-049	24-Jul-1999	Bambomo	86	juvenile	-2.163555556	11.46177778
CU81318	3162	1999-049	24-Jul-1999	Bambomo	78	juvenile	-2.163555556	11.46177778
CU81318	3164	1999-049	24-Jul-1999	Bambomo	82	juvenile	-2.163555556	11.46177778
CU81318	3165	1999-049	24-Jul-1999	Bambomo	-	juvenile	-2.163555556	11.46177778
CU81318	3167	1999-049	24-Jul-1999	Bambomo	60	juvenile	-2.163555556	11.46177778
CU81318	3168	1999-049	24-Jul-1999	Bambomo	77	juvenile	-2.163555556	11.46177778
CU81318	3169	1999-049	24-Jul-1999	Bambomo	69	juvenile	-2.163555556	11.46177778
CU80521	3192	1999-048	23-Jul-1999	UpperLouetsi	91	juvenile	-2.233333333	11.45
CU80521	3196	1999-048	23-Jul-1999	UpperLouetsi	106	female	-2.233333333	11.45
CU80521	3197	1999-048	23-Jul-1999	UpperLouetsi	110	male	-2.233333333	11.45
CU80521	3198	1999-048	23-Jul-1999	UpperLouetsi	86	juvenile	-2.233333333	11.45
CU80521	3199	1999-048	23-Jul-1999	UpperLouetsi	98	male	-2.233333333	11.45
CU80348	3210	1999-052	26-Jul-1999	UpperLouetsi	108	juvenile	-2.195333333	11.56113889
CU80348	3211	1999-052	26-Jul-1999	UpperLouetsi	88	juvenile	-2.195333333	11.56113889
CU80348	3212	1999-052	26-Jul-1999	UpperLouetsi	66	juvenile	-2.195333333	11.56113889
CU80348	3213	1999-052	26-Jul-1999	UpperLouetsi	69	juvenile	-2.195333333	11.56113889
CU80342	3214	1999-054	26-Jul-1999	UpperLouetsi	127	male	-2.213111111	11.47766667
CU80527	3220	1999-051	26-Jul-1999	UpperLouetsi	150	male	-2.202888889	11.52925
CU80527	3221	1999-051	26-Jul-1999	UpperLouetsi	129	male	-2.202888889	11.52925
CU80527	3222	1999-051	26-Jul-1999	UpperLouetsi	84	juvenile	-2.202888889	11.52925
CU80527	3223	1999-051	26-Jul-1999	UpperLouetsi	106	male	-2.202888889	11.52925
CU80527	3224	1999-051	26-Jul-1999	UpperLouetsi	100	juvenile	-2.202888889	11.52925
CU80527	3225	1999-051	26-Jul-1999	UpperLouetsi	72	juvenile	-2.202888889	11.52925
CU80506	3273	1999-060	28-Jul-1999	Mouvanga	78	juvenile	-2.323194444	11.68836111
CU80506	3274	1999-060	28-Jul-1999	Mouvanga	86	juvenile	-2.323194444	11.68836111
CU80506	3276	1999-060	28-Jul-1999	Mouvanga	86	juvenile	-2.323194444	11.68836111
CU80506	3278	1999-060	28-Jul-1999	Mouvanga	93	male	-2.323194444	11.68836111
CU80506	3279	1999-060	28-Jul-1999	Mouvanga	90	juvenile	-2.323194444	11.68836111
CU80506	3280	1999-060	28-Jul-1999	Mouvanga	87	juvenile	-2.323194444	11.68836111
CU80506	3281	1999-060	28-Jul-1999	Mouvanga	100	juvenile	-2.323194444	11.68836111
CU80506	3282	1999-060	28-Jul-1999	Mouvanga	96	juvenile	-2.323194444	11.68836111
CU80506	3283	1999-060	28-Jul-1999	Mouvanga	94	juvenile	-2.323194444	11.68836111
CU80506	3284	1999-060	28-Jul-1999	Mouvanga	111	juvenile	-2.323194444	11.68836111
CU80506	3286	1999-060	28-Jul-1999	Mouvanga	96	juvenile	-2.323194444	11.68836111
CU80506	3287	1999-060	28-Jul-1999	Mouvanga	72	juvenile	-2.323194444	11.68836111
CU80506	3288	1999-060	28-Jul-1999	Mouvanga	70	juvenile	-2.323194444	11.68836111
CU80506	3289	1999-060	28-Jul-1999	Mouvanga	92	juvenile	-2.323194444	11.68836111
CU80506	3290	1999-060	28-Jul-1999	Mouvanga	78	juvenile	-2.323194444	11.68836111
CU80506	3291	1999-060	28-Jul-1999	Mouvanga	73	juvenile	-2.323194444	11.68836111
CU80506	3292	1999-060	28-Jul-1999	Mouvanga	70	juvenile	-2.323194444	11.68836111
CU80506	3318	1999-060	28-Jul-1999	Mouvanga	106	juvenile	-2.323194444	11.68836111
CU80506	3319	1999-060	28-Jul-1999	Mouvanga	96	juvenile	-2.323194444	11.68836111
CU80506	3320	1999-060	28-Jul-1999	Mouvanga	90	juvenile	-2.323194444	11.68836111
CU80506	3321	1999-060	28-Jul-1999	Mouvanga	93	juvenile	-2.323194444	11.68836111
CU80506	3322	1999-060	28-Jul-1999	Mouvanga	-	juvenile	-2.323194444	11.68836111
CU80506	3323	1999-060	28-Jul-1999	Mouvanga	94	juvenile	-2.323194444	11.68836111
CU80506	3325	1999-060	28-Jul-1999	Mouvanga	95	juvenile	-2.323194444	11.68836111
CU80506	3326	1999-060	28-Jul-1999	Mouvanga	99	juvenile	-2.323194444	11.68836111
CU80506	3327	1999-060	28-Jul-1999	Mouvanga	97	male	-2.323194444	11.68836111
CU80506	3328	1999-060	28-Jul-1999	Mouvanga	102	female	-2.323194444	11.68836111
CU80506	3329	1999-060	28-Jul-1999	Mouvanga	84	juvenile	-2.323194444	11.68836111
CU80506	3333	1999-060	28-Jul-1999	Mouvanga	77	juvenile	-2.323194444	11.68836111
CU80506	3334	1999-060	28-Jul-1999	Mouvanga	70	juvenile	-2.323194444	11.68836111
CU80506	3335	1999-060	28-Jul-1999	Mouvanga	88	male	-2.323194444	11.68836111
CU80506	3336	1999-060	28-Jul-1999	Mouvanga	72	juvenile	-2.323194444	11.68836111
CU80506	3338	1999-060	28-Jul-1999	Mouvanga	79	juvenile	-2.323194444	11.68836111
CU80506	3339	1999-060	28-Jul-1999	Mouvanga	105	male	-2.323194444	11.68836111
CU80804	3766	1999-094	22-Aug-1999	Libreville	90	female	0.58475	9.334777778
CU80804	3767	1999-094	22-Aug-1999	Libreville	90	female	0.58475	9.334777778
CU95191	3774	1999-095	25-Aug-1999	Woleu	105	male	1.533666667	11.58011111
CU95191	3777	1999-095	25-Aug-1999	Woleu	102	male	1.533666667	11.58011111
CU95191	3779	1999-095	25-Aug-1999	Woleu	119	male	1.533666667	11.58011111
CU95191	3783	1999-095	25-Aug-1999	Woleu	66	juvenile	1.533666667	11.58011111

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CU95191	3799	1999-099	27-Aug-1999	Woleu	128	male	1.544777778	11.76541667
CU95191	3800	1999-099	27-Aug-1999	Woleu	124	female	1.544777778	11.76541667
CU95191	3802	1999-099	27-Aug-1999	Woleu	105	female	1.544777778	11.76541667
CU95191	3803	1999-099	27-Aug-1999	Woleu	103	female	1.544777778	11.76541667
CU95191	3804	1999-099	27-Aug-1999	Woleu	85	female	1.544777778	11.76541667
CU95191	3807	1999-099	27-Aug-1999	Woleu	119	male	1.544777778	11.76541667
CU95191	3808	1999-099	27-Aug-1999	Woleu	75	female	1.544777778	11.76541667
CU95191	3809	1999-099	27-Aug-1999	Woleu	83	female	1.544777778	11.76541667
CU95191	3810	1999-099	27-Aug-1999	Woleu	102	female	1.544777778	11.76541667
CU95191	3812	1999-099	27-Aug-1999	Woleu	87	male	1.544777778	11.76541667
CU95191	3813	1999-099	27-Aug-1999	Woleu	90	male	1.544777778	11.76541667
CU80926	3943	1999-105	01-Sep-1999	Ntem	91	female	1.702138889	11.6445
CU80926	3944	1999-105	01-Sep-1999	Ntem	97	female	1.702138889	11.6445
CU80926	3950	1999-105	01-Sep-1999	Ntem	86	male	1.702138889	11.6445
CU80926	3951	1999-105	01-Sep-1999	Ntem	83	juvenile	1.702138889	11.6445
CU81263	4001	2000-001	26-Mar-2000	Cocobeach	94	female	0.932583333	9.574316667
CU81263	4002	2000-001	26-Mar-2000	Cocobeach	72	male	0.932583333	9.574316667
CU81263	4003	2000-001	26-Mar-2000	Cocobeach	94	female	0.932583333	9.574316667
CU81263	4004	2000-001	26-Mar-2000	Cocobeach	83	male	0.932583333	9.574316667
CU81263	4005	2000-001	26-Mar-2000	Cocobeach	75	female	0.932583333	9.574316667
CU81263	4006	2000-001	26-Mar-2000	Cocobeach	77	female	0.932583333	9.574316667
CU81263	4007	2000-001	26-Mar-2000	Cocobeach	71	female	0.932583333	9.574316667
CU81263	4008	2000-001	26-Mar-2000	Cocobeach	68	juvenile	0.932583333	9.574316667
CU81263	4009	2000-001	26-Mar-2000	Cocobeach	54	juvenile	0.932583333	9.574316667
CU81263	4010	2000-001	26-Mar-2000	Cocobeach	51	juvenile	0.932583333	9.574316667
CU81263	4011	2000-001	26-Mar-2000	Cocobeach	45	juvenile	0.932583333	9.574316667
CU81263	4012	2000-001	26-Mar-2000	Cocobeach	42	juvenile	0.932583333	9.574316667
CU81264	4013	2000-004	27-Mar-2000	Cocobeach	85	juvenile	0.870483333	9.584616667
CU81264	4014	2000-004	27-Mar-2000	Cocobeach	117	male	0.870483333	9.584616667
CU81264	4015	2000-004	27-Mar-2000	Cocobeach	94	female	0.870483333	9.584616667
CU81264	4016	2000-004	27-Mar-2000	Cocobeach	86	female	0.870483333	9.584616667
CU81264	4017	2000-004	27-Mar-2000	Cocobeach	72	male	0.870483333	9.584616667
CU81264	4018	2000-004	27-Mar-2000	Cocobeach	118	male	0.870483333	9.584616667
CU81264	4019	2000-004	27-Mar-2000	Cocobeach	128	male	0.870483333	9.584616667
CU81260	4020	2000-002	27-Mar-2000	Cocobeach	103	male	0.93365	9.574316667
CU81260	4021	2000-002	27-Mar-2000	Cocobeach	132	male	0.93365	9.574316667
CU81260	4022	2000-002	27-Mar-2000	Cocobeach	105	male	0.93365	9.574316667
CU81260	4023	2000-002	27-Mar-2000	Cocobeach	142	male	0.93365	9.574316667
CU81260	4024	2000-002	27-Mar-2000	Cocobeach	125	male	0.93365	9.574316667
CU81260	4025	2000-002	27-Mar-2000	Cocobeach	96	female	0.93365	9.574316667
CU81260	4026	2000-002	27-Mar-2000	Cocobeach	107	female	0.93365	9.574316667
CU81260	4027	2000-002	27-Mar-2000	Cocobeach	131	male	0.93365	9.574316667
CU81260	4028	2000-002	27-Mar-2000	Cocobeach	121	male	0.93365	9.574316667
CU81260	4029	2000-002	27-Mar-2000	Cocobeach	93	female	0.93365	9.574316667
CU81260	4030	2000-002	27-Mar-2000	Cocobeach	105	female	0.93365	9.574316667
CU83330	4341	2001B-048	24-Jul-2001	Nyanga	81	female	-3.374166667	10.7895
CU83330	4343	2001B-048	24-Jul-2001	Nyanga	67	female	-3.374166667	10.7895
CU83330	4344	2001B-048	24-Jul-2001	Nyanga	49	juvenile	-3.374166667	10.7895
CU83330	4345	2001B-048	24-Jul-2001	Nyanga	74	female	-3.374166667	10.7895
CU83083	4601	2001C-001	13-Aug-2001	Okano	76	juvenile	0.83235	11.65045
CU83083	4602	2001C-001	13-Aug-2001	Okano	88.5	female	0.83235	11.65045
CU83083	4628	2001C-001	13-Aug-2001	Okano	97	male	0.83235	11.65045
CU83083	4630	2001C-001	13-Aug-2001	Okano	83	male	0.83235	11.65045
CU83083	4632	2001C-001	13-Aug-2001	Okano	86.5	male	0.83235	11.65045
CU83083	4634	2001C-001	13-Aug-2001	Okano	95.5	female	0.83235	11.65045
CU83083	4636	2001C-001	13-Aug-2001	Okano	82	female	0.83235	11.65045
CU83083	4637	2001C-001	13-Aug-2001	Okano	101.5	male	0.83235	11.65045
CU83083	4638	2001C-001	13-Aug-2001	Okano	89	male	0.83235	11.65045
CU83083	4640	2001C-001	13-Aug-2001	Okano	93.5	male	0.83235	11.65045
CU83083	4641	2001C-001	13-Aug-2001	Okano	82.5	male	0.83235	11.65045
CU83083	4642	2001C-001	13-Aug-2001	Okano	92	male	0.83235	11.65045
CU83083	4643	2001C-001	13-Aug-2001	Okano	90	juvenile	0.83235	11.65045
CU83083	4644	2001C-001	13-Aug-2001	Okano	76	juvenile	0.83235	11.65045
CU83083	4645	2001C-001	13-Aug-2001	Okano	87	juvenile	0.83235	11.65045
CU83083	4646	2001C-001	13-Aug-2001	Okano	101.5	female	0.83235	11.65045
CU83083	4647	2001C-001	13-Aug-2001	Okano	93	female	0.83235	11.65045
CU83083	4648	2001C-001	13-Aug-2001	Okano	102	male	0.83235	11.65045
CU83083	4649	2001C-001	13-Aug-2001	Okano	127	male	0.83235	11.65045

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CU83083	4650	2001C-001	13-Aug-2001	Okano	99	female	0.83235	11.65045
CU83083	4651	2001C-001	13-Aug-2001	Okano	127	male	0.83235	11.65045
CU83083	4652	2001C-001	13-Aug-2001	Okano	112	male	0.83235	11.65045
CU83083	4653	2001C-001	13-Aug-2001	Okano	102	female	0.83235	11.65045
CU83083	4654	2001C-001	13-Aug-2001	Okano	82.5	juvenile	0.83235	11.65045
CU83083	4655	2001C-001	13-Aug-2001	Okano	69.5	juvenile	0.83235	11.65045
CU83083	4656	2001C-001	13-Aug-2001	Okano	98.5	female	0.83235	11.65045
CU83083	4657	2001C-001	13-Aug-2001	Okano	117	male	0.83235	11.65045
CU83083	4658	2001C-001	13-Aug-2001	Okano	114	male	0.83235	11.65045
CU83083	4659	2001C-001	13-Aug-2001	Okano	84.5	juvenile	0.83235	11.65045
CU83083	4660	2001C-001	13-Aug-2001	Okano	88	male	0.83235	11.65045
CU83083	4663	2001C-001	13-Aug-2001	Okano	89.9	female	0.83235	11.65045
CU83083	4665	2001C-001	13-Aug-2001	Okano	88	male	0.83235	11.65045
CU83083	4666	2001C-001	13-Aug-2001	Okano	73	juvenile	0.83235	11.65045
CU83083	4668	2001C-001	13-Aug-2001	Okano	81	male	0.83235	11.65045
CU83083	4671	2001C-001	13-Aug-2001	Okano	96.5	female	0.83235	11.65045
CU83083	4672	2001C-001	13-Aug-2001	Okano	75	male	0.83235	11.65045
CU83068	4720	2001C-007	17-Aug-2001	Okano	86.5	juvenile	0.809783333	11.63
CU83068	4727	2001C-007	17-Aug-2001	Okano	73	juvenile	0.809783333	11.63
CU83098	4863	2001C-016	25-Aug-2001	Ivindo	110	male	0.5045	12.79683333
CU83098	4864	2001C-016	25-Aug-2001	Ivindo	85	male	0.5045	12.79683333
CU83098	4870	2001C-016	25-Aug-2001	Ivindo	69.5	juvenile	0.5045	12.79683333
CU83114	4939	2001C-021	02-Sep-2001	Ogoue	70	female	-0.568277778	10.21302778
CU83114	4942	2001C-021	02-Sep-2001	Ogoue	62.5	juvenile	-0.568277778	10.21302778
CU83114	4943	2001C-021	02-Sep-2001	Ogoue	67	juvenile	-0.568277778	10.21302778
CU83114	4944	2001C-021	02-Sep-2001	Ogoue	60.5	juvenile	-0.568277778	10.21302778
CU95191	6487	2009-001	25-Jul-2009	Bambomo	70.5	juvenile	-2.163416667	11.46185
CU95191	6488	2009-001	25-Jul-2009	Bambomo	84	juvenile	-2.163416667	11.46185
CU95191	6489	2009-001	25-Jul-2009	Bambomo	74.5	juvenile	-2.163416667	11.46185
CU95191	6490	2009-001	25-Jul-2009	Bambomo	72	juvenile	-2.163416667	11.46185
CU95187	6491	2009-002	25-Jul-2009	UpperLouetsi	68	juvenile	-2.21305	11.47751667
CU95191	6493	2009-001	25-Jul-2009	Bambomo	61.5	juvenile	-2.163416667	11.46185
CU95191	6494	2009-001	25-Jul-2009	Bambomo	69.5	juvenile	-2.163416667	11.46185
CU95191	6495	2009-001	25-Jul-2009	Bambomo	46.5	juvenile	-2.163416667	11.46185
CU95191	6496	2009-001	25-Jul-2009	Bambomo	62	juvenile	-2.163416667	11.46185
CU95191	6497	2009-001	25-Jul-2009	Bambomo	46	juvenile	-2.163416667	11.46185
CU95191	6498	2009-001	25-Jul-2009	Bambomo	44	juvenile	-2.163416667	11.46185
CU95191	6499	2009-001	25-Jul-2009	Bambomo	43	juvenile	-2.163416667	11.46185
CU95191	6500	2009-001	25-Jul-2009	Bambomo	44.5	juvenile	-2.163416667	11.46185
CU95191	6502	2009-001	25-Jul-2009	Bambomo	40	juvenile	-2.163416667	11.46185
CU95191	6504	2009-001	25-Jul-2009	Bambomo	42	juvenile	-2.163416667	11.46185
CU95191	6506	2009-001	25-Jul-2009	Bambomo	44	juvenile	-2.163416667	11.46185
CU95191	6509	2009-001	25-Jul-2009	Bambomo	32	juvenile	-2.163416667	11.46185
CU95191	6510	2009-001	25-Jul-2009	Bambomo	38	juvenile	-2.163416667	11.46185
CU95187	6514	2009-002	25-Jul-2009	UpperLouetsi	58	ND	-2.21305	11.47751667
CU95187	6515	2009-002	25-Jul-2009	UpperLouetsi	55	ND	-2.21305	11.47751667
CU95187	6516	2009-002	25-Jul-2009	UpperLouetsi	48	ND	-2.21305	11.47751667
CU95187	6517	2009-002	25-Jul-2009	UpperLouetsi	48	ND	-2.21305	11.47751667
CU95187	6518	2009-002	25-Jul-2009	UpperLouetsi	51.5	ND	-2.21305	11.47751667
CU95186	6527	2009-004	27-Jul-2009	Bambomo	84	female	-2.1634167	11.46185
CU95186	6531	2009-004	27-Jul-2009	Bambomo	98	female	-2.1634167	11.46185
CU95186	6532	2009-004	27-Jul-2009	Bambomo	107	male	-2.1634167	11.46185
CU95186	6533	2009-004	27-Jul-2009	Bambomo	110	female	-2.1634167	11.46185
CU95192	6534	2009-004	27-Jul-2009	Bambomo	75	juvenile	-2.1634167	11.46185
CU95192	6535	2009-004	27-Jul-2009	Bambomo	143	male	-2.1634167	11.46185
CU95192	6536	2009-004	27-Jul-2009	Bambomo	136.5	male	-2.1634167	11.46185
CU95192	6537	2009-004	27-Jul-2009	Bambomo	97	female	-2.1634167	11.46185
CU95192	6538	2009-004	27-Jul-2009	Bambomo	128	male	-2.1634167	11.46185
CU95192	6539	2009-004	27-Jul-2009	Bambomo	97	female	-2.1634167	11.46185
CU95192	6540	2009-004	27-Jul-2009	Bambomo	76	juvenile	-2.1634167	11.46185
CU95192	6541	2009-004	27-Jul-2009	Bambomo	84	juvenile	-2.1634167	11.46185
CU95192	6542	2009-004	27-Jul-2009	Bambomo	87	male	-2.1634167	11.46185
CU95192	6543	2009-004	27-Jul-2009	Bambomo	98	juvenile	-2.1634167	11.46185
CU95192	6544	2009-004	27-Jul-2009	Bambomo	68.5	juvenile	-2.1634167	11.46185
CU95192	6545	2009-004	27-Jul-2009	Bambomo	89.5	juvenile	-2.1634167	11.46185
CU95192	6546	2009-004	27-Jul-2009	Bambomo	61	juvenile	-2.1634167	11.46185
CU95192	6547	2009-004	27-Jul-2009	Bambomo	79.5	juvenile	-2.1634167	11.46185
CU95192	6548	2009-004	27-Jul-2009	Bambomo	73	male	-2.1634167	11.46185

<u>CUMV Accession Number</u>	<u>VoucherNum</u>	<u>Locality Number</u>	<u>Collection Date</u>	<u>Locality</u>	<u>SL</u>	<u>Sex</u>	<u>Latitude</u>	<u>Longitude</u>
CU95192	6549	2009-004	27-Jul-2009	Bambomo	91	juvenile	-2.1634167	11.46185
CU95192	6550	2009-004	27-Jul-2009	Bambomo	70.5	juvenile	-2.1634167	11.46185
CU95192	6551	2009-004	27-Jul-2009	Bambomo	64.5	juvenile	-2.1634167	11.46185
CU95192	6552	2009-004	27-Jul-2009	Bambomo	76	juvenile	-2.1634167	11.46185
CU95192	6553	2009-004	27-Jul-2009	Bambomo	75	juvenile	-2.1634167	11.46185
CU95192	6554	2009-004	27-Jul-2009	Bambomo	67	juvenile	-2.1634167	11.46185
CU95192	6555	2009-004	27-Jul-2009	Bambomo	83	female	-2.1634167	11.46185
CU95192	6556	2009-004	27-Jul-2009	Bambomo	64	male	-2.1634167	11.46185
CU95192	6557	2009-004	27-Jul-2009	Bambomo	66	juvenile	-2.1634167	11.46185
CU95192	6558	2009-004	27-Jul-2009	Bambomo	74	juvenile	-2.1634167	11.46185
CU95192	6559	2009-004	27-Jul-2009	Bambomo	85	juvenile	-2.1634167	11.46185
CU95192	6560	2009-004	27-Jul-2009	Bambomo	69	juvenile	-2.1634167	11.46185
CU95192	6561	2009-004	27-Jul-2009	Bambomo	61	juvenile	-2.1634167	11.46185
CU95192	6562	2009-004	27-Jul-2009	Bambomo	72	juvenile	-2.1634167	11.46185
CU95192	6563	2009-004	27-Jul-2009	Bambomo	77	juvenile	-2.1634167	11.46185
CU95192	6564	2009-004	27-Jul-2009	Bambomo	71	juvenile	-2.1634167	11.46185
CU95192	6565	2009-004	27-Jul-2009	Bambomo	85	juvenile	-2.1634167	11.46185
CU95192	6566	2009-004	27-Jul-2009	Bambomo	-	ND	-2.1634167	11.46185
CU95192	6567	2009-004	27-Jul-2009	Bambomo	-	ND	-2.1634167	11.46185
CU95192	6568	2009-004	27-Jul-2009	Bambomo	79	juvenile	-2.1634167	11.46185
CU95192	6569	2009-004	27-Jul-2009	Bambomo	68	juvenile	-2.1634167	11.46185
CU95192	6570	2009-004	27-Jul-2009	Bambomo	76	juvenile	-2.1634167	11.46185
CU95192	6571	2009-004	27-Jul-2009	Bambomo	75	juvenile	-2.1634167	11.46185
CU95192	6589	2009-004	27-Jul-2009	Bambomo	59	juvenile	-2.1634167	11.46185
CU95192	6595	2009-004	27-Jul-2009	Bambomo	51	juvenile	-2.1634167	11.46185
CU95192	6596	2009-004	27-Jul-2009	Bambomo	49	juvenile	-2.1634167	11.46185
CU95192	6597	2009-004	27-Jul-2009	Bambomo	59	juvenile	-2.1634167	11.46185
CU95192	6598	2009-004	27-Jul-2009	Bambomo	42.5	juvenile	-2.1634167	11.46185
CU95192	6599	2009-004	27-Jul-2009	Bambomo	47	juvenile	-2.1634167	11.46185
CU95192	6600	2009-004	27-Jul-2009	Bambomo	45.5	juvenile	-2.1634167	11.46185
CU95192	6601	2009-004	27-Jul-2009	Bambomo	41	juvenile	-2.1634167	11.46185
CU95192	6602	2009-004	27-Jul-2009	Bambomo	52	juvenile	-2.1634167	11.46185
CU95192	6603	2009-004	27-Jul-2009	Bambomo	47	juvenile	-2.1634167	11.46185
CU95192	6604	2009-004	27-Jul-2009	Bambomo	44	juvenile	-2.1634167	11.46185
CU95192	6605	2009-004	27-Jul-2009	Bambomo	51	juvenile	-2.1634167	11.46185
CU95235	6606	2009-011	30-Jul-2009	UpperLouetsi	57	juvenile	-2.27845	11.6114
CU95235	6607	2009-011	30-Jul-2009	UpperLouetsi	65	juvenile	-2.27845	11.6114
CU95235	6608	2009-011	30-Jul-2009	UpperLouetsi	50	juvenile	-2.27845	11.6114
CU95235	6609	2009-011	30-Jul-2009	UpperLouetsi	48	juvenile	-2.27845	11.6114
CU95235	6610	2009-011	30-Jul-2009	UpperLouetsi	59	juvenile	-2.27845	11.6114
CU95235	6611	2009-011	30-Jul-2009	UpperLouetsi	87	male	-2.27845	11.6114
CU95235	6612	2009-011	30-Jul-2009	UpperLouetsi	85	female	-2.27845	11.6114
CU95235	6613	2009-011	30-Jul-2009	UpperLouetsi	73	female	-2.27845	11.6114
CU95235	6614	2009-011	30-Jul-2009	UpperLouetsi	56	juvenile	-2.27845	11.6114
CU95235	6615	2009-011	30-Jul-2009	UpperLouetsi	54	juvenile	-2.27845	11.6114
CU95235	6616	2009-011	30-Jul-2009	UpperLouetsi	77	male	-2.27845	11.6114
CU95236	6619	2009-013	30-Jul-2009	UpperLouetsi	50	juvenile	-2.242483333	11.556
CU95236	6620	2009-013	30-Jul-2009	UpperLouetsi	58	juvenile	-2.242483333	11.556
CU95236	6621	2009-013	30-Jul-2009	UpperLouetsi	49	juvenile	-2.242483333	11.556
CU95236	6622	2009-013	30-Jul-2009	UpperLouetsi	56	juvenile	-2.242483333	11.556
CU95236	6623	2009-013	30-Jul-2009	UpperLouetsi	64	juvenile	-2.242483333	11.556
CU95236	6624	2009-013	30-Jul-2009	UpperLouetsi	60	juvenile	-2.242483333	11.556
CU95236	6625	2009-013	30-Jul-2009	UpperLouetsi	55	juvenile	-2.242483333	11.556
CU95236	6626	2009-013	30-Jul-2009	UpperLouetsi	53	juvenile	-2.242483333	11.556
CU95236	6627	2009-013	30-Jul-2009	UpperLouetsi	53	juvenile	-2.242483333	11.556
CU95236	6628	2009-013	30-Jul-2009	UpperLouetsi	50	juvenile	-2.242483333	11.556
CU95236	6629	2009-013	30-Jul-2009	UpperLouetsi	44	juvenile	-2.242483333	11.556
CU95188	6675	2009-018	5-Aug-2009	LowerLouetsi	89	male	-2.211633333	11.45966667
CU95188	6676	2009-018	5-Aug-2009	LowerLouetsi	58	male?	-2.211633333	11.45966667
CU95188	6677	2009-018	5-Aug-2009	LowerLouetsi	55	female	-2.211633333	11.45966667
CU95188	6678	2009-018	5-Aug-2009	LowerLouetsi	61	female	-2.211633333	11.45966667
CU95188	6679	2009-018	5-Aug-2009	LowerLouetsi	51	juvenile	-2.211633333	11.45966667
CU95188	6680	2009-018	5-Aug-2009	LowerLouetsi	52	juvenile	-2.211633333	11.45966667
CU95188	6681	2009-018	5-Aug-2009	LowerLouetsi	50	juvenile	-2.211633333	11.45966667
CU95188	6682	2009-018	5-Aug-2009	LowerLouetsi	84	male?	-2.211633333	11.45966667
CU95188	6683	2009-018	5-Aug-2009	LowerLouetsi	49	juvenile	-2.211633333	11.45966667
CU95188	6684	2009-018	5-Aug-2009	LowerLouetsi	46	juvenile	-2.211633333	11.45966667
CU95188	6685	2009-018	5-Aug-2009	LowerLouetsi	69	female?	-2.211633333	11.45966667

<u>CUMV Accession Number</u>	<u>VoucherNum</u>	<u>Locality Number</u>	<u>Collection Date</u>	<u>Locality</u>	<u>SL</u>	<u>Sex</u>	<u>Latitude</u>	<u>Longitude</u>
CU95188	6686	2009-018	5-Aug-2009	LowerLouetsi	82	male	-2.211633333	11.45966667
CU95188	6687	2009-018	5-Aug-2009	LowerLouetsi	51	juvenile	-2.211633333	11.45966667
CU95188	6707	2009-018	5-Aug-2009	LowerLouetsi	50	juvenile	-2.211633333	11.45966667
CU95188	6708	2009-018	5-Aug-2009	LowerLouetsi	41	juvenile	-2.211633333	11.45966667
CU95188	6709	2009-018	5-Aug-2009	LowerLouetsi	64	juvenile	-2.211633333	11.45966667
CU95188	6710	2009-018	5-Aug-2009	LowerLouetsi	-	ND	-2.211633333	11.45966667
CU95188	6711	2009-018	5-Aug-2009	LowerLouetsi	59	juvenile	-2.211633333	11.45966667
CU95188	6712	2009-018	5-Aug-2009	LowerLouetsi	77	juvenile	-2.211633333	11.45966667
CU95188	6713	2009-018	5-Aug-2009	LowerLouetsi	55	juvenile	-2.211633333	11.45966667
CU95188	6714	2009-018	5-Aug-2009	LowerLouetsi	45	juvenile	-2.211633333	11.45966667
CU95188	6715	2009-018	5-Aug-2009	LowerLouetsi	61	juvenile	-2.211633333	11.45966667
CU95183	6716	2009-022	7-Aug-2009	Mouvanga	92.5	juvenile	-2.328033333	11.68583333
CU95183	6717	2009-022	7-Aug-2009	Mouvanga	94	juvenile	-2.328033333	11.68583333
CU95183	6718	2009-022	7-Aug-2009	Mouvanga	91	juvenile	-2.328033333	11.68583333
CU95183	6719	2009-022	7-Aug-2009	Mouvanga	86.5	juvenile	-2.328033333	11.68583333
CU95183	6720	2009-022	7-Aug-2009	Mouvanga	102	juvenile	-2.328033333	11.68583333
CU95183	6721	2009-022	7-Aug-2009	Mouvanga	85	juvenile	-2.328033333	11.68583333
CU95183	6722	2009-022	7-Aug-2009	Mouvanga	89	juvenile	-2.328033333	11.68583333
CU95183	6723	2009-022	7-Aug-2009	Mouvanga	100	juvenile	-2.328033333	11.68583333
CU95183	6724	2009-022	7-Aug-2009	Mouvanga	100	juvenile	-2.328033333	11.68583333
CU95183	6725	2009-022	7-Aug-2009	Mouvanga	103	male	-2.328033333	11.68583333
CU95188	6729	2009-018	5-Aug-2009	LowerLouetsi	49	Juv/male	-2.211633333	11.45966667
CU95188	6730	2009-018	5-Aug-2009	LowerLouetsi	52	juvenile	-2.211633333	11.45966667
CU95188	6731	2009-018	5-Aug-2009	LowerLouetsi	44	juvenile	-2.211633333	11.45966667
CU95188	6732	2009-018	5-Aug-2009	LowerLouetsi	64	Juv/male	-2.211633333	11.45966667
CU95188	6733	2009-018	5-Aug-2009	LowerLouetsi	49	juvenile	-2.211633333	11.45966667
CU95188	6734	2009-018	5-Aug-2009	LowerLouetsi	50	juvenile	-2.211633333	11.45966667
CU95188	6735	2009-018	5-Aug-2009	LowerLouetsi	-	male?	-2.211633333	11.45966667
CU95188	6736	2009-018	5-Aug-2009	LowerLouetsi	33	juvenile	-2.211633333	11.45966667
CU95188	6737	2009-018	5-Aug-2009	LowerLouetsi	48.5	juvenile	-2.211633333	11.45966667
CU95183	6788	2009-022	7-Aug-2009	Mouvanga	-	ND	-2.328033333	11.68583333
CU95183	6789	2009-022	7-Aug-2009	Mouvanga	-	ND	-2.328033333	11.68583333
CU95183	6790	2009-022	7-Aug-2009	Mouvanga	79	juvenile	-2.328033333	11.68583333
CU95183	6791	2009-022	7-Aug-2009	Mouvanga	75	male	-2.328033333	11.68583333
CU95183	6792	2009-022	7-Aug-2009	Mouvanga	79	juvenile	-2.328033333	11.68583333
CU95183	6793	2009-022	7-Aug-2009	Mouvanga	74	female	-2.328033333	11.68583333
CU95183	6794	2009-022	7-Aug-2009	Mouvanga	71.5	juvenile	-2.328033333	11.68583333
CU95183	6795	2009-022	7-Aug-2009	Mouvanga	71	juvenile	-2.328033333	11.68583333
CU95183	6796	2009-022	7-Aug-2009	Mouvanga	61	male	-2.328033333	11.68583333
CU95183	6797	2009-022	7-Aug-2009	Mouvanga	57.5	juvenile	-2.328033333	11.68583333
CU95183	6798	2009-022	7-Aug-2009	Mouvanga	-	ND	-2.328033333	11.68583333
CU95183	6799	2009-022	7-Aug-2009	Mouvanga	-	ND	-2.328033333	11.68583333
CU95183	6802	2009-022	7-Aug-2009	Mouvanga	-	ND	-2.328033333	11.68583333
CU95183	6803	2009-022	7-Aug-2009	Mouvanga	64	juvenile	-2.328033333	11.68583333
CU95183	6804	2009-022	7-Aug-2009	Mouvanga	92	male	-2.328033333	11.68583333
CU95183	6805	2009-022	7-Aug-2009	Mouvanga	72	juvenile	-2.328033333	11.68583333
CU95183	6806	2009-022	7-Aug-2009	Mouvanga	77.5	juvenile	-2.328033333	11.68583333
CU95183	6807	2009-022	7-Aug-2009	Mouvanga	84	juvenile	-2.328033333	11.68583333
CU95183	6808	2009-022	7-Aug-2009	Mouvanga	82	juvenile	-2.328033333	11.68583333
CU95183	6809	2009-022	7-Aug-2009	Mouvanga	81	juvenile	-2.328033333	11.68583333
CU95183	6810	2009-022	7-Aug-2009	Mouvanga	59.5	juvenile	-2.328033333	11.68583333
CU95183	6811	2009-022	7-Aug-2009	Mouvanga	56.5	juvenile	-2.328033333	11.68583333
CU95237	6823	2009-025	12-Aug-2009	Bambomo	92	male	-2.163333333	11.462
CU95237	6824	2009-025	12-Aug-2009	Bambomo	85	juvenile	-2.163333333	11.462
CU95237	6825	2009-025	12-Aug-2009	Bambomo	96.5	male	-2.163333333	11.462
CU95237	6826	2009-025	12-Aug-2009	Bambomo	86	female	-2.163333333	11.462
CU95237	6827	2009-025	12-Aug-2009	Bambomo	88	juvenile	-2.163333333	11.462
CU95237	6828	2009-025	12-Aug-2009	Bambomo	88	juvenile	-2.163333333	11.462
CU95237	6829	2009-025	12-Aug-2009	Bambomo	91	juvenile	-2.163333333	11.462
CU95237	6830	2009-025	12-Aug-2009	Bambomo	93	juvenile	-2.163333333	11.462
CU95237	6831	2009-025	12-Aug-2009	Bambomo	97	female	-2.163333333	11.462
CU95237	6832	2009-025	12-Aug-2009	Bambomo	98	male	-2.163333333	11.462
CU95237	6833	2009-025	12-Aug-2009	Bambomo	45	juvenile	-2.163333333	11.462
CU95237	6834	2009-025	12-Aug-2009	Bambomo	65	juvenile	-2.163333333	11.462
CU95237	6835	2009-025	12-Aug-2009	Bambomo	75	juvenile	-2.163333333	11.462
CU95237	6836	2009-025	12-Aug-2009	Bambomo	106	male	-2.163333333	11.462
CU95237	6837	2009-025	12-Aug-2009	Bambomo	51	juvenile	-2.163333333	11.462
CU95237	6838	2009-025	12-Aug-2009	Bambomo	87	male	-2.163333333	11.462

<u>CUMV Accession Number</u>	<u>VoucherNum</u>	<u>Locality Number</u>	<u>Collection Date</u>	<u>Locality</u>	<u>SL</u>	<u>Sex</u>	<u>Latitude</u>	<u>Longitude</u>
CU95237	6839	2009-025	12-Aug-2009	Bambomo	-	ND	-2.163333333	11.462
CU95237	6840	2009-025	12-Aug-2009	Bambomo	86	juvenile	-2.163333333	11.462
CU95237	6841	2009-025	12-Aug-2009	Bambomo	79	juvenile	-2.163333333	11.462
CU95237	6842	2009-025	12-Aug-2009	Bambomo	75	juvenile	-2.163333333	11.462
CU95237	6843	2009-025	12-Aug-2009	Bambomo	70	juvenile	-2.163333333	11.462
CU95237	6844	2009-025	12-Aug-2009	Bambomo	80	male	-2.163333333	11.462
CU95237	6845	2009-025	12-Aug-2009	Bambomo	63.5	juvenile	-2.163333333	11.462
CU95237	6846	2009-025	12-Aug-2009	Bambomo	101	juvenile	-2.163333333	11.462
CU95237	6847	2009-025	12-Aug-2009	Bambomo	88.5	male	-2.163333333	11.462
CU95237	6848	2009-025	12-Aug-2009	Bambomo	107.5	female	-2.163333333	11.462
CU95237	6849	2009-025	12-Aug-2009	Bambomo	-	ND	-2.163333333	11.462
CU95237	6850	2009-025	12-Aug-2009	Bambomo	69	female	-2.163333333	11.462
CU95237	6851	2009-025	12-Aug-2009	Bambomo	48.5	juvenile	-2.163333333	11.462
CU95237	6852	2009-025	12-Aug-2009	Bambomo	69	juvenile	-2.163333333	11.462
CU95237	6853	2009-025	12-Aug-2009	Bambomo	93	male	-2.163333333	11.462
CU95237	6854	2009-025	12-Aug-2009	Bambomo	61	juvenile	-2.163333333	11.462
CU95237	6855	2009-025	12-Aug-2009	Bambomo	64	juvenile	-2.163333333	11.462
CU95237	6856	2009-025	12-Aug-2009	Bambomo	-	ND	-2.163333333	11.462
CU95237	6864	2009-025	12-Aug-2009	Bambomo	-	ND	-2.163333333	11.462
CU95237	6865	2009-025	12-Aug-2009	Bambomo	78	juvenile	-2.163333333	11.462
CU95237	6866	2009-025	12-Aug-2009	Bambomo	70	juvenile	-2.163333333	11.462
CU95237	6867	2009-025	12-Aug-2009	Bambomo	75	juvenile	-2.163333333	11.462
CU95237	6868	2009-025	12-Aug-2009	Bambomo	82	juvenile	-2.163333333	11.462
CU95237	6869	2009-025	12-Aug-2009	Bambomo	50	juvenile	-2.163333333	11.462
CU95237	6870	2009-025	12-Aug-2009	Bambomo	74	juvenile	-2.163333333	11.462
CU95237	6871	2009-025	12-Aug-2009	Bambomo	74	juvenile	-2.163333333	11.462
CU95237	6872	2009-025	12-Aug-2009	Bambomo	72	juvenile	-2.163333333	11.462
CU95237	6873	2009-025	12-Aug-2009	Bambomo	73	juvenile	-2.163333333	11.462
CU95237	6874	2009-025	12-Aug-2009	Bambomo	80	juvenile	-2.163333333	11.462
CU95237	6875	2009-025	12-Aug-2009	Bambomo	68	juvenile	-2.163333333	11.462
CU95237	6876	2009-025	12-Aug-2009	Bambomo	65	juvenile	-2.163333333	11.462
CU95237	6877	2009-025	12-Aug-2009	Bambomo	89	juvenile	-2.163333333	11.462
CU95237	6878	2009-025	12-Aug-2009	Bambomo	74	male	-2.163333333	11.462
CU95237	6879	2009-025	12-Aug-2009	Bambomo	74	juvenile	-2.163333333	11.462
CU95237	6880	2009-025	12-Aug-2009	Bambomo	100	female	-2.163333333	11.462
CU95238	6881	2009-028	13-Aug-2009	UpperLouetsi	-	ND	-2.242483333	11.556
CU95238	6882	2009-028	13-Aug-2009	UpperLouetsi	41	juvenile	-2.242483333	11.556
CU95238	6883	2009-028	13-Aug-2009	UpperLouetsi	71	juvenile	-2.242483333	11.556
CU95238	6884	2009-028	13-Aug-2009	UpperLouetsi	68	juvenile	-2.242483333	11.556
CU95238	6885	2009-028	13-Aug-2009	UpperLouetsi	49	juvenile	-2.242483333	11.556
CU95238	6886	2009-028	13-Aug-2009	UpperLouetsi	49.5	juvenile	-2.242483333	11.556
CU95238	6887	2009-028	13-Aug-2009	UpperLouetsi	47	juvenile	-2.242483333	11.556
CU95238	6888	2009-028	13-Aug-2009	UpperLouetsi	68	juvenile	-2.242483333	11.556
CU95238	6889	2009-028	13-Aug-2009	UpperLouetsi	55	juvenile	-2.242483333	11.556
CU95238	6891	2009-028	13-Aug-2009	UpperLouetsi	68	juvenile	-2.242483333	11.556
CU95238	6892	2009-028	13-Aug-2009	UpperLouetsi	78	juvenile	-2.242483333	11.556
CU95238	6893	2009-028	13-Aug-2009	UpperLouetsi	36	juvenile	-2.242483333	11.556
CU95191	6898	2009-031	15-Aug-2009	UpperLouetsi	131	male	-2.195633333	11.56141667
CU95191	6899	2009-031	15-Aug-2009	UpperLouetsi	102.5	male	-2.195633333	11.56141667
CU95191	6900	2009-031	15-Aug-2009	UpperLouetsi	145	male	-2.195633333	11.56141667
CU95191	6901	2009-031	15-Aug-2009	UpperLouetsi	149	male	-2.195633333	11.56141667
CU95191	6902	2009-031	15-Aug-2009	UpperLouetsi	130	male	-2.195633333	11.56141667
CU95191	6903	2009-031	15-Aug-2009	UpperLouetsi	106	juvenile	-2.195633333	11.56141667
CU95191	6904	2009-031	15-Aug-2009	UpperLouetsi	111	male	-2.195633333	11.56141667
CU95191	6905	2009-031	15-Aug-2009	UpperLouetsi	116.5	male	-2.195633333	11.56141667
CU95191	6906	2009-031	15-Aug-2009	UpperLouetsi	135.5	male	-2.195633333	11.56141667
CU95191	6907	2009-031	15-Aug-2009	UpperLouetsi	129	male	-2.195633333	11.56141667
CU95191	6908	2009-031	16-Aug-2009	UpperLouetsi	101	juvenile	-2.195633333	11.56141667
CU95191	6909	2009-031	15-Aug-2009	UpperLouetsi	76	juvenile	-2.195633333	11.56141667
CU95191	6910	2009-031	15-Aug-2009	UpperLouetsi	63	juvenile	-2.195633333	11.56141667
CU95191	6911	2009-031	15-Aug-2009	UpperLouetsi	43	juvenile	-2.195633333	11.56141667
CU95191	6912	2009-031	15-Aug-2009	UpperLouetsi	91	juvenile	-2.195633333	11.56141667
CU95191	6913	2009-031	15-Aug-2009	UpperLouetsi	-	ND	-2.195633333	11.56141667
CU95191	6914	2009-031	15-Aug-2009	UpperLouetsi	67	juvenile	-2.195633333	11.56141667
CU95191	6915	2009-031	15-Aug-2009	UpperLouetsi	69	juvenile	-2.195633333	11.56141667
CU95191	6916	2009-031	15-Aug-2009	UpperLouetsi	-	ND	-2.195633333	11.56141667
CU95191	6917	2009-031	15-Aug-2009	UpperLouetsi	60	juvenile	-2.195633333	11.56141667
CU95191	6918	2009-031	15-Aug-2009	UpperLouetsi	93	juvenile	-2.195633333	11.56141667

<u>CUMV Accession Number</u>	<u>VoucherNum</u>	<u>Locality Number</u>	<u>Collection Date</u>	<u>Locality</u>	<u>SL</u>	<u>Sex</u>	<u>Latitude</u>	<u>Longitude</u>
CU95191	6919	2009-031	15-Aug-2009	UpperLouetsi	68	juvenile	-2.195633333	11.56141667
CU95191	6920	2009-031	15-Aug-2009	UpperLouetsi	80	juvenile	-2.195633333	11.56141667
CU95191	6921	2009-031	15-Aug-2009	UpperLouetsi	115	male	-2.195633333	11.56141667
CU95191	6922	2009-031	15-Aug-2009	UpperLouetsi	90	male	-2.195633333	11.56141667
CU95191	6923	2009-031	15-Aug-2009	UpperLouetsi	74	juvenile	-2.195633333	11.56141667
CU95191	6924	2009-031	15-Aug-2009	UpperLouetsi	49	juvenile	-2.195633333	11.56141667
CU95191	6925	2009-031	15-Aug-2009	UpperLouetsi	92	male	-2.195633333	11.56141667
CU95191	6926	2009-031	15-Aug-2009	UpperLouetsi	89	juvenile	-2.195633333	11.56141667
CU95191	6927	2009-031	15-Aug-2009	UpperLouetsi	96.5	male	-2.195633333	11.56141667

ONLINE RESOURCE 3: TEMPERATURE CORRECTION METHOD

Online Supplement to: Signal variation and its morphological correlates in *Paramormyrops kingsleyae* provide insight into the evolution of electrogenic signal diversity in Mormyrid electric fish.

Jason R. Gallant^{1§}, Matthew E. Arnegard^{2,3}, John P. Sullivan⁴, Bruce A. Carlson⁵, and Carl D. Hopkins^{1*} Journal of Comparative Physiology A.

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Kramer and Westby (1985) determined in the mormyrid *Gnathonemus petersii* that EODs durations are stretched and compressed due to temperature-dependent processes with a Q10 factor of 1.49. For all of our collections, water temperatures in the EOD recording chamber varied between 21.0-26.7°C. Regrettably, a subset of our data (n=63) did not have valid temperature data at the time of recording. Because these specimens represented key localities in Gabon, we wished to include them in the present study. To justify their inclusion, we include here the description of a test to measure the effect of Q10 temperature correction on variation in the 21 variables measured. To accomplish this, we compare the principal component scores before and after Q10 temperature correction of a subset (n=491) of data for which temperature data was available.

We began by applying a the Q10 correction in the time measurements of these X EODs to the mean observed temperature (23.31°C), using this Q₁₀ value 1.49 (Kramer and Westby, 1985). We adjusted the EOD time base in each recording by multiplying the A/D digitizer's sampling rate by factor *f*, using the following equation:

$$f = 10^{\frac{25^{\circ}\text{C}-T_{\text{obs}}}{10} \log(Q_{10})}$$

Where Q₁₀=1.49 and T_{obs} corresponds to the temperature in the recording chamber at the time of EOD recording. Fig. S3a illustrates the effect of Q10 correction on EOD waveform shape to 23.31°C (blue) from 26.1°C (red), resulting in a perceivable compression of the EOD at the higher (corrected) temperature.

For each of the 491 temperature corrected EODs, we analyzed each using the methods described in the main text, extracting a vector of twenty-one measurements (see Table 2). Again, using the MATLAB function *princomp*, we performed principal components analysis (PCA) on this set of temperature corrected EODs. The PCA resulted in a 21x21 factor-loading matrix, which was used to transform each of the 21 variable vectors (corresponding to each of the temperature corrected EODs) into principal component scores. We plotted the resulting 1st and 2nd principal component scores for this “temperature corrected” dataset as filled symbols, coloring each according to its collection locality and geographic region (Fig. S3 b). In order to compare the effect of Q10 temperature correction, the factor-loading matrix derived from PCA of temperature-corrected EODs was applied to the 21 variable vectors describing each of the 553 uncorrected EOD waveforms (“uncorrected data”). These transformed data are plotted as open symbols (Fig. S3b). A thin black line is plotted to aid in visualizing corresponding

principal component scores between each dataset. Minimum area polygon boundaries enclose *the uncorrected* data plotted for individual localities, referred to by their local geographic name on the map in Fig S3b.

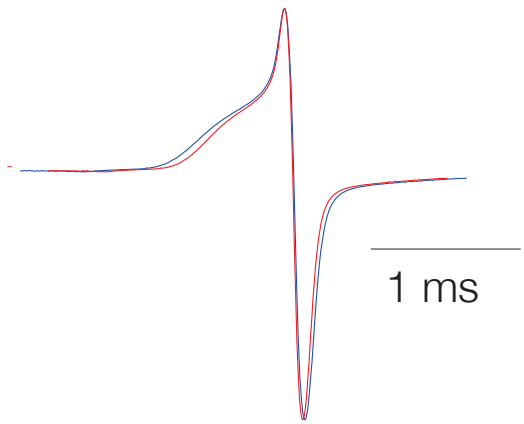
The shift of points in principal components space (Fig S3b) between uncorrected and corrected datasets is primarily along the horizontal axis (PC1), with little shift along the vertical axis (PC2). This corresponds to the compression or expansion of the waveform due to Q10 correction (and provides a good test that PC1, in fact, represents primarily duration). As can be observed in the figure, the length of the thin black lines, representing the displacement of each EOD in PCA space as a result of Q10 temperature correction, is small when compared to distances between individual points and between polygons enclosing populations.

To further emphasize this point, Euclidean distances were computed between all pairwise combinations of PCA points (1) in the uncorrected dataset, and (2) the corrected dataset. Euclidean distances between corresponding points in (1) and (2) were also calculated (corresponding to the lengths of thin black lines in Fig S3b). The distribution of these distances is summarized in Fig S3c as box-and-whisker plots. This figure shows both that the distribution of pairwise distances between points did not change following temperature correction (distance 2 vs 1, as described above), and that the displacement in PCA space due to temperature correction (distance 3, as described above) was much smaller than the differences between individuals (distances 3 vs. 1 and 2, as described above).

We conclude from these analyses that, while temperature correction does have a detectable effect on the duration of EODs in our PCA, this effect is negligible compared to the variation between individuals and localities sampled. We therefore, in the interests of including as much of our sampling efforts in Gabon in the present analysis, chose to proceed with our analysis of all EODs in this study without any temperature correction.

Figure S3

a



b

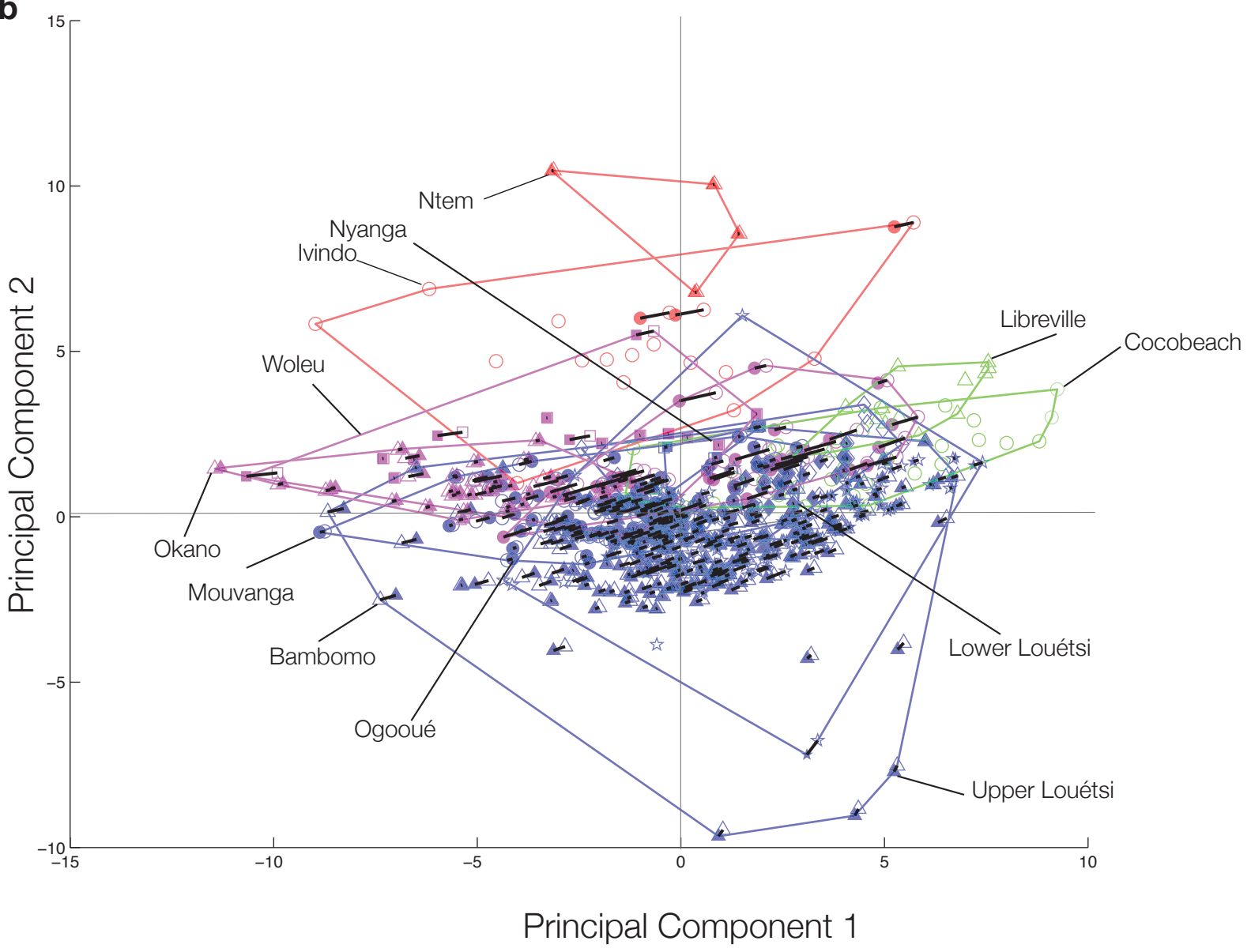


Figure S3.c

