

Cranial morphological disparity within the adaptive radiation of tenrecs (Afrosoricida, Tenrecidae) is no greater than expected by chance

Supplementary Material

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Camera protocol

Resampling for minimum number of points

Landmarks and results for ventral and lateral skull views

Rarefaction methods and results

Simulation results for non-Microgale tenrecs

Museum accession numbers

Table 1: Museum accession numbers and taxonomic identification for all skull specimens. AMNH (American Museum of Natural History), FMNH (Field Museum of Natural History), MCZ (Museum of Comparative Zoology, Harvard), NHML (Natural History Museum London), SI (Smithsonian Institute)

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Specimen ID	Order	Family	Genus	Species
AMNH_161526	Afrosoricida	Chrysochloridae	Chlorotalpa	duthieae
AMNH_161527	Afrosoricida	Chrysochloridae	Chlorotalpa	duthieae
AMNH_161559	Afrosoricida	Chrysochloridae	Eremitalpa	granti
AMNH_161571	Afrosoricida	Chrysochloridae	Eremitalpa	granti
AMNH_167961	Afrosoricida	Chrysochloridae	Chrysochloris	asiatica
AMNH_180911	Afrosoricida	Chrysochloridae	Chrysochloris	stuhlmanni
AMNH_180912	Afrosoricida	Chrysochloridae	Chrysochloris	stuhlmanni
AMNH_212938	Afrosoricida	Tenrecidae	Hemicentetes	semispinosus
AMNH_274982	Afrosoricida	Tenrecidae	Microgale	jobihely
AMNH_274986	Afrosoricida	Tenrecidae	Microgale	jobihely
AMNH_274987	Afrosoricida	Tenrecidae	Microgale	jobihely
AMNH_274988	Afrosoricida	Tenrecidae	Microgale	jobihely
AMNH_274989	Afrosoricida	Tenrecidae	Microgale	jobihely
AMNH_275041	Afrosoricida	Tenrecidae	Microgale	soricoides
AMNH_275088	Afrosoricida	Tenrecidae	Microgale	drouhardi
AMNH_275089	Afrosoricida	Tenrecidae	Microgale	drouhardi
AMNH_275090	Afrosoricida	Tenrecidae	Microgale	drouhardi
AMNH_275092	Afrosoricida	Tenrecidae	Microgale	drouhardi
AMNH_275095	Afrosoricida	Tenrecidae	Microgale	drouhardi
AMNH_275133	Afrosoricida	Tenrecidae	Microgale	fotsifotsy
AMNH_275134	Afrosoricida	Tenrecidae	Microgale	gymnorhyncha

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Table 1 –Continues from previous page

SpecID	Order	Family	Genus	Species
AMNH_275135	Afrosoricida	Tenrecidae	Microgale	gymnorhyncha
AMNH_275136	Afrosoricida	Tenrecidae	Microgale	gymnorhyncha
AMNH_275137	Afrosoricida	Tenrecidae	Microgale	gymnorhyncha
AMNH_275138	Afrosoricida	Tenrecidae	Microgale	gymnorhyncha
AMNH_275141	Afrosoricida	Tenrecidae	Microgale	longicaudata
AMNH_275142	Afrosoricida	Tenrecidae	Microgale	longicaudata
AMNH_275143	Afrosoricida	Tenrecidae	Microgale	longicaudata
AMNH_275148	Afrosoricida	Tenrecidae	Microgale	longicaudata
AMNH_275149	Afrosoricida	Tenrecidae	Microgale	longicaudata
AMNH_275157	Afrosoricida	Tenrecidae	Microgale	parvula
AMNH_275158	Afrosoricida	Tenrecidae	Microgale	soricoides
AMNH_275160	Afrosoricida	Tenrecidae	Microgale	soricoides
AMNH_275162	Afrosoricida	Tenrecidae	Microgale	soricoides
AMNH_275163	Afrosoricida	Tenrecidae	Microgale	soricoides
AMNH_275189	Afrosoricida	Tenrecidae	Oryzorictes	hova
AMNH_275190	Afrosoricida	Tenrecidae	Oryzorictes	hova
AMNH_275191	Afrosoricida	Tenrecidae	Oryzorictes	hova
AMNH_275250	Afrosoricida	Tenrecidae	Microgale	brevicaudata
AMNH_275251	Afrosoricida	Tenrecidae	Microgale	brevicaudata
AMNH_275253	Afrosoricida	Tenrecidae	Microgale	brevicaudata
AMNH_275254	Afrosoricida	Tenrecidae	Microgale	brevicaudata
AMNH_275255	Afrosoricida	Tenrecidae	Microgale	brevicaudata
AMNH_275281	Afrosoricida	Tenrecidae	Microgale	fotsifotsy
AMNH_275282	Afrosoricida	Tenrecidae	Microgale	fotsifotsy
AMNH_275283	Afrosoricida	Tenrecidae	Microgale	fotsifotsy
AMNH_275298	Afrosoricida	Tenrecidae	Microgale	taiva
AMNH_275299	Afrosoricida	Tenrecidae	Microgale	taiva
AMNH_275300	Afrosoricida	Tenrecidae	Microgale	taiva
AMNH_275301	Afrosoricida	Tenrecidae	Microgale	taiva
AMNH_275360	Afrosoricida	Tenrecidae	Oryzorictes	hova
AMNH_275364	Afrosoricida	Tenrecidae	Microgale	parvula
AMNH_275365	Afrosoricida	Tenrecidae	Microgale	parvula
AMNH_275368	Afrosoricida	Tenrecidae	Microgale	parvula
AMNH_31243	Afrosoricida	Tenrecidae	Oryzorictes	tetradactylus
AMNH_31257	Afrosoricida	Tenrecidae	Oryzorictes	tetradactylus
AMNH_31270	Afrosoricida	Tenrecidae	Echinops	telfairi
AMNH_34647	Afrosoricida	Chrysochloridae	Chrysospalax	trevelyani
AMNH_51324	Afrosoricida	Tenrecidae	Potamogale	velox
AMNH_51327	Afrosoricida	Tenrecidae	Potamogale	velox
AMNH_54365	Afrosoricida	Chrysochloridae	Chrysospalax	trevelyani
AMNH_82399	Afrosoricida	Chrysochloridae	Chrysochloris	stuhlmanni
AMNH_89040	Afrosoricida	Chrysochloridae	Chrysospalax	trevelyani
AMNH_89046	Afrosoricida	Chrysochloridae	Cryptochloris	wintoni
FMNH_156226	Afrosoricida	Tenrecidae	Oryzorictes	tetradactylus
FMNH_159672	Afrosoricida	Tenrecidae	Microgale	monticola
FMNH_159673	Afrosoricida	Tenrecidae	Microgale	monticola
FMNH_159674	Afrosoricida	Tenrecidae	Microgale	monticola
FMNH_159675	Afrosoricida	Tenrecidae	Microgale	monticola
FMNH_159676	Afrosoricida	Tenrecidae	Microgale	monticola

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SpecID	Order	Family	Genus	Species
FMNH_162893	Afrosoricida	Tenrecidae	Micropotamogale	lamottei
FMNH_166040	Afrosoricida	Tenrecidae	Microgale	pusilla
FMNH_166111	Afrosoricida	Tenrecidae	Microgale	gracilis
FMNH_166112	Afrosoricida	Tenrecidae	Microgale	gracilis
FMNH_166113	Afrosoricida	Tenrecidae	Microgale	gracilis
FMNH_166145	Afrosoricida	Tenrecidae	Microgale	gracilis
FMNH_167427	Afrosoricida	Tenrecidae	Microgale	dryas
FMNH_167621	Afrosoricida	Tenrecidae	Microgale	pusilla
FMNH_176203	Afrosoricida	Tenrecidae	Geogale	aurita
FMNH_176204	Afrosoricida	Tenrecidae	Geogale	aurita
FMNH_176211	Afrosoricida	Tenrecidae	Geogale	aurita
FMNH_176385	Afrosoricida	Tenrecidae	Microgale	dryas
FMNH_176387	Afrosoricida	Tenrecidae	Microgale	dryas
FMNH_176389	Afrosoricida	Tenrecidae	Microgale	dryas
FMNH_176395	Afrosoricida	Tenrecidae	Microgale	dryas
FMNH_209199	Afrosoricida	Tenrecidae	Microgale	grandidieri
FMNH_209200	Afrosoricida	Tenrecidae	Microgale	grandidieri
FMNH_209201	Afrosoricida	Tenrecidae	Microgale	grandidieri
FMNH_209202	Afrosoricida	Tenrecidae	Microgale	grandidieri
FMNH_209203	Afrosoricida	Tenrecidae	Microgale	grandidieri
FMNH_53073	Afrosoricida	Chrysochloridae	Amblysomus	corriae
FMNH_72831	Afrosoricida	Tenrecidae	Potamogale	velox
FMNH_81731	Afrosoricida	Chrysochloridae	Calcochloris	leucorhinus
FMNH_83540	Afrosoricida	Chrysochloridae	Calcochloris	leucorhinus
MCZ_23373	Afrosoricida	Chrysochloridae	Chrysochloris	stuhlmanni
MCZ_45021	Afrosoricida	Tenrecidae	Oryzorictes	tetradactylus
MCZ_45022	Afrosoricida	Tenrecidae	Oryzorictes	tetradactylus
MCZ_45033	Afrosoricida	Tenrecidae	Microgale	pusilla
MCZ_45050	Afrosoricida	Tenrecidae	Limnogale	mergulus
MCZ_45450	Afrosoricida	Tenrecidae	Geogale	aurita
MCZ_46274	Afrosoricida	Tenrecidae	Geogale	aurita
NHML_1870.3.10.15_1527.a	Afrosoricida	Tenrecidae	Setifer	setosus
NHML_1934.6.16.2	Afrosoricida	Tenrecidae	Potamogale	velox
NHML_1961.6.2.3	Afrosoricida	Chrysochloridae	Chrysospalax	trevelyani
NHML_3.1.1.1	Afrosoricida	Tenrecidae	Geogale	aurita
NHML_3.6.2.10	Afrosoricida	Chrysochloridae	Amblysomus	hottentotus
NHML_3509	Afrosoricida	Tenrecidae	Tenrec	ecaudatus
NHML_67.213	Afrosoricida	Tenrecidae	Micropotamogale	ruwenzorii
NHML_73.170	Afrosoricida	Tenrecidae	Micropotamogale	lamottei
NHML_74.668	Afrosoricida	Chrysochloridae	Chrysochloris	sp.
NHML_75.2223	Afrosoricida	Tenrecidae	Microgale	cowani
NHML_82.3.1.11	Afrosoricida	Tenrecidae	Hemicentetes	nigriceps
SI_083658	Afrosoricida	Tenrecidae	Hemicentetes	semispinosus
SI_154988	Afrosoricida	Tenrecidae	Microgale	dobsoni
SI_154989	Afrosoricida	Tenrecidae	Oryzorictes	tetradactylus
SI_221420	Afrosoricida	Chrysochloridae	Chlorotalpa	duthieae
SI_266897	Afrosoricida	Tenrecidae	Potamogale	velox
SI_294497	Afrosoricida	Tenrecidae	Setifer	setosus
SI_294504	Afrosoricida	Tenrecidae	Hemicentetes	semispinosus

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SpecID	Order	Family	Genus	Species
SI_294507	Afrosoricida	Tenrecidae	Hemicentetes	nigriceps
SI_294508	Afrosoricida	Tenrecidae	Hemicentetes	nigriceps
SI_294510	Afrosoricida	Tenrecidae	Hemicentetes	nigriceps
SI_294511	Afrosoricida	Tenrecidae	Hemicentetes	nigriceps
SI_294520	Afrosoricida	Tenrecidae	Microgale	dobsoni
SI_328604	Afrosoricida	Tenrecidae	Setifer	setosus
SI_328605	Afrosoricida	Tenrecidae	Setifer	setosus
SI_328614	Afrosoricida	Tenrecidae	Setifer	setosus
SI_328616	Afrosoricida	Tenrecidae	Echinops	telfairi
SI_328619	Afrosoricida	Tenrecidae	Echinops	telfairi
SI_328622	Afrosoricida	Tenrecidae	Echinops	telfairi
SI_328624	Afrosoricida	Tenrecidae	Echinops	telfairi
SI_328653	Afrosoricida	Tenrecidae	Microgale	cowani
SI_328662	Afrosoricida	Tenrecidae	Microgale	cowani
SI_328667	Afrosoricida	Tenrecidae	Microgale	cowani
SI_328669	Afrosoricida	Tenrecidae	Microgale	cowani
SI_328670	Afrosoricida	Tenrecidae	Microgale	cowani
SI_328688	Afrosoricida	Tenrecidae	Microgale	pusilla
SI_328689	Afrosoricida	Tenrecidae	Microgale	pusilla
SI_328690	Afrosoricida	Tenrecidae	Microgale	pusilla
SI_328695	Afrosoricida	Tenrecidae	Microgale	dobsoni
SI_341621	Afrosoricida	Tenrecidae	Tenrec	ecaudatus
SI_341624	Afrosoricida	Tenrecidae	Tenrec	ecaudatus
SI_341661	Afrosoricida	Tenrecidae	Hemicentetes	semispinosus
SI_341688	Afrosoricida	Tenrecidae	Hemicentetes	semispinosus
SI_341689	Afrosoricida	Tenrecidae	Hemicentetes	semispinosus
SI_351334	Afrosoricida	Chrysochloridae	Calcochloris	obtusirostris
SI_351335	Afrosoricida	Chrysochloridae	Calcochloris	obtusirostris
SI_351336	Afrosoricida	Chrysochloridae	Chrysospalax	villosus
SI_351955	Afrosoricida	Chrysochloridae	Calcochloris	obtusirostris
SI_361482	Afrosoricida	Tenrecidae	Tenrec	ecaudatus
SI_365001	Afrosoricida	Chrysochloridae	Carpitalpa	arendsi
SI_380484	Afrosoricida	Chrysochloridae	Amblysomus	hottentotus
SI_380485	Afrosoricida	Chrysochloridae	Amblysomus	hottentotus
SI_381488	Afrosoricida	Chrysochloridae	Amblysomus	hottentotus
SI_395676	Afrosoricida	Tenrecidae	Geogale	aurita
SI_449177	Afrosoricida	Tenrecidae	Microgale	taiva
SI_449179	Afrosoricida	Tenrecidae	Microgale	gracilis
SI_449192	Afrosoricida	Tenrecidae	Microgale	dobsoni
SI_468315	Afrosoricida	Chrysochloridae	Chrysochloris	asiatica
SI_468316	Afrosoricida	Chrysochloridae	Chrysochloris	asiatica
SI_468317	Afrosoricida	Chrysochloridae	Chrysochloris	asiatica
SI_468318	Afrosoricida	Chrysochloridae	Eremitalpa	granti
SI_468319	Afrosoricida	Chrysochloridae	Cryptochloris	wintoni
SI_470211	Afrosoricida	Chrysochloridae	Calcochloris	obtusirostris
SI_537651	Afrosoricida	Tenrecidae	Potamogale	velox
SI_577052	Afrosoricida	Tenrecidae	Oryzorictes	hova
SI_577055	Afrosoricida	Tenrecidae	Microgale	talazaci
SI_578746	Afrosoricida	Tenrecidae	Microgale	talazaci

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SpecID	Order	Family	Genus	Species
SI_578747	Afrosoricida	Tenrecidae	Microgale	talazaci
SI_578749	Afrosoricida	Tenrecidae	Microgale	dobsoni
SI_578753	Afrosoricida	Tenrecidae	Microgale	principula
SI_578756	Afrosoricida	Tenrecidae	Microgale	principula
SI_578759	Afrosoricida	Tenrecidae	Microgale	principula
SI_578760	Afrosoricida	Tenrecidae	Microgale	principula
SI_578762	Afrosoricida	Tenrecidae	Microgale	principula
SI_578768	Afrosoricida	Tenrecidae	Microgale	talazaci
SI_578769	Afrosoricida	Tenrecidae	Microgale	talazaci
SI_578772	Afrosoricida	Tenrecidae	Microgale	thomasi
SI_578773	Afrosoricida	Tenrecidae	Microgale	thomasi
SI_578774	Afrosoricida	Tenrecidae	Microgale	thomasi
SI_578775	Afrosoricida	Tenrecidae	Microgale	thomasi
SI_578776	Afrosoricida	Tenrecidae	Microgale	thomasi
SI_578784	Afrosoricida	Tenrecidae	Microgale	parvula
SI_578787	Afrosoricida	Tenrecidae	Microgale	fotsifotsy
SI_578789	Afrosoricida	Tenrecidae	Oryzorictes	sp.
SI_578791	Afrosoricida	Tenrecidae	Tenrec	ecaudatus
SI_578792	Afrosoricida	Tenrecidae	Tenrec	ecaudatus
SI_584649	Afrosoricida	Chrysochloridae	Calcochloris	leucorhinus