

Supplementary Materials

Highly divergent karyotypes and barcoding of the East African genus *Gonatoxia* Karsch (Orthoptera: Phaneropterinae)

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Figure S1. Phylogenetic tree overlaid on the geographic locations of sampled individuals. Vouchers at the tip labels indicate *Gonatoxia* species: [HE44, CH8245] – *G. furcata*, [CH8048, CH8135, CH8137, CH8138, CH8145, CH8147, CH8248, HE83, HE89, HE96, HE97, HE104] – *G. helleri*, [CH7962, CH7963] – *G. maculata*, [CH8042, CH8045, CH8046] – *Gonatoxia* sp., [CH8755, CH8758] – *G. immaculata*. Acronyms on the map indicate geographic areas: [Ma] – Mangula, Udzungwa Mts; [Ul] – Uluguru Mts; [Ka] – Kazimzumbwi, East Usambara; [Mg] – Magoroto, East Usambara; [Ni] – Nilo, East Usambara; [Uc] – Uchira, Mt. Kilimanjaro. The map was created in "phytools" R package version 0.7-80 (https://cran.r-project.org/web/packages/phytools/index.html?fbclid=IwAR2PGOcMtucCVbdPHeoeDE0WmZWxucx5uzFnKByvooDLZris_Q_EMTSyI0g) [98].

Table S1. Species of *Gonatoxia*: where and when collected in northern Tanzania, chromosome number and molecular analysis; mosaic individual; *only DNA.

Species	Localities collected, date and voucher number	Geographical coordinates	2n (male)	FISH rDNA [total]	COI voucher/isolate voucher	GenBank acc. no.
<i>Gonatoxia maculata</i>	Mt. Kilimanjaro, southern slopes, Rau forest near Moshi [Mo] , lowland wet forest, 800 m, 12.2014; male CH7893; 02.2015; HE16	S 3° 21' 0" E 37° 20' 0"	29	HE16 [1]	-	-
	Mt. Kilimanjaro, southern slopes, Uchira [Uc] , savanna woodlands, 10. 2015; males: CH7961, CH7963, CH7964, CH7966, CH8043, CH8044, CH8083, CH8084, CH8085; females: CH7962, CH7965	S 3° 25' 0" E 37° 29' 0"	29	CH7961 CH7966 CH8043 CH8044 CH8083 [1]	CH7962/gma1 CH7963/gma2	MW792453 MW792454
	Eastern Arc Mts, North Pare Mts, Lembeni [Le] , dry deciduous forest, 03.2013; male CH7622	S 3° 47' 0" E 37° 37' 0"	27	CH7622 [1]	-	-
<i>Gonatoxia</i> sp.	Pwani Region, Kisarawe District, Kazimzumbwi Forest Reserve [Ka] , 150 m, 07.2015; males: CH8046, CH8552; females: CH8042, CH8045, CH8553	S 6° 58' 0" E 39° 3' 0"	29	CH8042 CH8552 [1]	CH8042/gim3 CH8045/gim1 CH8046/gim2	MW792452 MW792450 MW792451
<i>Gonatoxia immaculata</i>	Eastern Arc Mts, East Usambara, Nilo [Ni] forest reserve, lowland wet forest, 07-08.2016; males: CH8244, CH8288	S 4° 55' 8" E 38° 39' 42"	27	CH8288 [2]	-	-
	Eastern Arc Mts, Sigi [Si] , 11.2018; CH8622	S 5°06'00" E 38°39'00"	27	CH8622 [3]	-	-
	Eastern Arc Mts, East Usambara, Amani [Am] , 11.2017; male CH8499	S 5°06'00.8" E 38°37'42.0"		CH8499 [2]	-	-
	Eastern Arc Mts, East Usambara, Magoroto Forest Estate [Mg] , , 07.2019; males CH8751, CH8752, CH8753, CH8754; females CH 8755, CH8757, CH8758, CH8759	S 5°06'39.0" E 38°45'13.7"		CH8751 CH8752 CH8753 CH8754 [2]	CH8755/gim4 CH8758/gim5	MW792460 MW792461
<i>Gonatoxia furcata</i>	Eastern Arc Mts, Morogoro District, Udzungwa Mts, National Park Headquarters, Mangula Gate [Ma] , 300 m, lowland wet	S 7° 50' 6" E 36° 53' 59"	27	CH8047 [1]	HE44/gfu1 CH8245/gfu2	MW792436 MW792437

	forest, 07.2015, 07.2016; male CH8047, female CH8245					
<i>Gonatoxia helleri</i>	Eastern Arc Mts, Morogoro District, Udzungwa Mts, National Park Headquarters, Mangula Gate [Ma] , 300 m, lowland wet forest, 01-03.2015; males: CH7949, CH8048, CH8087, CH8088, CH8089, CH8144, CH8145, CH8247; females: CH8072, CH8073, CH 8137, CH8138, CH8139, CH8146, CH8147; 07.2016; male CH8247	S 7° 50' 6" E 36° 53' 59"	7	CH7949 CH8048 CH8088 [many]	CH8048/ghe4 CH8138/ghe16 CH8147/ghe12 CH8137*/ghe15 HE83*/ghe20	MW792447 MW792442 MW792439 MW792441 MW792445
	Eastern Arc Mts, Morogoro District, Uluguru Mts [Ul] , forest above Morningside, 02.2016, 03.2016, 07.2016; males: HE89, HE96, HE105, CH8246, CH8251, CH8252, CH8253; females: CH8250, CH8289	S 6°54'19.5" E 37°40'23.8"		HE89 HE96 CH8252 [many]	HE89/ghe2 HE96/ghe19 CH8248*/ghe6	MW792444 MW792443 MW792448
	Eastern Arc Mts, East Usambara, Nilo [Ni] forest reserve, lowland wet forest; 12.2015; male CH8134, HE 97, HE104, female CH8135; 02.2016; males: HE97, HE104	S 4° 55' 8" E 38° 39' 42"		HE97 [many]	CH8135/ghe1 CH8145/ghe8 HE97/ghe14 HE104/ghe21	MW792438 MW792449 MW792440 MW792446
	Eastern Arc Mts, East Usambara, Sigi [Si] , 11.2015; female CH8136; 11.2018: male CH8162	S 5°06'00" E 38°39'00"		CH8162 [many]	-	-
<i>Eurycorypha elongata</i>	Eastern Arc Mts, East Usambara, Nilo forest reserve, lowland wet forest; 12.2015; male	S 4° 55' 8" E 38° 39' 42"	29	-	HE64/eel	MW792433
<i>Eurycorypha pseudomeruensis</i>	Tabora; 02.2016; male	S 5° 05' 25" E 32° 49' 47"	29	-	HE100/eps	MW792434
<i>Eurycorypha</i> sp.	Eastern Arc Mts, Udzungwa Mts; 07.2015; male	S 7° 46' 01" E 36° 49' 02"	29	-	CH8153/esp	MW792435
<i>Plangia multimaculata</i>	Mwanga; 02.2015; male	S 3° 39' 32" E 37° 35' 55"	29	-	HE30/pmu	MW792459
<i>Parapyrrhicia abdita</i>	Eastern Arc Mts, Udzungwa Mts; 01-02.2016; males	S 7° 46' 01" E 36° 49' 02"	31	-	CH76/pab1 CH84/pab2	MW792455 MW792456
<i>Parapyrrhicia acutilobata</i>	Kisarawe; 02.2015, 07.2015; male, female	S 6° 54' 56" E 39° 03' 35"	31	-	CH30/pac1 CH8049/pac2	MW792457 MW792458

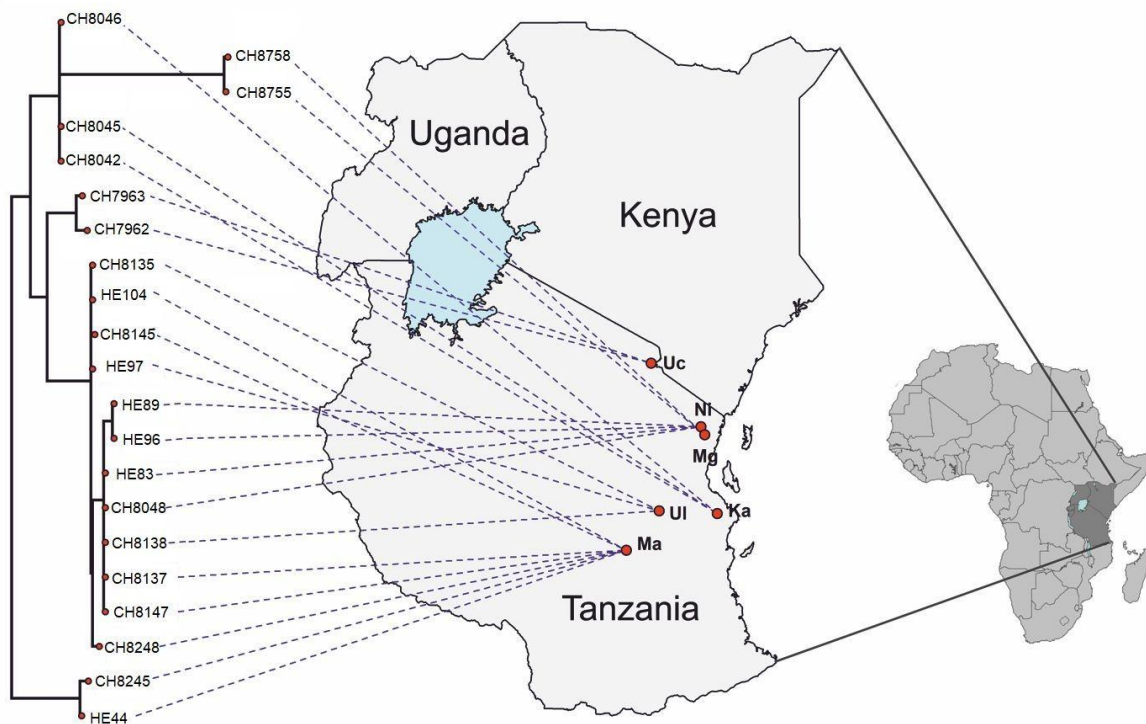


Figure S1. Phylogenetic tree overlaid on the geographic locations of sampled individuals. Vouchers at the tip labels indicate *Gonatoxia* species: [HE44, CH8245] – *G. furcata*, [CH8048, CH8135, CH8137, CH8138, CH8145, CH8147, CH8248, HE83, HE89, HE96, HE97, HE104] – *G. helleri*, [CH7962, CH7963] – *G. maculata*, [CH8042, CH8045, CH8046] – *Gonatoxia* sp., [CH8755, CH8758] – *G. immaculata*. Acronyms on the map indicate geographic areas: [Ma] – Mangula, Udzungwa Mts; [Ul] – Uluguru Mts; [Ka] – Kazimzumbwi, East Usambara; [Mg] – Magoroto, East Usambara; [Ni] – Nilo, East Usambara; [Uc] – Uchira, Mt. Kilimanjaro. The map was created in "phytools" R package version 0.7-80 (https://cran.r-project.org/web/packages/phytools/index.html?fbclid=IwAR2PGOcMtucCVbdPHeoeDE0WmZWxucx5uzFnKByvooDLZris_Q_EMTSyI0g) [98].