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SOUTH AMERICAN ANOLES: THE GEOGRAPHIC DIFFERENTIATION AND EVOLUTION OF THE *ANOLIS CHRYSOLEPIS* SPECIES GROUP (SAURIA, IGUANIDAE)

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SECOND PART: TABLES, GRAPHS AND MAPS

TABLE 1

Fourth toe lamellae, males, major samples

Samples	N	R	M	I
Falcón	21	14 - 19	16.3	15.8 - 16.8
NE Venezuela	17	15 - 19	16.6	16.1 - 17.1
Trinidad	26	15 - 18	16.3	15.9 - 16.6
Western Guyana	11	15 - 17	16.2	15.8 - 16.6
Essequibo	18	15 - 19	16.3	*
Dunoon	7	15 - 18	16.9	15.8 - 18.0
Nassau	11	13 - 15	13.7	13.3 - 14.2
Amapá	12	13 - 15	14.3	13.9 - 14.6
Villavicencio	22	16 - 20	17.0	16.6 - 17.5
Santa Cecilia	17	15 - 21	17.4	16.7 - 18.0
Limón Cocha	31	16 - 20	18.4	18.0 - 18.7
Pampa Hermosa	17	16 - 20	18.6	18.1 - 19.2
Tapirapés	26	16 - 19	17.4	17.0 - 17.8

N individuals in sample R observed range M mean

I 95% confidence interval of the mean

* interval not computed because the distribution is too skew

TABLE 2

Fourth toe lamellae, males, North Venezuelan transect

Lamellae	FAL	Bej	Car	Pdc	Dif	Anz	Suc	Cap	Yac	TRI
14	1		2				1			
15	4		4	1	1		2			5
16	7		2	1	6	2	1	4	1	10
17	7				4	3		2	-	10
18	1				1			1	1	1
19	1				1			1		
	21	-	8	2	13	5	4	8	2	26

FAL FALCÓN **Pdc** Pie del Cerro **Suc** Sucre

Bej Bejuma **Dif** Distrito Federal **Cap** Caripito

Car Carabobo **Anz** Anzoátegui **Yac** Yacua

TRI TRINIDAD

TABLE 3

Fourth toe lamellae, males, first Guianan transect

Lamellae	NEV	Geo	DUN	Tib	Par	Mtp	NAS	Man	Sel	Cay	Mat	APA	Bel
12						1				1			
13				1		1	4	1				1	
14					1	1	6				3	7	1
15	1		1				1		1		2	4	
16	8		2										
17	6	2	1										
18	1		3										
19	1												
	17	2	7	1	1	3	11	1	1	1	5	12	1

NEV NE Venezuela
Geo Georgetown
DUN DUNOON
Tib Tibiti
Par Paramaribo
Mtp Moengo Topoe
NAS NASSAU
Man Mana
Sel St. Élie
Cay Cayenne
Mat Matarony
APA AMAPÁ
Bel Belém

TABLE 4

Fourth toe lamellae, males, second Guianan transect

Lamellae	NEV	WBG	ESS	DUN	Aky	Kro	NAS	Poe	Auy	Ror	Luc
12						1					
13						1	4	1			
14							6	1			1
15	1	1	7	1			1				
16	8	7	2	2					1		
17	6	3	7	1	1					1	
18	1		1	3						-	
19	1		1							1	
	17	11	18	7	1	2	11	2	1	2	1

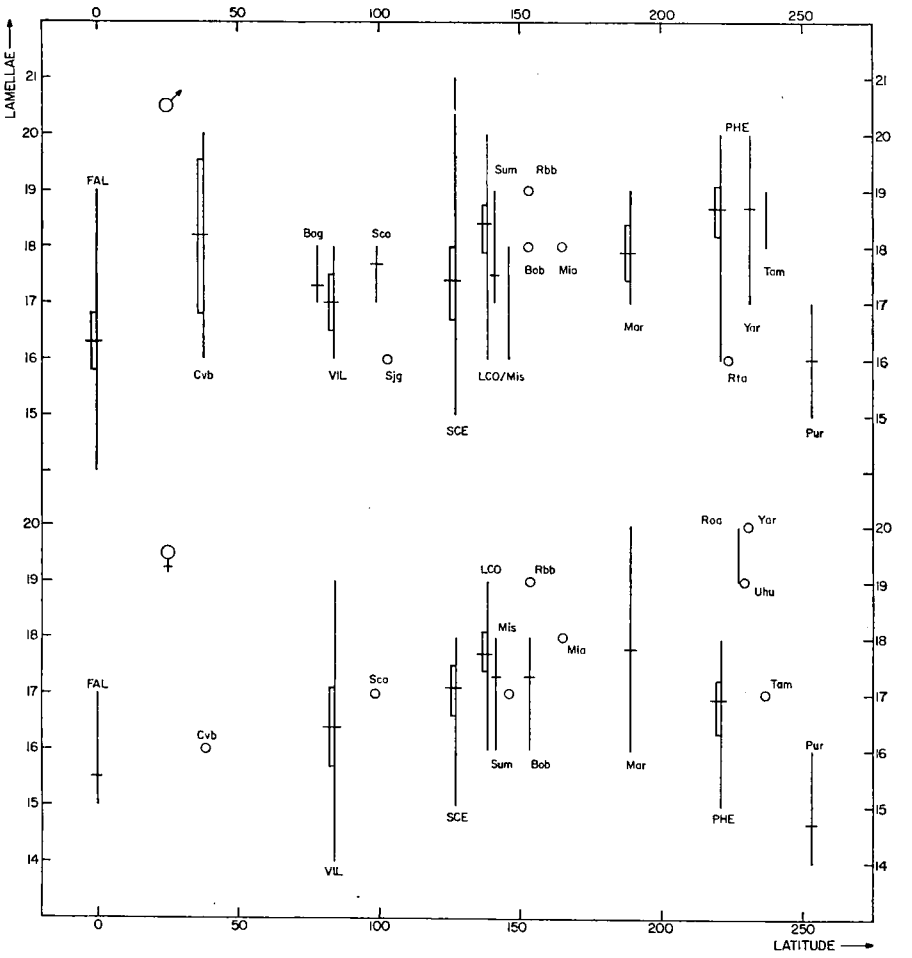
NEV NE VENEZUELA
WBG Western Guyana
ESS ESSEQUIBO
DUN DUNOON
Aky Akyma
Kro Kroetoe
NAS NASSAU
Poe Poeloegoedoe
Auy Auyán-Tepui
Ror Roraima
Luc Lucie

TABLE 5

Fourth toe lamellae, males, Western transect

Lamellae	FAL	Cvb	Bog	VIL	Sco	SCE	LCO	Sum	Mis	Bob	Mia	Mar	PHE	Yar	Tam	Pur	Plp	Sjg	Rbb	Rta
14	1																			
15	4					1										1				
16	7	1		7		1	1		1				1			1	1	1		1
17	7	-	2	9	1	9	6	3	-			2	-	1		1	1			
18	1	3	1	5	2	5	9	-	1	1	2	5	6	-	1					
19	1	1		-		-	11	1				1	7	1	1				1	
20		1		1	-	-	4						3	1						
21						1														
	21	6	3	22	3	17	31	4	2	1	2	8	17	3	2	3	2	1	1	1

FAL	FALCÕN	SCE	SANTA CECILIA	Mia	Miazal	Pur	Purus
Cvb	Colombia-Venezuela border	LCO	LIMÕN COCHA	Mar	Marañon	Plp	Puerto Lopez
Bog	Bogotá	Sum	Sumaco	PHE	PAMPA HERMOSA	Sjg	S.José del Guaviare
VIL	VILLAVICENCIO	Mis	Rio Misahualli	Roa	Roaboya	Rbb	Riobamba
Sco	South Colombia	Bob	Bobonaza	Tam	Rio Tamaya	Rta	Rio Tapiche



Graph 1. Western transect, fourth toe lamellae against latitude (in five minute units, origin in Falcón).

TABLE 6

Fourth toe lamellae, males, Colombo-Guianan transect

Lamellae	VIL	Plp	Dui	SBG	Luc	NAS	Cat
13				1		4	
14				1	1	6	
15				2		1	
16	7	1	1	1			
17	9	1	1	-			1
18	5		-	1			
19	-		1				
20	1		1				
	22	2	4	6	1	11	1

VIL VILLAVICENCIO
Plp Puerto Lopez
Dui Duida
SBG Southern Guyana
Luc Lucie
NAS NASSAU
Cat Catrimani

TABLE 7

Fourth toe lamellae, males,
first Guiano-Brasilian transect

Lamellae	ESS	SBG	Ita	Mau	Cax	TAP
13		1				
14		1	1			
15	7	2	-			
16	2	1	-		4	5
17	7	-	1	3	1	9
18	1	1	4	2		8
19	1					4
	18	6	6	5	5	26

ESS ESSEQUIBO
SBG Southern Guyana
Ita Itapiranga
Mau Manaus
Cax Cachimbo
TAP TAPIRAPÉS

TABLE 8

Fourth toe lamellae, males, second Guiano-Brasilian transect

Lamellae	NAS	Poe	Tir	Ita	Cax	TAP	Luc	Mau
12			1					
13	4	1						
14	6	1		1			1	
15	1			-				
16				-	4	5		
17				1	1	9		3
18				4		8		2
19						4		
	11	2	1	6	5	26	1	5

NAS NASSAU
Poe Poeloegoedoe
Tir Tiriós
Ita Itapiranga
Cax Cachimbo
TAP TAPIRAPÉS
Luc Lucie
Mau Manaus

TABLE 9

Fourth toe lamellae, males, Venezuelo-Brasilian transect

Lamellae	FAL	Dui	Mau	Ita	Cax	TAP	Pgt	Cbr	Ube	Spa	Aru
14	1			1							
15	4			-							
16	7	1		-	4	5		2			
17	7	1	3	1	1	9		2		2	1
18	1	-	2	4		8	1		1	1	
19	1	1				4					
20		1									
	21	4	5	6	5	26	1	4	1	3	1

FAL FALCÓN
Dui Duida
Mau Manaus
Ita Itapiranga
Cax Cachimbo
TAP TAPIRAPÉS
Pgt Porangatu
Cbr Cana Brava
Ube Uberlândia
Spa S. Paulo
Aru Aruanã

TABLE 10

Fourth toe lamellae, males, Napo-Brasilian transect

Lamellae	SCE	LCO	Iqi	Jav	Pja	Mau	Ita	APA	Bel
13								1	
14							1	7	1
15	1			1			-	4	
16	1	1		2	1		-		
17	9	6		2		3	1		
18	5	9	1			2	4		
19	-	11							
20	-	4							
21	1								
	17	31	1	5	1	5	6	12	1

SCE SANTA CECILIA — Jav Rio Javarí — Ita Itapiranga

LCO LIMÓN COCHA — Pja Paraná do Jacaré — APA AMAPÁ

Iqi Iquitos — Mau Manaus — Bel Belém

TABLE 11

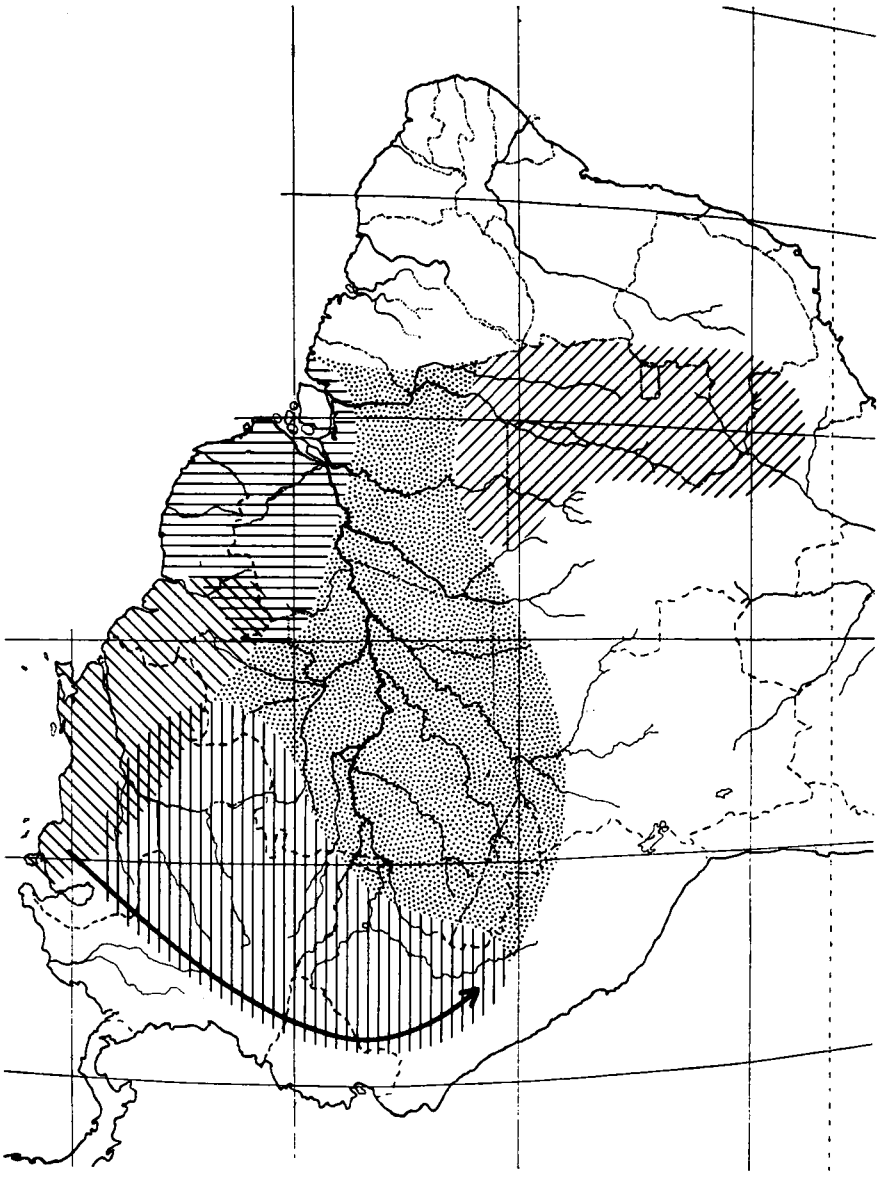
Fourth toe lamellae, males, Ucayalo-Brasilian transect

Lamellae	PHE	Rta	Jur	Mup	Cax	TAP
16	1	1	2	1	4	5
17	-		1		1	9
18	6					8
19	7					4
20	3					
	17	1	3	1	5	26

PHE PAMPA HERMOSA — Mup Mutum-Paraná

Rta Rio Tapiche — Cax Cachimbo

Jur Rio Juruá — TAP TAPIRAPÉS



Map 1. Fourth toe lamellae, males; summary of geographic differentiation.

TABLE 12

Fourth toe lamellae, females, major samples

Samples	N	R	M	I
Falcõn	13	15 - 17	15.5	*
NE Venezuela	18	14 - 18	15.9	15.4 - 16.4
Trinidad	22	15 - 17	16.2	15.9 - 16.5
Western Guyana	13	14 - 18	15.5	14.7 - 16.2
Essequibo	19	15 - 17	15.6	*
Dunoon	10	16 - 18	16.7	16.2 - 17.2
Nassau	14	13 - 15	13.4	*
Amapá	15	12 - 15	13.7	13.2 - 14.2
Villavicencio	17	14 - 19	16.6	16.0 - 17.2
Santa Cecilia	19	15 - 18	17.1	16.6 - 17.5
Limõn Cocha	30	16 - 19	17.7	17.4 - 18.1
Pampa Hermosa	8	16 - 18	17.1	16.6 - 17.7
Tapirapés	23	15 - 18	16.7	16.3 - 17.2

N individuals in sample R observed range M mean

I 95% confidence interval of the mean

* interval not computed because the distribution is too skew

TABLE 13

Fourth toe lamellae, females, North Venezuelan transect

Lamellae	FAL	Bej	Car	Rgd	Dif	Anz	Suc	Cap	Yac	TRI
14			4	2	2		1			
15	7		2	2	4		4	1		3
16	5	1		2	2		6	1	1	11
17	1				1	1	1	2		8
18						1				
	13	1	6	6	9	2	12	4	1	22

FAL FALCÕN Rgd Rancho Grande Suc Sucre

Bej Bejuma Dif Distrito Federal Cap Caripito

Car Carabobo Anz Anzoãtegui Yac Yacua

TRI TINIDAD

TABLE 14

Fourth toe lamellae, females, first Guianan transect

Lamellae	NEV	Hov	Pic	Geo	DUN	Lhy	Tib	Par	Mtp	NAS	Cay	Mat	APA
12							1					1	1
13									1	10		5	6
14	1							1		3		1	5
15	5		1	1		1				1	1	1	3
16	7	1	-	-	4								
17	4	1	1	1	5								
18	1			2	1								
19				2									
	18	2	2	6	10	1	1	1	1	14	1	8	15

NEV NE Venezuela
Hov Haul Over
Pic Pickersgill
Geo Georgetown
DUN DUNOON
Lhy La Haye
Tib Tibiti
Par Paramaribo
Mtp Moengo Tapoe
NAS NASSAU
Cay Cayenne
Mat Matarony
APA AMAPÁ

TABLE 15

Fourth toe lamellae, females, second Guianan transect

Lamellae	NEV	WBG	Ari	ESS	DUN	Aky	Tfb	NAS	Ror
13							2	10	
14	1	3	1					3	
15	5	4		10		1		1	
16	7	4		7	4				
17	4	1		2	5				3
18	1	1			1				1
	18	13	1	19	10	1	2	14	4

NEV NE Venezuela
WBG Western Guyana
Ari Arimu River
ESS ESSEQUIBO
DUN DUNOON
Aky Akyma
Tfb Tafel Berg
NAS NASSAU
Ror Roraima

TABLE 16

Fourth toe lamellae, females, Western transect

Lamellae	FAL	Cvb	VIL	Sco	SCE	LCO	Sum	Mis	Bob	Mia	Mar	PHE	Roa	Yar	Tam	Pur	Plp	Rbb	Rll	Uhu
14			1													2				
15	7		1		1											-				
16	5	1	6		3	3	1		1		1	1				1				
17	1		6	1	9	9	-	1	1		1	5			1		1		1	
18			2		6	11	2		2	2	2	2								
19			1			7					-		1					1		1
20											1		1	2						
	13	1	17	1	19	30	3	1	4	2	5	8	2	2	1	3	1	1	1	1

FAL FALCÓN
Cvb Colombia-Venezuela border
VIL VILLAVICENCIO
Sco South Colombia
SCE SANTA CECILIA
LCO LIMÓN COCHA
Sum Sumaco
Mis Rio Misahualli
Bob Bobonaza
Mia Miazal
Mar Marañon
PHE PAMPA HERMOSA
Roa Roaboya
Yar Yarinacocha
Tam Rio Tamaya
Pur Purus
Plp Puerto Lopez
Rbb Riobamba
Rll Rio Llushin
Uhu Upper Huallaga

TABLE 17

Fourth toe lamellae, females, Colombo-Guianan transect

Lamellae	VIL	Plp	Dui	SBG	NAS	Brv	Cat
13				3	10		
14	1			2	3		
15	1			1	1		
16	6		1			2	1
17	6	1				-	
18	2					-	
19	1					1	
	17	1	1	6	14	3	1

VIL VILLAVICENCIO
Plp Puerto Lopez
Dui Duida
SBG Southern Guyana
NAS NASSAU
Brv Brasil-Venezuela border
Cat Catrimani

TABLE 18

Fourth toe lamellae, females,
first Guiano-Brasilian transect

Lamellae	ESS	SBG	Ita	Mau	Mes	Cax	TAP
13		3					
14		2		1	1	1	
15	10	1		-	1		2
16	7		3	1	1		8
17	2		1	1			7
18							6
	19	6	4	3	3	1	23

ESS ESSEQUIBO
SBG Southern Guyana
Ita Itapiranga
Mau Manaus
Mes Maués
Cax Cachimbo
TAP TAPIRAPÉS

TABLE 19

Fourth toe lamellae, females, second Guiano-Brasilian transect

Lamellae	NAS	Pal	Tir	Ita	Mes	Cax	TAP	Mau
12			1					
13	10	1	1					
14	3		1		1	1		1
15	1				1		2	-
16				3	1		8	1
17				1			7	1
18							6	
	14	1	3	4	3	1	23	3

NAS NASSAU
Pal Paloemeu
Tir Tiriós
Ita Itapiranga
Mes Maués
Cax Cachimbo
TAP TAPIRAPÉS
Mau Manaus

TABLE 20

Fourth toe lamellae, females, Venezuelo-Brasilian transect

Lamellae	FAL	Pay	Dui	Brv	Tpu	Mau	Ita	Mes	Cax	TAP	Cbr	Spa
14						1		1	1			
15	7					-		1		2	1	
16	5		1	2		1	3	1		8	-	2
17	1	1		-		1	1			7	1	-
18				-	1					6		1
19				1								
	13	1	1	3	1	3	4	3	1	23	2	3

FAL FALCÓN
Pay Puerto Ayacucho
Dui Duida
Brv Brasil-Venezuela border
Tpu Tapurucuara
Mau Manaus
Ita Itapiranga
Mes Maués
Cax Cachimbo
TAP TAPIRAPÉS
Cbr Cana Brava
Spa S. Paulo

TABLE 21

Fourth toe lamellae, females, Napo-Brasilian transect

Lamellae	SCE	LCO	Iqi	Jav	Mau	Ita	Mes	APA
12								1
13								6
14					1		1	5
15	1		1	1	-		1	3
16	3	3		2	1	3	1	
17	9	9			1	1		
18	6	11						
19		7						
	19	30	1	3	3	4	3	15

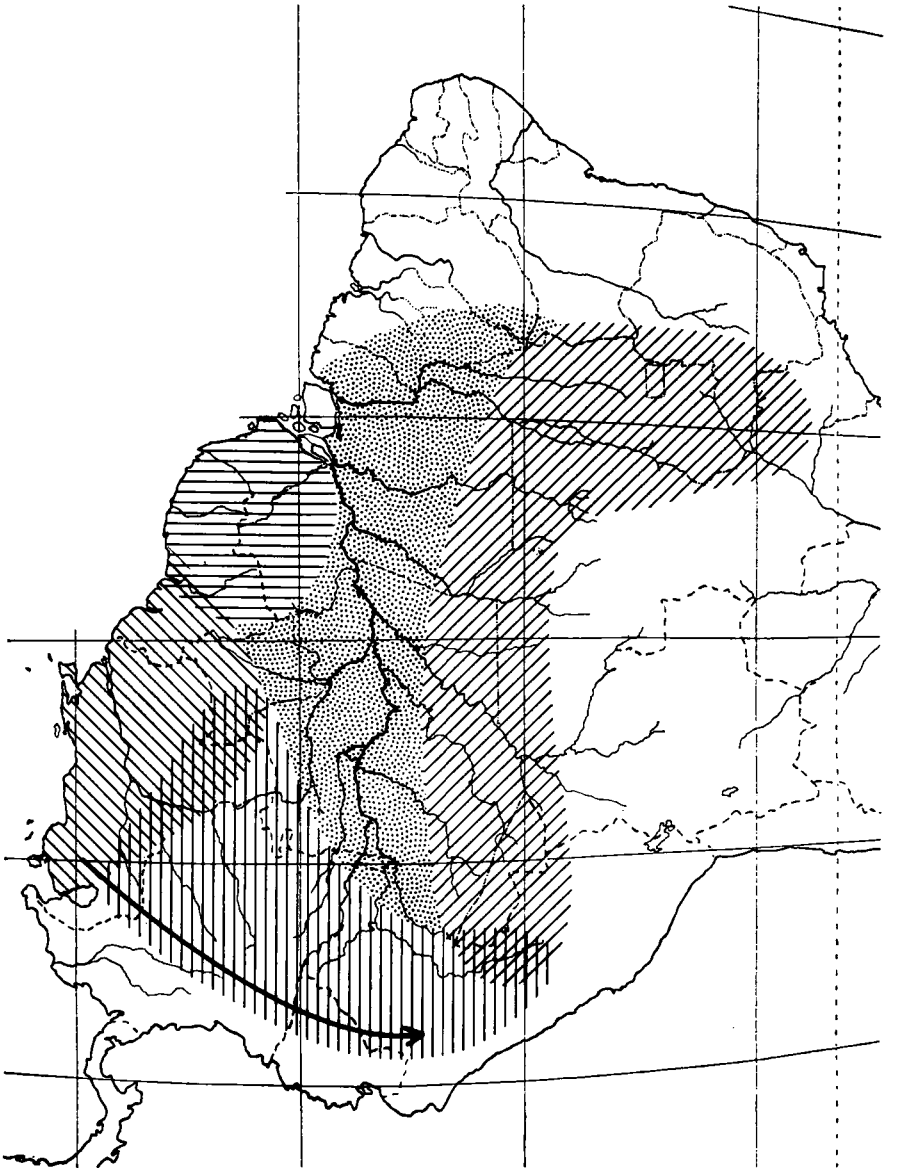
SCE SANTA CECILIA
LCO LIMÓN COCHA
Iqi Iquitos
Jav Rio Javarí
Mau Manaus
Ita Itapiranga
Mes Maués
APA AMAPÁ

TABLE 22

Fourth toe lamellae,
females, Ucayalo-Brasilian transect

Lamellae	PHE	Jur	Cax	TAP	Lor
14			1		
15		1		2	
16	1	-		8	
17	5	-		7	1
18	2	1		6	
	8	2	1	23	1

PHE PAMPA HERMOSA
Jur Rio Juruá
Cax Cachimbo
TAP TAPIRAPÉS
Lor Loreto



Map 2. Fourth toe lamellae, females; summary of geographic differentiation.

TABLE 23

Fourth toe lamellae, sexual differences

	Males			Females						
	N	M		N	M		d	t	df	x^2
Falcón	21	16.3	± .25	13	15.5	±	.8		5	7.167
Trinidad	26	16.3	.16	22	16.2	.14	.1	.189		
Essequibo	18	16.3		19	15.6		.7		4	8.066
Dunoon	7	16.9	.46	10	16.7	.21	.2	.343		
Nassau	11	13.7	.19	14	13.4		.3		2	3.258
Amapá	12	14.3	.18	15	13.7	.23	.6	1.908		
Villavicencio	22	17.0	.21	17	16.6	.29	.4	1.313		
Santa Cecilia	17	17.4	.30	19	17.1	.19	.3	.864		
Limón Cocha	31	18.4	.19	30	17.7	.17	.7	2.429 *		
Pampa Hermosa	17	18.6	.24	8	17.1	.23	1.5	3.932 ***		
Tapirapés	26	17.4	.19	23	16.7	.20	.7	2.449 *		

N individuals in sample M mean d difference between means t Student's
df degrees of freedom for chi square x^2 chi square
* significant at the .05 level *** significant at the .001 level

TABLE 24

Loreals, males, major samples

Loreals	FAL	NEV	TRI	WBG	ESS	DUN	NAS	APA	VIL	SCE	LCO	PHE	TAP
5	1	4	4	3	4	1	3	2	5	1	1	1	5
6	17	7	16	4	12	4	5	5	8	5	11	4	12
7	3	6	5	3	2	2	3	5	7	10	11	7	8
8			1	1					2	1	7	4	1
9											1	1	
	21	21	26	11	18	7	11	12	22	17	31	17	26

FAL Falcón
NEV NE Venezuela
TRI Trinidad
WBG Western Guyana
ESS Essequibo
DUN Dunoon
NAS Nassau
APA Amapá
VIL Villavicencio
SCE Santa Cecilia
LCO Limón Cocha
PHE Pampa Hermosa
TAP Tapirapés

TABLE 25

Loreals, males, Western transect

Loreals	FAL	Cvb	Bog	VIL	Sco	SCE	LCO	Sum	Mis	Bob	Mia	Mar	PHE	Yar	Tam	Pur	Plo	Sjg	Rbb	Rta
5	1		1	5		1	1						1				1			
6	17	3	1	8	1	5	11		1			1	4		1	1	1	1		
7	3	2	1	7	2	10	11	3	1	1	1	4	7	2	-	1			1	1
8		1		2		1	7	1			1	3	4	1	1	1				
9							1						1		1					
	21	6	3	22	3	17	31	4	2	1	2	8	17	3	3	3	2	1	1	1

FAL	FALCÓN	SCE	SANTA CECILIA	Mia	Miazal	Pur	Purus
Cvb	Colombia-Venezuela border	LCO	LIMÓN COCHA	Mar	Marañon	Pep	Puerto Lopez
Bog	Bogotá	Sum	Sumaco	PHE	PAMPA HERMOSA	Sjg	S.José del Guaviare
VIL	VILLAVICENCIO	Mis	Rio Misahualli	Yar	Yarinacocha	Rbb	Riobamba
Sco	South Colombia	Bob	Bobonaza	Tam	Rio Tamaya	Rta	Rio Tapiche

TABLE 26

Loreals, males, Colombo-Guianan transect

Loreals	VIL	Plp	Dui	SBG	Luc	NAS	Cat
5	5	1	1			3	
6	8	1	1	5	1	5	
7	7		-	1		3	1
8	2		2				
	22	2	4	6	1	11	1

VIL VILLAVICENCIO Dui Duida Luc Lucie
Plp Puerto Lopez SBG Southern Guyana NAS NASSAU
Cat Catrimani

TABLE 27

Loreals, males, Napo-Brasilian transect

Loreals	SCE	LCO	Iqi	Jav	Pja	Mau	Ita	APA	Bel
5	1	1						2	
6	5	11		1		2		5	1
7	10	11	1	3	1	3	3	5	
8	1	7					2		
9		1					1		
	17	31	1	4	1	5	6	12	1

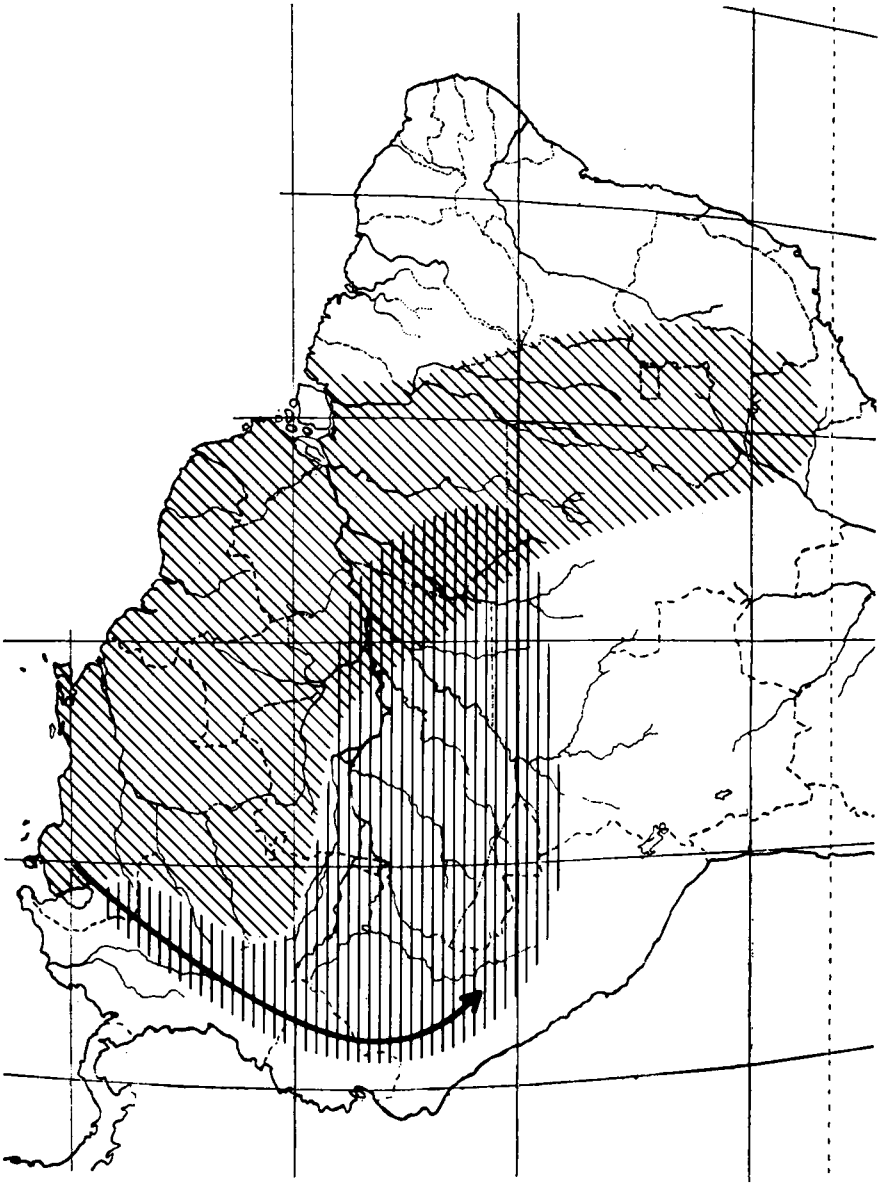
SCE SANTA CECILIA Jav Rio Javarí Ita Itapiranga
LCO LIMÓN COCHA Pja Paraná do Jacaré APA AMAPÁ
Iqi Iquitos Mau Manaus Bel Belém

TABLE 28

Loreals, males, Ucayalo-Brasilian transect

Loreals	PHE	Rta	Jur	Mup	Cax	TAP
5	1					5
6	4		2	1	2	12
7	7	1	1	1	3	8
8	4					1
9	1					
	17	1	3	2	5	26

PHE PAMPA HERMOSA
Rta Rio Tapiche
Jur Rio Juruã
Mup Mutum-Paranã
Cax Cachimbo
TAP TAPIRAPÉS



Map. 3. Loreals, males; summary of geographic differentiation.

TABLE 29

Loreals, females, major samples

Loreals	FAL	NEV	TRI	WBG	ESS	DUN	NAS	APA	VIL	SCE	LCO	PHE	TAP
5	2	3	2	1	1		1	3	1				2
6	7	8	13	2	14	5	6	10	6	7	8	1	8
7	4	7	8	9	3	5	7	5	7	6	14	6	13
8				1	1				3	6	5	-	1
9											5	2	
	13	18	23	13	19	10	14	18	17	19	32	9	24

FAL Falcón
NEV NE Venezuela
TRI Trinidad
WBG Western Guyana
ESS Essequibo
DUN Dunoon
NAS Nassau
APA Amapá
VIL Villavicencio
SCE Santa Cecilia
LCO Limón Cocha
PHE Pampa Hermosa
TAP Tapirapés

TABLE 30

Loreals, females, Western transect

Loreals	FAL	Cvb	VIL	Sco	SCE	LCO	Sum	Mis	Bob	Mia	Mar	PHE	Roa	Yar	Tam	Pur	Plp	Rbb	Rll	Uhu
5	2		1														1			
6	7	1	6	1	7	8			2	1		1							1	
7	4		7		6	14	3		1	-	3	6	1	1	1	1				
8			3		6	5		1	1	-	2	-	1	-		-				1
9						5				1		2		1		2		1		
	13	1	17	1	19	32	3	1	4	2	5	9	2	2	1	3	1	1	1	1

FAL FALCÓN
Cvb Colombia-Venezuela border
VIL VILLAVICENCIO
Sco South Colombia
SCE SANTA CECILIA
LCO LIMÓN COCHA
Sum Sumaco
Mis Rio Misahualli
Bob Bobonaza
Mia Miazal
Mar Marañon
PHE PAMPA HERMOSA
Roa Roaboya
Yar Yarinacocha
Tam Rio Tamaya
Pur Purus
Plp Puerto Lopez
Rbb Riobamba
Rll Rio Llushin
Uhu Upper Huallaga

TABLE 31

Loreals, females, Colombo-Guianan transect

Loreals	VIL	Plp	Dui	SBG	NAS	Brv	Cat
5	1	1			1		
6	6			5	6	1	
7	7			1	7	-	1
8	3		1			2	
	17	1	1	6	14	3	1

VIL VILLAVICENCIO
Plp Puerto Lopez
Dui Duida
SBG Southern Guyana
NAS NASSAU
Brv Brasil-Venezuela border
Cat Catrimani

TABLE 32

Loreals, females, Napo-Brasilian transect

Loreals	SCE	LCO	Iqi	Jav	Mau	Ita	Mes	APA
5								3
6	7	8	1		1		3	10
7	6	14		2	2	2		5
8	6	5		2		2		
9		5						
	19	32	1	4	3	4	3	18

SCE SANTA CECILIA
LCO LIMÓN COCHA
Iqi Iquitos
Jav Rio Javarí
Mau Manaus
Ita Itapiranga
Mes Maués
APA AMAPÁ

TABLE 33

Loreals, females, Ucayalo-Brasilian transect

Loreals	PHE	Jur	Cax	TAP	Lor
5				2	
6	1			8	
7	6	1	1	13	
8	2	1		1	1
	9	2	1	24	1

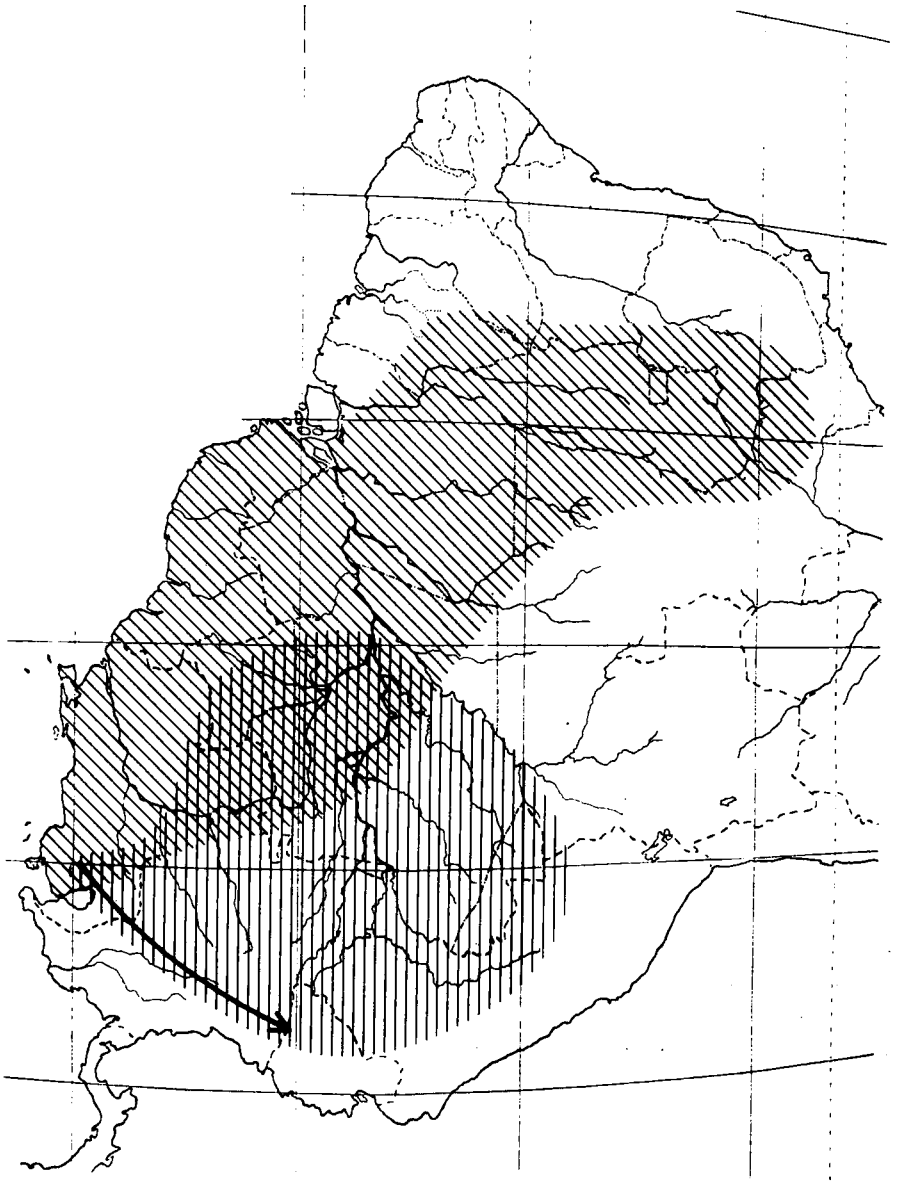
PHE PAMPA HERMOSA
Jur Rio Juruá
Cax Cachimbo
TAP TAPIRAPÉS
Lor Loreto

TABLE 34

Loreals, females, Venezuelo-Brasilian transect

Loreals	FAL	Pay	Dui	Brv	Tpu	Mau	Ita	Mes	Cax	TAP	Cbr	Spa
5	2									2	1	
6	7			1		1		3		8	2	
7	4	1		-		2	2		1	13		1
8			1	2	1		2			1		2
	13	1	1	3	1	3	4	3	1	24	3	3

FAL FALCÓN
Pay Puerto Ayacucho
Dui Duida
Brv Brasil-Venezuela border
Tpu Tapurucuara
Mau Manaus
Ita Itapiranga
Mes Mauês
Cax Cachimbo
TAP TAPIRAPÉS
Cbr Cana Brava
Spa S. Paulo



Map 4. Loreals, females; summary of geographic differentiation

TABLE 35

Loreals, sex differences, major samples

	df	X^2
Falcón	2	2.924
Trinidad	3	2.499
Essequibo	3	3.130
Dunoon	2	1.930
Nassau	2	2.368
Amapá	2	.696
Villavicencio	3	2.555
Santa Cecilia	3	5.814
Limón Cocha	4	4.826
Pampa Hermosa	4	5.247
Tapirapés	3	3.205

df degrees of freedom

X^2 chi square

TABLE 36

Scales across snout, males, major samples

	N	R	M	I
Falcón	21	7 - 12	9.0	8.5 - 9.6
NE Venezuela	17	8 - 11	9.8	9.3 - 10.3
Trinidad	26	7 - 13	10.4	9.8 - 11.0
Western Guyana	11	8 - 12	9.4	*
Essequibo	18	7 - 11	8.8	8.2 - 9.4
Dunoon	7	9 - 12	10.3	9.1 - 11.4
Nassau	11	10 - 13	11.4	10.8 - 11.9
Amapá	12	10 - 13	11.9	11.3 - 12.5
Villavicencio	22	9 - 12	10.3	9.8 - 10.8
Santa Cecilia	16	9 - 12	10.6	10.1 - 11.2
Limón Cocha	31	8 - 15	11.0	10.4 - 11.7
Pampa Hermosa	17	10 - 17	12.8	11.9 - 13.8
Tapirapés	26	8 - 11	9.2	8.9 - 9.6

N individuals in sample R observed range M mean

I 95% confidence interval of the mean

* interval not computed because the distribution is too skew

TABLE 37

Scales across snout, males, North Venezuelan transect

Scales	FAL	Bej	Car	Pdc	Dif	Anz	Suc	Cap	Yac	TRI
7	1									1
8	6		4		1	1				1
9	8		2	1	2	1	2	2		4
10	4		1	1	6	1	1	4	1	8
11	1	1	1		3	2		2	2	6
12	1				1					5
13										1
	21	1	8	2	13	5	3	8	3	26

FAL FALCÓN
Bej Bejuma
Car Carabobo
Pdc Pie del Cerro
Dif Distrito Federal
Anz Anzoátegui
Suc Sucre
Cap Caripito
Yac Yacua
TRI TRINIDAD

TABLE 38

Scales across snout, males, first Guianan transect

Scales	NEV	Geo	DUN	Tib	Par	Mtp	NAS	Man	Sel	Cay	Mat	APA	Bel
8	1	2											
9	5		2										
10	6		3				1				1	1	
11	4		-				6				-	2	
12			2	1		1	3	1		1	4	6	
13						1	1		1	1		3	1
14					1	1							
	16	2	7	1	1	3	11	1	1	2	5	12	1

NEV NE Venezuela
Geo Georgetown
DUN DUNOON
Tib Tibiti
Par Paramaribo
Mtp Moengo Tapoe
NAS NASSAU
Man Mana
Sel St. Élie
Cay Cayenne
Mat Matarony
APA AMAPÁ
Bel Belém

TABLE 39

Scales across snout, males, second Guianan transect

Scales	NEV	WBG	ESS	DUN	Aky	Kro	NAS	Poe	Auy	Ror	Luc
7			2							2	
8	1	4	6								
9	5	3	5	2					1		
10	6	1	3	3		1	1				
11	4	2	2	-	1	-	6				1
12		1		2		-	3				
13						1	1	1			
14								1			
	16	11	18	7	1	2	11	2	1	2	1

NEV NE VENEZUELA
WBG Western Guyana
ESS ESSEQUIBO
DUN DUNOON
Aky Akyma
Kro Kroetoe
NAS NASSAU
Poe Poeloegoedoe
Auy Auyán-Tepui
Ror Roraima
Luc Lucie

TABLE 40

Scales across snout, males, Western transect

Scales	FAL	Cvb	Bog	VIL	Sco	SCE	LCO	Sum	Mis	Bob	Mia	Mar	PHE	Yar	Tam	Pur	Plp	Sjg	Rbb	Rta
7	1																1			
8	6						1										-			
9	8	3	1	6	1	2	6		1								1			
10	4	2	1	8	1	6	8	1	-			2	2						1	
11	1	-	1	3	-	4	3	2	1			3	2	1	1	1		1		
12	1	-		5	1	4	6	1		1	1	2	3	2	-	-				
13		1					4				1	1	4		-	2				
14							2						4		1					1
15							1						1		-					
16													-		1					
17													1							
	21	6	3	22	3	16	31	4	2	1	2	8	17	3	3	3	2	1	1	1

FAL FALCÓN
Cvb Colombia-Venezuela border
Bog Bogotá
VIL VILLAVICENCIO
Sco South Colombia
SCE SANTA CECILIA
LCO LIMÓN COCHA
Sum Sumaco
Mis Rio Misahualli
Bob Bobonaza
Mia Miazal
Mar Marañon
PHE PAMPA HERMOSA
Yar Yarinacocha
Tam Rio Tamaya
Pur Purus
Plp Puerto Lopez
Sjg S.José del Guaviare
Rbb Riobamba
Rta Rio Tapiche

TABLE 41

Scales across snout, males, Colombo-Guianan transect

Scales	VIL	Plp	Dui	SBG	Luc	NAS	Cat
7		1					
8		-	1	1			
9	6	1	1	2			1
10	8		1	1		1	
11	3		1	-	1	6	
12	5			1		3	
13				-		1	
14				1			
	22	2	4	6	1	11	1

VIL VILLAVICENCIO
Plp Puerto Lopez
Dui Duida
SBG Southern Guyana
Luc Lucie
NAS NASSAU
Cat Catrimani

TABLE 42

Scales across snout, males,
first Guiano-Brasilian transect

Scales	ESS	SBG	Ita	Mau	Cax	TAP
7	2		3			
8	6	1	1	1		4
9	5	2	1	2	2	15
10	3	1	-	1	3	4
11	2	-	1			3
12		1				
13		-				
14		1				
	18	6	6	4	5	26

ESS ESSEQUIBO
SBG Southern Guyana
Ita Itapiranga
Mau Manaus
Cax Cachimbo
TAP TAPIRAPÉS

TABLE 43

Scales across snout, males, second Guiano-Brasilian transect

Scales	NAS	Poe	Tir	Ita	Cax	TAP	Luc	Mau
7				3				
8				1		4		1
9				1	2	15		2
10	1		1	-	3	4		1
11	6			1		3	1	
12	3							
13	1	1						
14		1						
	11	2	1	6	5	26	1	4

NAS NASSAU
Poe Poeloegoedoe
Tir Tiriós
Ita Itapiranga
Cax Cachimbo
TAP TAPIRAPÉS
Luc Lucie
Mau Manaus

TABLE 44

Scales across snout, males, Venezuelo-Brasilian transect

Scales	FAL	Dui	Mau	Ita	Cax	TAP	Pgt	Cbr	Ube	Spa	Aru
7	1			3				1			
8	6	1	1	1				1			
9	8	1	2	1	2	15	1	1		3	1
10	4	1	1	-	3	4		-		-	
11	1	1		1		3		1		1	
12	1								1		
	21	4	4	6	5	26	1	4	1	4	1

FAL FALCÓN
Brv Brasil-Venezuela border
Mau Manaus
Ita Itapiranga
Cax Cachimbo
TAP TAPIRAPÉS
Pgt Porangatu
Cbr Cana Brava
Ube Uberlândia
Spa S. Paulo
Aru Aruana

TABLE 45

Scales across snout, males, Napo-Brasilian transect

Scales	SCE	LCO	Iqi	Jav	Pja	Mau	Ita	APA	Bel
7							3		
8						1	1		
9	2	1				2	1		
10	6	6				1	-	1	
11	4	8					1	2	
12	4	3	1		1			6	
13		6		3				3	1
14		4		1					
15		2							
16		1							
	16	31	1	4	1	4	6	12	1

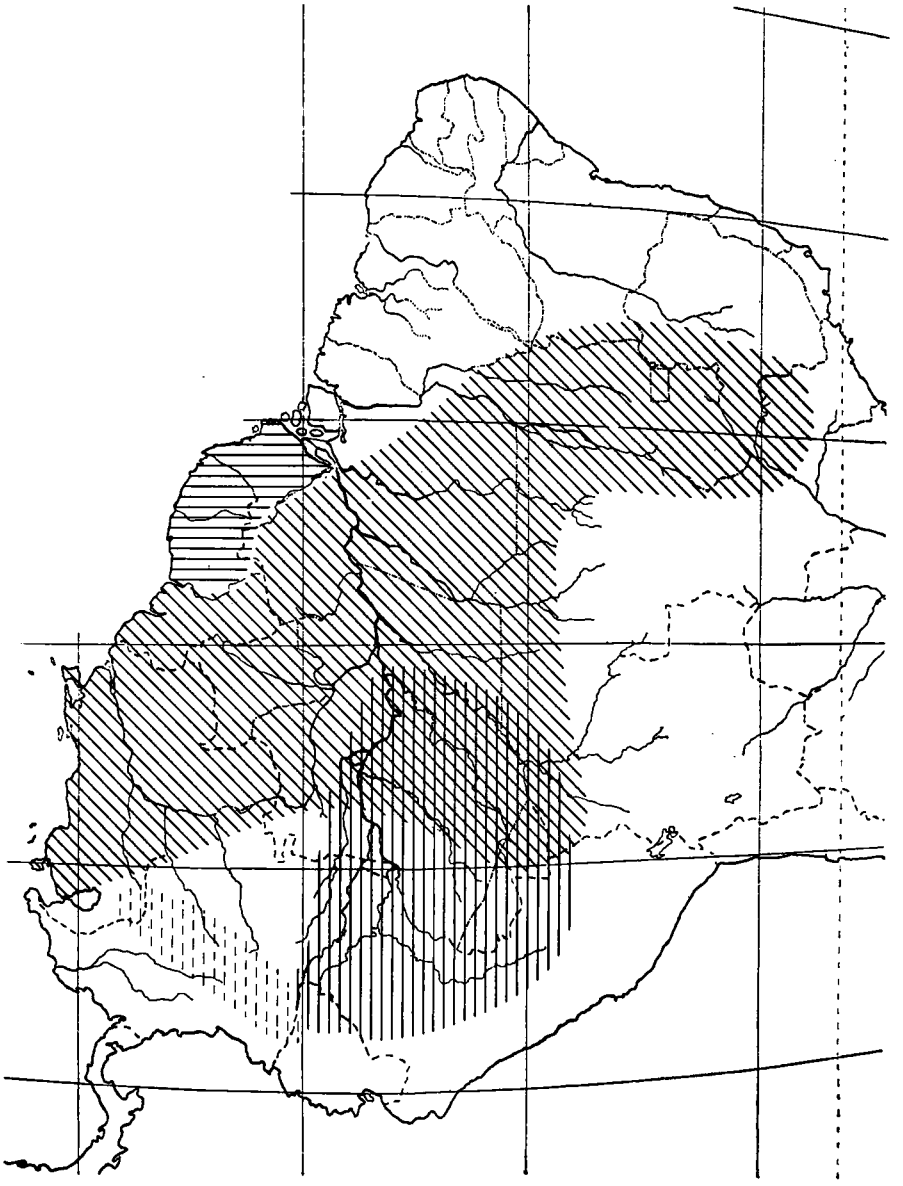
SCE SANTA CECILIA
LCO LIMÓN COCHA
Iqi Iquitos
Jav Rio Javarí
Pja Paraná do Jacaré
Mau Manaus
Ita Itapiranga
APA AMAPÁ
Bel Belém

TABLE 46

Scales across snout, males, Ucayalo-Brasilian transect

Scales	PHE	Rta	Jur	Mup	Cax	TAP
8						4
9					2	15
10	2				3	4
11	2		1	1		3
12	3		1	-		
13	4		1	1		
14	4	1				
15	1					
16	-					
17	1					
	17	1	3	2	5	26

PHE PAMPA HERMOSA
Rta Rio Tapiche
Jur Rio Juruá
Mup Mutum Paraná
Cax Cachimbo
TAP TAPIRAPÉS



Map 5. Scales across snout, males; summary of geographic differentiation.

TABLE 48

Scales across snout, females, North Venezuelan transect

Scales	FAL	Bej	Car	Rgd	Dif	Anz	Suc	Cap	Yac	TRI
7	1		1							
8	-		-				1			1
9	2		2		1		1	1		8
10	3	1	1	6	5		6	1		3
11	7		2		1	2	3	1		5
12					2		1	1	1	6
	13	1	6	6	9	2	12	4	1	23

FAL FALCÓN
Bej Bejuma
Car Carabobo
Rgd Rancho Grande
Dif Distrito Federal
Anz Anzoãtegui
Suc Sucre
Cap Caripito
Yac Yacua
TRI TRINIDAD

TABLE 49

Scales across snout, females, first Guianan transect

Scales	NEV	Hov	Pic	Geo	DUN	Lhy	Tib	Par	Mtp	NAS	Cay	Mat	APA
8	1												
9	2			1	2								
10	7	1	2	4	4	1						1	4
11	6	1	1	1	4					1		1	2
12	2						1		1	5	1	3	8
13								1		3		3	3
14										5			-
15													1
	18	2	3	6	10	1	1	1	1	14	1	8	18

NEV NE Venezuela
Hov Haul Over
Pic Pickersgill
Geo Georgetown
DUN DUNOON
Lhy La Haye
Tib Tibiti
Par Paramaribo
Mtp Moengo Tapoe
NAS NASSAU
Cay Cayenne
Mat Matarony
APA AMAPÁ

TABLE 47

Scales across snout, females, major samples

Samples	N	R	M	I
Falcón	13	7 - 11	10.2	*
NE Venezuela	18	8 - 12	10.3	9.8 - 10.8
Trinidad	23	8 - 12	10.3	*
Western Guyana	13	7 - 11	9.8	*
Essequibo	19	8 - 11	9.6	9.1 - 10.0
Dunoon	10	9 - 11	10.2	*
Nassau	14	11 - 14	12.9	*
Amapá	18	10 - 15	11.8	*
Villavicencio	17	9 - 14	11.4	10.6 - 12.2
Santa Cecilia	17	9 - 13	11.4	10.8 - 12.0
Limón Cocha	32	9 - 14	11.1	10.5 - 11.6
Pampa Hermosa	9	12 - 18	14.7	13.3 - 16.1
Tapirapés	24	8 - 11	9.2	8.8 - 9.5

N individuals in sample R observed range M mean

I 95% confidence interval of the mean

* interval not computed because the distribution is too skew

TABLE 50

Scales across snout, females, second Guianan transect

Scales	NEV	WBG	Ari	ESS	DUN	Aky	Tfb	NAS	Ror
7		1							
8	1	1		3					2
9	2	2	1	5	2				1
10	7	5		8	4	1			1
11	6	4		3	4			1	
12	2							5	
13							1	3	
14							1	5	
	18	13	1	19	10	1	2	14	4

NEV NE Venezuela
WBG Western Guyana
Ari Arimu River
ESS ESSEQUIBO
DUN DUNOON
Aky Akyma
Tfb Tafel Berg
NAS NASSAU
Ror Roraima

TABLE 51

Scales across snout, females, Western transect

Scales	FAL	Cvb	VIL	Sco	SCE	LCO	Sum	Mis	Bob	Mia	Mar	PHE	Roa	Yar	Tam	Pur	Plp	Rbb	Rll	Uhu
7	1																			
8	-	1					1													
9	2		3		1	4	-		1		1								1	
10	3		2	1	2	9	-		-		1									
11	7		2		6	8	2		1	1	1						1	1		
12			6		5	5			1	1	1	1	1	1		1				
13			3		3	4		1	1			-	-	1		2				
14			1			2						5	-		1					1
15												1	-							
16												-	1							
17												1								
18												1								
	13	1	17	1	17	32	3	1	4	2	4	9	2	2	1	3	1	1	1	1

FAL	FALCÓN	LCO	LIMÓN COCHA	Mar	Marañon	Pur	Purus
Cvb	Colombia-Venezuela border	Sum	Sumaco	PHE	PAMPA HERMOSA	Plp	Puerto Lopez
VIL	VILLAVICENCIO	Mis	Rio Misahualli	Roa	Roaboya	Rbb	Riobamba
Sco	South Colombia	Bob	Bobonaza	Yar	Yarinacocha	Rll	Rio Llushin
SCE	SANTA CECILIA	Mia	Miazal	Tam	Rio Tamaya	Uhu	Upper Huallaga

TABLE 52

Scales across snout, females, Colombo-Guianan transect

Scales	VIL	Plp	Dui	SBG	NAS	Brv	Cat
8							
9	3		1				1
10	2			3		1	
11	2	1		3	1	1	
12	6				5	1	
13	3				3		
14	1				5		
	17	1	1	6	14	3	1

VIL VILLAVICENCIO
Plp Puerto Lopez
Dui Duida
SBG Southern Guyana
NAS NASSAU
Brv Brasil-Venezuela border
Cat Catrimani

TABLE 53

Scales across snout, females,
first Guiano-Brasilian transect

Scales	ESS	SBG	Ita	Mau	Mes	Cax	TAP
8	3		1	1			4
9	5		2	1			13
10	8	3	1	-		1	6
11	3	3		1	1		1
12					1		
13					1		
	19	6	4	3	3	1	24

ESS ESSEQUIBO
SBG Southern Guyana
Ita Itapiranga
Mau Manaus
Mes Maués
Cax Cachimbo
TAP TAPIRAPÉS

TABLE 54

Scales across snout, females, second Guiano-Brasilian transect

Scales	NAS	Pal	Tir	Ita	Mes	Cax	TAP	Mau
8				1			4	1
9				2			13	1
10				1		1	6	-
11	1		3		1		1	1
12	5				1			
13	3	1			1			
14	5							
	14	1	3	4	3	1	24	3

NAS NASSAU
Pal Paloemeu
Tir Tiriós
Ita Itapiranga
Mes Maués
Cax Cachimbo
TAP TAPIRAPÉS
Mau Manaus

TABLE 55

Scales across snout, females, Venezuelo-Brasilian transect

Scales	FAL	Pay	Dui	Brv	Tpu	Mau	Ita	Mes	Cax	TAP	Cbr	Spa
7	1											
8	-					1	1			4	1	1
9	2		1			1	2			13	1	-
10	3			1		-	1		1	6	-	1
11	7	1		1		1		1		1	1	1
12				1	1			1				
13								1				
	13	1	1	3	1	3	4	3	1	24	3	3

FAL FALCÓN
Pay Puerto Ayacucho
Dui Duida
Brv Brasil-Venezuela border
Tpu Tapurucuara
Mau Manaus
Ita Itapiranga
Mes Maués
Cax Cachimbo
TAP TAPIRAPÉS
Cbr Cana Brava
Spa S. Paulo

TABLE 56

Scales across snout, females, Napo-Brasilian transect

Scales	SCE	LCO	Iqi	Jav	Mau	Ita	Mes	APA
8					1	1		
9	1	4	1		1	2		
10	2	9			-	1		4
11	6	8		1	1		1	2
12	5	5		1			1	8
13	3	4		-			1	3
14		2		2				-
15								1
	17	32	1	4	3	4	3	18

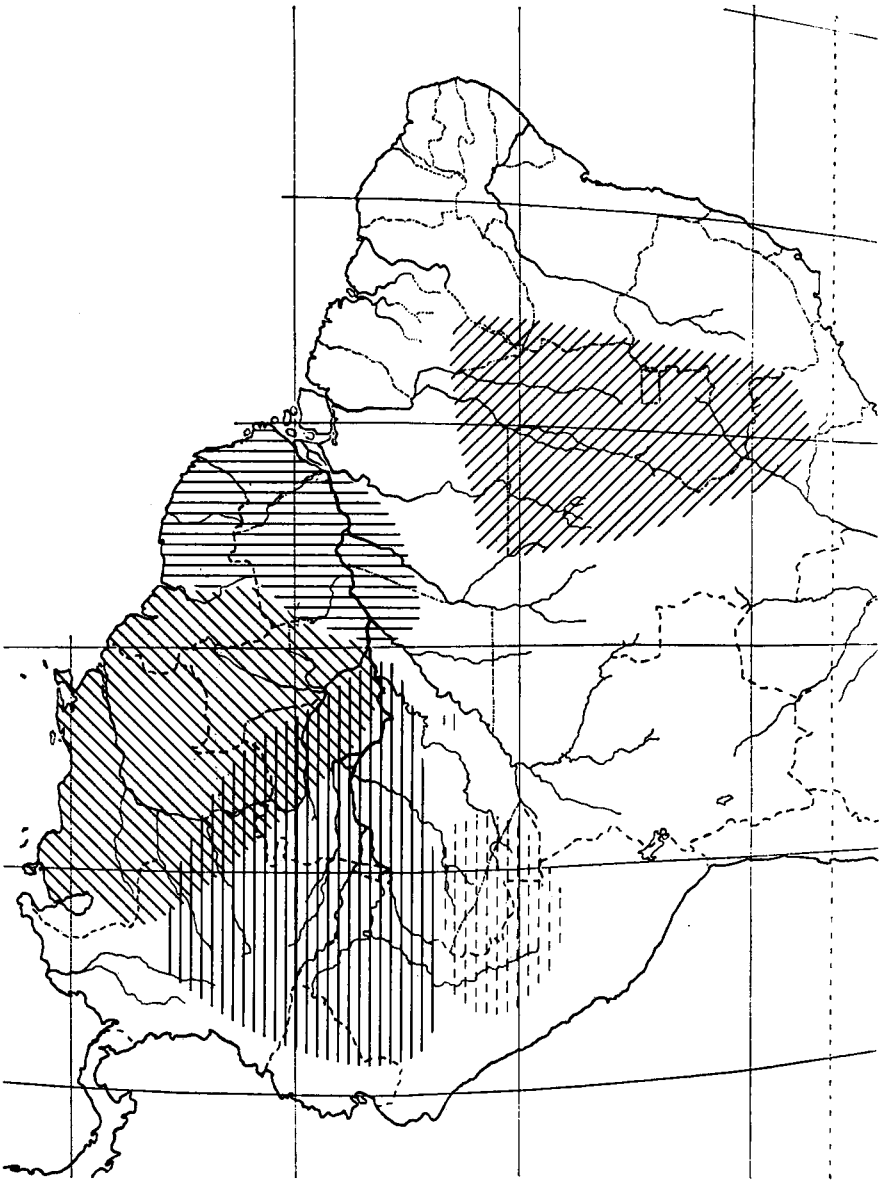
SCE SANTA CECILIA Iqi Iquitos Ita Itapiranga
LCO LIMÓN COCHA Jav Rio Javarí Mes Mauês
Mau Manaus APA AMAPÁ

TABLE 57

Scales across snout,
females, Ucayalo-Brasilian transect

Scales	PHE	Jur	Cax	TAP	Lor
9				4	
10			1	13	1
11				6	
12	1			1	
13	-	1			
14	5	-			
15	1	1			
16	-				
17	1				
18	1				
	9	2	1	24	1

PHE PAMPA HERMOSA Cax Cahimbo
Jur Rio Juruá TAP TAPIRAPÉS
Lor Loreto



Map 6. Sales across snout, females; summary of geographic differentiation.

TABLE 58

Scales across snout, sexual differences

	Males			Females						
	N	M		N	M		d	t	df	x^2
Falcón	21	9.0	± .25	13	10.2	±	1.2		5	14.144 *
Trinidad	26	10.4	.28	23	10.0		.4		6	5.630
Essequibo	18	8.8	.28	19	9.6	.22	.8	2.091 *		
Dunoon	7	10.3	.47	10	10.2	.25	.1	.174		
Nassau	11	11.4	.25	14	12.9		1.5		4	10.868 *
Amapá	9	11.8	.32	16	11.7		.1		4	1.965
Villavicencio	22	10.3	.24	17	11.4	.37	1.1	2.558 *		
Santa Cecilia	16	10.6	.26	17	11.4	.27	.8	2.101 *		
Limón Cocha	31	11.0		32	11.1		.1		7	11.731
Pampa Hermosa	17	12.8	.44	10	14.7	.60	1.9	2.473		
Tapirapés	26	9.2	.17	24	9.2	.16	0			

N individuals in sample M mean d difference between means t Student's
df degrees of freedom for chi square x^2 chi square
* significant at the 0.5 level

TABLE 59

Scales between supraorbital semicircles, males, major samples

Scales	FAL	NEV	TRI	WBG	ESS	DUN	NAS	APA	VIL	SCE	LCO	PHE	TAP
0				1			1						8
1	4	2	6	5	5	3	1	2	8		1		14
2	16	15	18	5	12	4	6	4	13	11	19	6	4
3	1		2		1		3	6	1	5	11	5	
4												5	
5												1	
	21	17	26	11	18	7	11	12	22	16	31	17	26

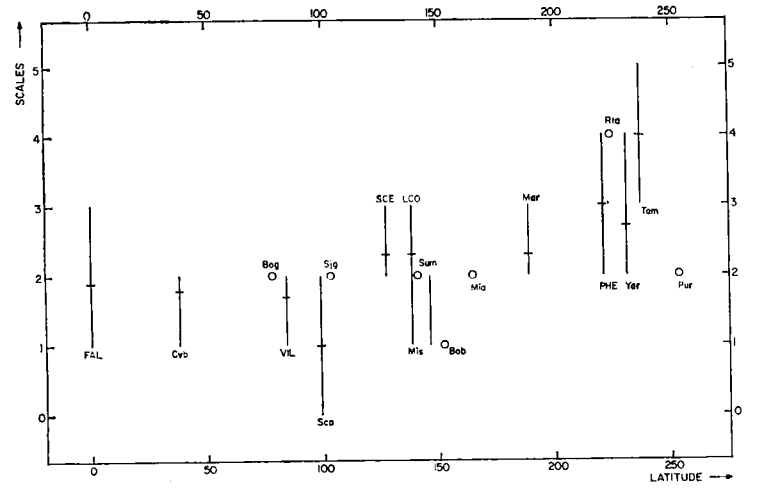
FAL Falcón
NEV NE Venezuela
TRI Trinidad
WBG Western Guyana
ESS Essequibo
DUN Dunoon
NAS Nassau
APA Amapá
VIL Villavicencio
SCE Santa Cecilia
LCO Limón Cocha
PHE Pampa Hermosa
TAP Tapirapés

TABLE 60

Scales between supraorbital semicircles, males, Western transect

Scales	FAL	Cvb	Bog	VIL	Sco	SCE	LCO	Sum	Mis	Bob	Mia	Mar	PHE	Yar	Tam	Pur	Plp	Sjg	Rbb	Rta
0					1															
1	4	1		8	1		1		1								1			
2	16	5	3	13	1	11	19	4	1	1	2	6	6	2		3	1	1	1	
3	1			1		5	11					2	5	-	1					
4													5	1	1					1
5													1		1					
	21	6	3	22	3	16	31	4	2	1	2	8	17	3	3	3	2	1	1	1

FAL FALCÓN
Cvb Colombia-Venezuela border
Bog Bogotá
VIL VILLAVICENCIO
Sco South Colombia
SCE SANTA CECILIA
LCO LIMÓN COCHA
Sum Sumaco
Mis Rio Misahualli
Bob Bobonaza
Mia Miazal
Mar Marañon
PHE PAMPA HERMOSA
Yar Yarinacocha
Tam Rio Tamaya
Pur Purus
Plp Puerto Lopez
Sjg S.José del Guaviare
Rbb Riobamba
Rta Rio Tapiche



Graph 2. Western transect, males, scales between supraorbital semicircles against latitude (in five minute units, origin in Falcón).

TABLE 61

Scales between supraorbital semicircles, males, first Guiano-Brasilian transect

Scales	ESS	SBG	Ita	Mau	Cax	TAP
0						8
1	5	3	4	3	3	14
2	12	2	-	2	2	4
3	1	1	1			
	18	6	5	5	5	26

ESS ESSEQUIBO
SBG Southern Guyana
Ita Itapiranga
Mau Manaus
Cax Cachimbo
TAP TAPIRAPÉS

TABLE 62

Scales between supraorbital semicircles, males, second Guiano-Brasilian transect

Scales	NAS	Poe	Tir	Ita	Cax	TAP	Luc	Mau
0	1					8		
1	1			4	3	14		3
2	6	2	1	-	2	4	1	2
3	3			1				
	11	2	1	5	5	26	1	5

NAS NASSAU
Poe Poeloegoedoe
Tir Tiriós
Ita Itapiranga
Cax Cachimbo
TAP TAPIRAPÉS
Luc Lucie
Mau Manaus

TABLE 63

Scales between supraorbital semicircles, males, Venezuelo-Brasilian transect

Scales	FAL	Dui	Mau	Ita	Cax	TAP	Pgt	Cbr	Ube	Spa	Aru
0						8		2			1
1	4	1	3	4	3	14	1	2			
2	16	3	2	-	2	4				4	
3	1			1					1		
	21	4	5	5	5	26	1	4	1	4	1

FAL FALCÓN — Ita Itapiranga — Cbr Cana Brava
Dui Duida — Cax Cachimbo — Ube Uberlândia
Mau Manaus — TAP TAPIRAPÉS — Spa S. Paulo
Pgt Porangatu — Aru Aruanã

TABLE 64

Scales between supraorbital semicircles, males, Napo-Brasilian transect

Scales	SCE	LCO	Iqi	Jav	Pja	Mau	Ita	APA	Bel
1		1				3	4	2	
2	11	19		1		2	-	4	
3	5	11	1	2	1		1	6	1
4				1					
	16	31	1	4	1	5	5	12	1

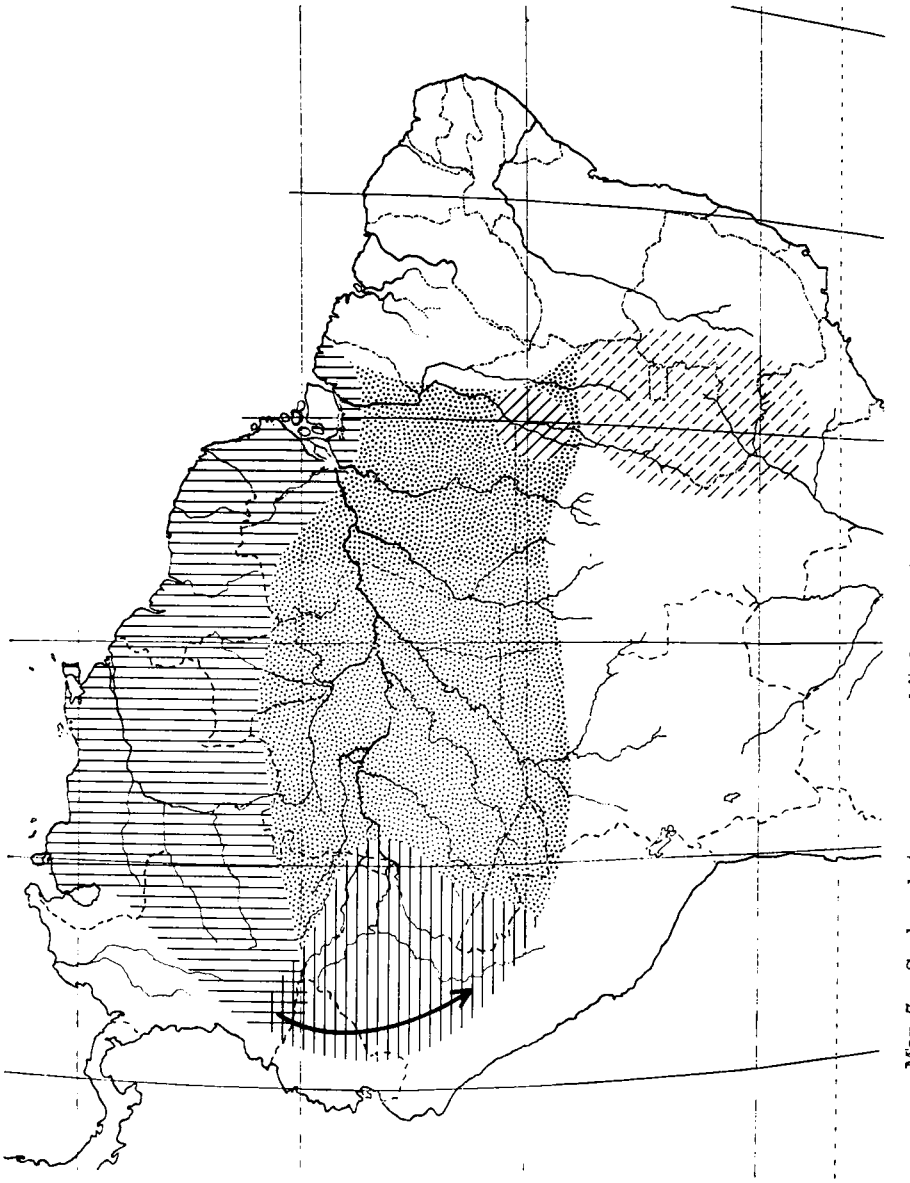
SCE SANTA CECILIA — Jav Rio Javarí — Ita Itapiranga
LCO LIMÓN COCHA — Pja Paraná do Jacaré — APA AMAPÁ
Iqi Iquitos — Mau Manaus — Bel Belém

TABLE 65

Scales between supraorbital semicircles, males, Ucayalo-Brasilian transect

Scales	PHE	Rta	Jur	Mup	Cax	TAP
0						8
1				1	3	14
2	6		3	1	2	4
3	5					
4	5	1				
5	1					
	17	1	3	2	5	26

PHE PAMPA HERMOSA
Rta Rio Tapiche
Jur Rio Juruá
Mup Mutum-Paranã
Cax Cachimbo
TAP TAPIRAPÉS



Map 7. Scales between supraorbital semicircles, males; summary of geographic differentiation.

TABLE 66

Scales between supraorbital semicircles, females, major samples

Scales	FAL	NEV	TRI	WBG	ESS	DUN	NAS	APA	VIL	SCE	LCO	PHE	TAP
0				1									1
1	3	3	3	5	5	3		1	1		1		15
2	9	13	18	7	13	5	8	8	16	13	23	1	2
3	1	1	2		1		5	8		6	8	2	
4							1					5	
5												1	
	13	17	23	13	19	8	14	17	17	19	32	9	24

FAL Falcõn
NEV NE Venezuela
TRI Trinidad
WBG Western Guyana
ESS Essequibo
DUN Dunoon
NAS Nassau
APA Amapá
VIL Villavicencio
SCE Santa Cecilia
LCO Limõn Cocha
PHE Pampa Hermosa
TAP Tapirapés

TABLE 67

Scales between supraorbital semicircles, females, first Guianan transect

Scales	NEV	Hov	Pic	Geo	DUN	Lhy	Tib	Par	Mtp	NAS	Cay	Mat	APA
1	3		2	3	3								1
2	13	1	1	3	5			1	1	8		4	8
3	1	1				1	1			5	1	3	8
4										1		1	
	17	2	3	6	8	1	1	1	1	14	1	8	17

NEV NE VENEZUELA
Hov Haul Over
Pic Pickersgill
Geo Georgetown
DUN DUNOON
Lhy La Haye
Tib Tibiti
Par Paramaribo
Mtp Moengo Tapoe
NAS NASSAU
Cay Cayenne
Mat Matarony
APA AMAPÁ

TABLE 68

Scales between supraorbital semicircles, females, second Guianan transect

Scales	NEV	WBG	Ari	ESS	DUN	Aky	Tfb	NAS	Ror
0		1							
1	3	5	1	5	3	1			1
2	13	7		13	5			8	3
3	1			1			1	5	
4							1	1	
	17	13	1	19	8	1	2	14	4

NEV NE Venezuela
WBG Western Guyana
Ari Arimu River
ESS ESSEQUIBO
DUN DUNOON
Aky Akyma
Tfb Tafel Berg
NAS NASSAU
Ror Roraima

TABLE 69

Scales between supraorbital semicircles, females, Western transect

Scales	FAL	Cvb	VIL	Sco	SCE	LCO	Sum	Mis	Bob	Mia	Mar	PHE	Roa	Yar	Tam	Pur	Plp	Rbb	Rll	Uhu
0				1																
1	3		1			1														
2	9	1	16		13	23	3		3	1	4	1				1	1			
3	1				6	8		1	1			2	2	1	1	2		1		
4												5		-						1
5												1		-						
6														1						
	13	1	17	1	19	32	3	1	4	1	4	9	2	2	1	3	1	1	-	1

FAL FALCÓN
Cvb Colombia-Venezuela border
VIL VILLAVICENCIO
Sco South Colombia
SCE SANTA CECILIA
LCO LIMÓN COCHA
Sum Sumaco
Mis Rio Misahualli
Bob Bobonaza
Mia Miazal
Mar Marañon
PHE PAMPA HERMOSA
Roa Roaboya
Yar Yarinacocha
Tam Rio Tamaya
Pur Purus
Plp Puerto Lopez
Rbb Riobamba
Rll Rio Llushin
Uhu Upper Huallaga

TABLE 70

Scales between supraorbital semicircles, females, Colombo-Guianan transect

Scales	VIL	Plp	Dui	SBG	NAS	Brv	Cat
0						1	
1	1		1	1		1	1
2	16	1		4	8	1	
3				1	5		
4					1		
	17	1	1	6	14	3	1

VIL VILLAVICENCIO
Plp Puerto Lopes
Dui Duida
SBG Southern Guyana
Luc Lucie
NAS NASSAU
Cat Catrimani

TABLE 71

Scales between supraorbital semicircles, females, first Guiano-Brasilian transect

Scales	ESS	SBG	Ita	Mau	Mes	Cax	TAP
0							7
1	5	2	1	1	1	1	14
2	13	4	3	2	1		3
3	1	1					
	19	7	4	3	2	-	24

ESS ESSEQUIBO
SBG Southern Guyana
Ita Itapiranga
Mau Manaus
Mes Maués
Cax Cachimbo
TAP TAPIRAPÉS

TABLE 72

Scales between supraorbital semicircles, females, second Guiano-Brasilian transect

Scales	NAS	Pal	Tir	Ita	Mes	Cax	TAP	Mau
0							7	
1				1	1	1	14	1
2	8	1	2	3	1		3	2
3	5		1					
4	1							
	14	1	3	4	2	1	24	3

NAS NASSAU
Pal Paloemeu
Tir Tiriós
Ita Itapiranga
Mes Maués
Cax Cachimbo
TAP TAPIRAPÉS
Mau Manaus

TABLE 73

Scales between supraorbital semicircles, females, Venezuelo-Brasilian transect

Scales	FAL	Pay	Dui	Brv	Tpu	Mau	Ita	Mes	Cax	TAP	Cbr	Spa
0				1						7		
1	3		1	1		1	1	1	1	14	1	
2	9	1		1	1	2	3	1		3	2	2
3	1											1
	13	1	1	1	1	3	4	2	1	24	3	3

FAL FALCÓN
Pay Puerto Ayacucho
Dui Duida
Brv Brasil-Venezuela border
Tpu Tapurucuara
Mau Manaus
Ita Itapiranga
Mes Maués
Cax Cachimbo
TAP TAPIRAPÉS
Cbr Cana Brava
Spa S. Paulo

TABLE 74

Scales between supraorbital semicircles, females, Napo-Brasilian transect

Scales	SCE	LCO	Iqi	Jav	Mau	Ita	Mes	APA
1		1	1		1	1	1	1
2	13	23		1	2	3	1	8
3	6	8		1				8
4				2				
	19	32	1	4	3	4	2	17

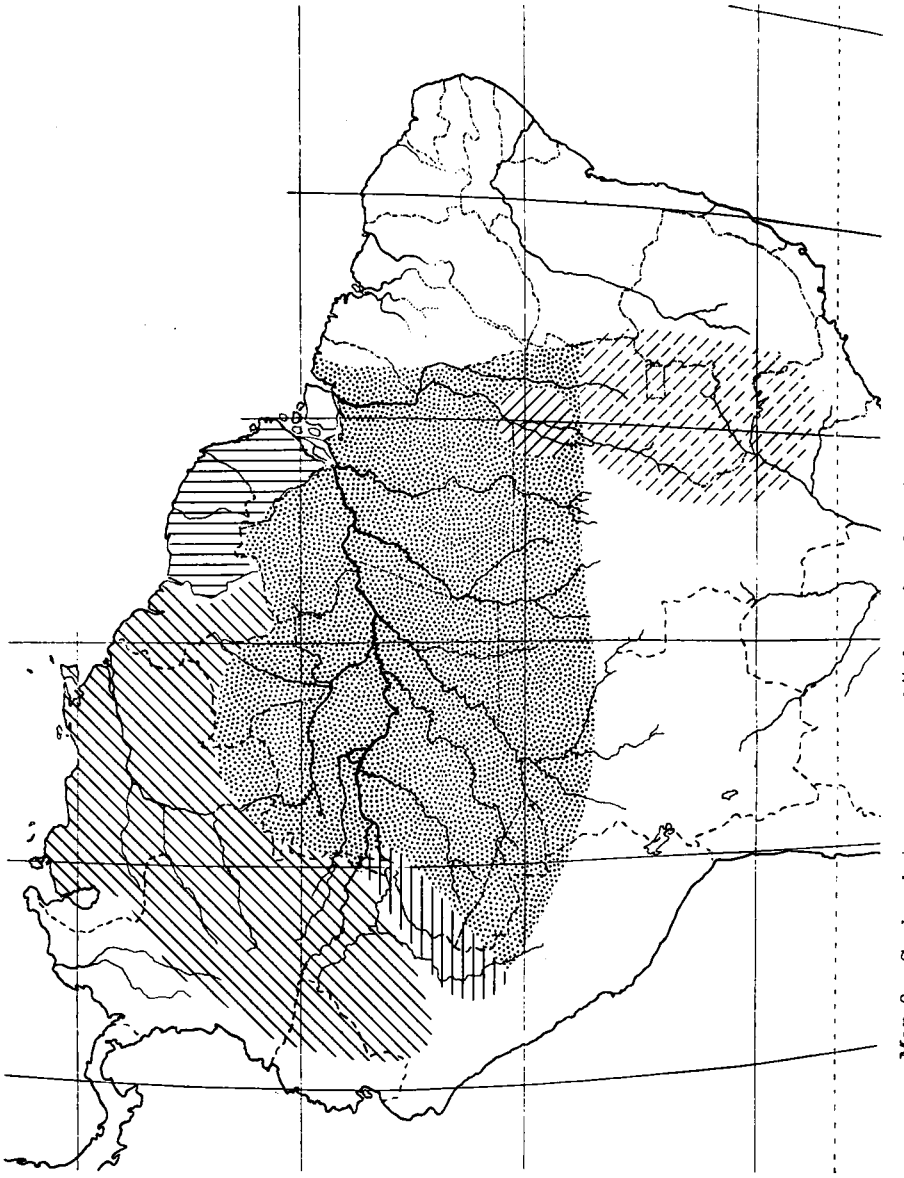
SCE SANTA CECILIA
LCO LIMÓN COCHA
Iqi Iquitos
Jav Rio Javarí
Mau Manaus
Ita Itapiranga
Mes Maués
APA AMAPÁ

TABLE 75

Scales between supraorbital semicircles, females, Ucayalo-Brasilian transect

Scales	PHE	Jur	Cax	TAP	Lor
0				7	
1			1	14	
2	1			3	1
3	2	2			
4	5				
5	1				
	9	2	1	24	1

PHE PAMPA HERMOSA
Jur Rio Juruá
Cax Cachimbo
TAP TAPIRAPÉS
Lor Loreto



Map 8. Scales between supraorbital semicercles, females; summary of geographic differentiation.

TABLE 76

Scales between supraorbital semicircles, sex differences, major samples

	df	x^2
Falcón	2	.235
Trinidad	2	.823
Essequibo	2	.015
Dunoon	1	.045
Nassau	4	3.478
Amapá	2	1.125
Villavicencio	2	6.217 *
Santa Cecilia	1	.004
Limón Cocha	2	.844
Pampa Hermosa	2	2.647
Tapirapés	2	.135

df degrees of freedom

x^2 chi square

* significant at the .05 level

TABLE 77

Scales between interparietal and supraorbital semicircles, males, major samples

Scales	FAL	NEV	TRI	WBG	ESS	DUN	NAS	APA	VIL	SCE	LCO	PHE	TAP
1	4	1		1	1	1	1		2				
2	10	14	16	8	13	5	4	3	10	2		7	17
3	7	2	10	2	4		6	8	10	-	7	6	9
4								1		10	14	2	
5										3	9	2	
6										1	1		
	21	17	26	11	18	6	11	12	22	16	31	17	26

FAL Falcón
NEV NE Venezuela
TRI Trinidad
WBG Western Guyana
ESS Essequibo
DUN Dunoon
NAS Nassau
APA Amapá
VIL Villavicencio
SCE Santa Cecilia
LCO Limón Cocha
PHE Pampa Hermosa
TAP Tapirapés

TABLE 78

Scales between interparietal and supraorbital semicircles, males, Western transect

Scales	FAL	Cvb	Bog	VIL	Sco	SCE	LCO	Sum	Mis	Bob	Mia	Mar	PHE	Yar	Tam	Pur	Plp	Sjg	Rbb	Rta
1	4			2														1		
2	10	5	2	10	2	2				1			7			2	2			
3	7	1	-	10	-	-	7	2	1			1	6	3		1				
4			1		1	10	14	2	1		2	4	2		2				1	1
5						3	9					1	2							
6						1	1					2								
	21	6	3	22	3	16	31	4	2	1	2	8	17	3	2	3	2	1	1	1

FAL FALCÓN
Cvb Colombia-Venezuela border
Bog Bogotá
VIL VILLAVICENCIO
› South Colombia

SCE SANTA CECILIA
LCO LIMÓN COCHA
Sum Sumaco
Mis Rio Miasahualli
Bob Bobonaza

Mia Miazal
Mar Marañon
PHE PAMPA HERMOSA
Yar Yarinacocha
Tam Rio Tamaya

Pur Purus
Plp Puerto Lopez
Sjg S.José del Guaviare
Rbb Riobamba
Rta Rio Tapiche

TABLE 79

Scales between the interparietal and the supraorbital semicircles, males, Napo-Brasilian transect

Scales	SCE	LCO	Iqi	Jav	Pja	Mau	Ita	APA	Bel
2	2		1	2		1	2	3	
3	-	7		-		4	4	8	
4	10	14		2	1			1	1
5	3	9							
6	1	1							
	16	31	1	4	1	5	6	12	1

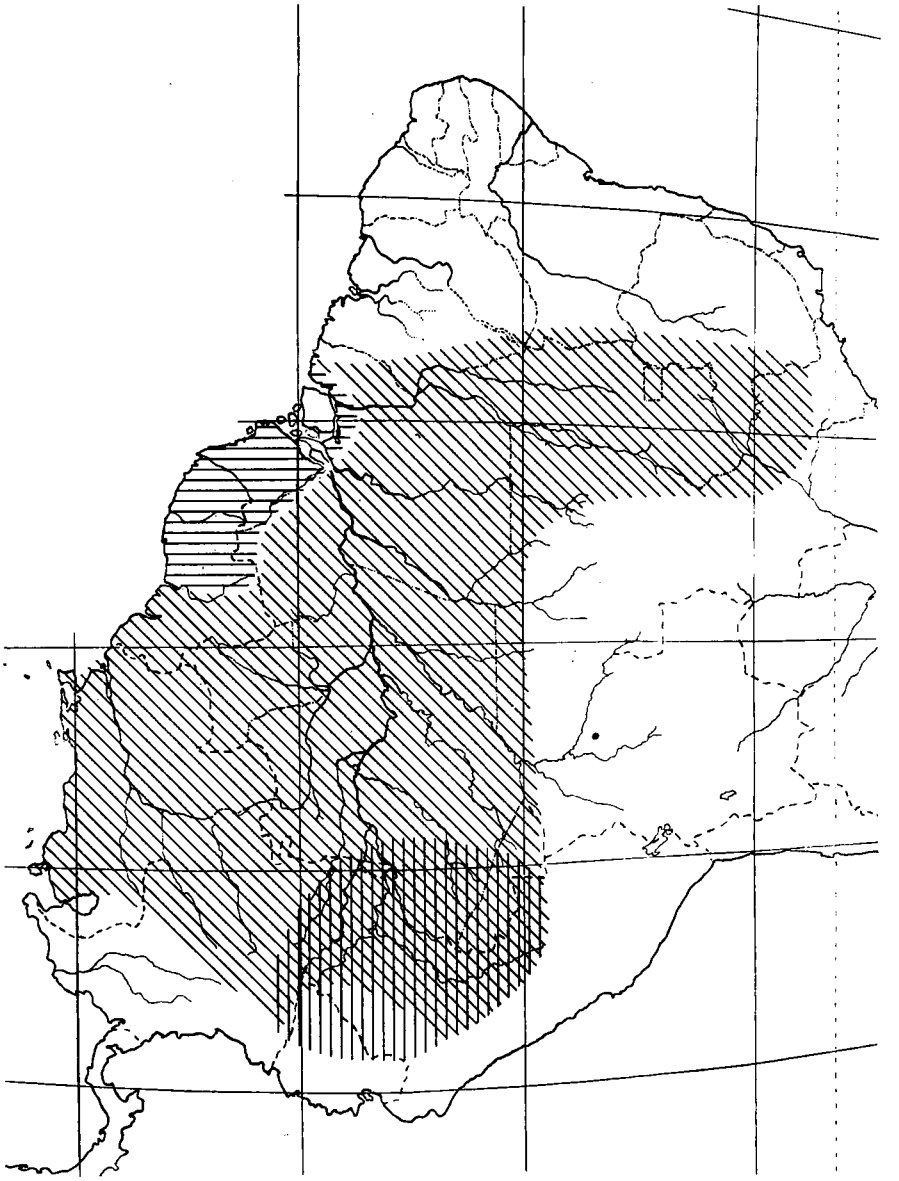
SCE SANTA CECILIA
LCO LIMÓN COCHA
Iqi Iquitos
Jav Rio Javarí
Pja Paraná do Jacaré
Mau Manaus
Ita Itapiranga
APA AMAPÁ
Bel Belém

TABLE 80

Scales between the interparietal and the supraorbital semicircles, males, Ucayalo-Brasilian transect

Scales	PHE	Rta	Jur	Mup	Cax	TAP
2	7			1	2	17
3	6		2	1	3	9
4	2	1	1			
5	2					
	17	1	3	2	5	26

PHE PAMPA HERMOSA
Rta Rio Tapiche
Jur Rio Juruá
Mup Mutum-Paraná
Cax Cachimbo
TAP TAPIRAPÉS



Map 9. Scales between interparietal and supraorbital semicircles, males; summary of geographic differentiation.

TABLE 81

Scales between interparietal and supraorbital semicircles, females, major samples

Scales	FAL	NEV	TRI	WBG	ESS	DUN	NAS	APA	VIL	SCE	LCO	PHE	TAP
1	1		1	1		1							
2	8	12	13	8	12	8	4	7	11		2		14
3	4	6	9	4	7	1	9	8	5	9	10	4	8
4							1	2	-	7	12	3	2
5									1	3	8	-	
6												1	
7												-	
8												-	
9												1	
	13	18	23	13	19	10	14	17	17	19	32	9	24

FAL Falcón
NEV NE Venezuela
TRI Trinidad
WBG Western Guyana
ESS Essequibo
DUN Dunoon
NAS Nassau
APA Amapá
VIL Villavicencio
SCE Santa Cecilia
LCO Limón Cocha
PHE Pampa Hermosa
TAP Tapirapês

TABLE 82

Scales between interparietal and supraorbital semicircles, females, Western transect

Scales	FAL	Cvb	VIL	Sco	SCE	LCO	Sum	Mis	Bob	Mia	Mar	PHE	Roa	Yar	Tam	Pur	Plp	Rbb	Rll	Uhu
1	1						1													
2	8		11	1		2	-										1			
3	4	1	5		9	10	1	1	1			4				1				
4			-		7	12	1		2	2	4	3	2	1	1	2		1		
5			1		3	8			1		1	-		1						
6												1								1
7												-								
8												-								
9												1								
	13	1	17	1	19	32	4	1	4	2	5	9	2	2	1	3	1	1	-	1

FAL	FALCÓN	LCO	LIMÓN COCHA	Mar	Marañon	Pur	Purus
Cvb	Colombia-Venezuela border	Sum	Sumaco	PHE	PAMPA HERMOSA	Plp	Puerto Lopez
VIL	VILLAVICENCIO	Mis	Rio Misahualli	Roa	Roaboya	Rbb	Riobamba
Sco	South Colombia	Bob	Bobonaza	Yar	Yarinacocha	Rll	Rio Llushin
SCE	SANTA CECILIA	Mia	Miazal	Tam	Rio Tamaya	Uhu	Upper Huallaga

TABLE 83

Scales between interparietal and supraorbital semicircles, females, Napo-Brasilian transect

Scales	SCE	LCO	Iqi	Jav	Mau	Ita	Mes	APA
2		2	1		2		2	7
3	9	10		1	1	3	1	8
4	7	12		2		1		2
5	3	8		1				
	19	32	1	4	3	4	3	17

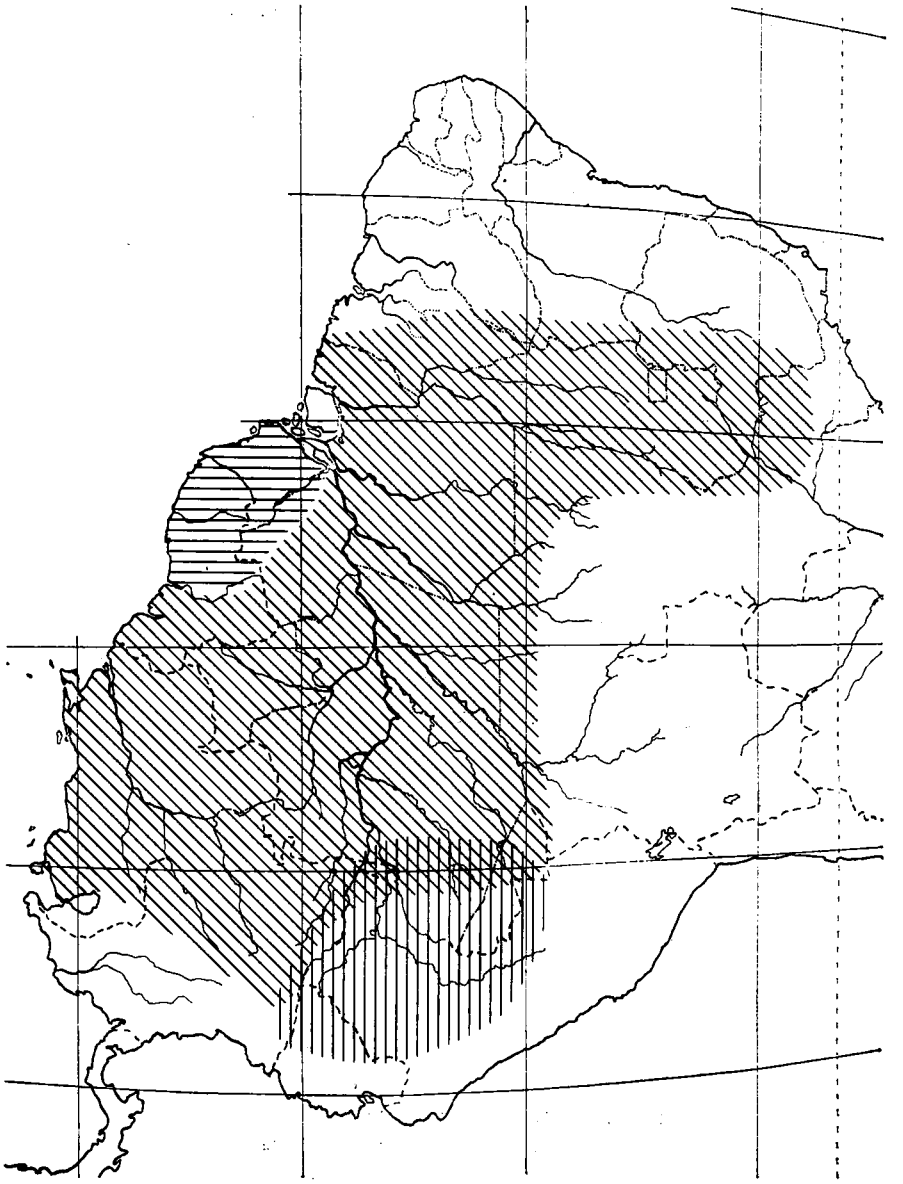
SCE SANTA CECILIA
LCO LIMÓN COCHA
Iqi Iquitos
Jav Rio Javarí
Mau Manaus
Ita Itapiranga
Mes Maués
APA AMAPÁ

TABLE 84

Scales between interparietal and supraorbital semicircles, females, Ucayalo-Brasilian transect

Scales	PHE	Jur	Cax	TAP	Lor
2				14	
3	4	1	1	8	1
4	3	1		2	
5	-				
6	1				
7	-				
8	-				
9	1				
	9	2	1	24	1

PHE PAMPA HERMOSA
Jur Rio Juruá
Cax Cachimbo
TAP TAPIRAPÉS
Lor Loreto



Map 10. Scales between interparietal and supraorbital semicircles, females; summary of geographic differentiation.

TABLE 85

Scales between interparietal and supraorbital semicircles, sex differences, major samples

	df	X^2
Falcõn	2	1.017
Trinidad	2	1.186
Essequibo	2	1.835
Dunoon	2	.739
Nassau	2	2.275
Amapá	2	1.105
Villavicencio	3	4.146
Santa Cecilia	4	12.366 *
Limõn Cocha	4	3.730
Pampa Hermosa	4	10.096 *
Tapirapés	2	2.275

df degress of freedom X^2 chi square

* significant at the .05 level

TABLE 86

Scales between interparietal and supraorbital semicircles, sex comparisons, Santa Cecilia, Limõn Cocha and Pampa Hermosa

Scales	SCE		LCO		PHE	
2	2	-	-	2	7	-
3	-	9	7	10	6	4
4	10	7	14	12	2	3
5	3	3	9	8	2	-
6	1	-	1	-	-	1
7						-
8						-
9						1
	16	19	31	32	17	9
Mean	4.1	3.7	4.1	3.8	2.9	4.3

TABLE 87

Scales between interparietal and supraorbital semicircles, sexes combined, low count samples

Scales	FAL	NEV	TRI	WBG	ESS	DUN	NAS	APA	VIL	TAP
1	5	1	1	2	1	2	1		2	
2	18	26	29	16	25	13	8	10	21	31
3	11	8	19	6	11	1	15	16	15	17
4							1	3	-	2
5									1	
	34	35	49	24	37	16	25	29	39	50

FAL Falcón
NEV NE Venezuela
TRI Trinidad
WBG Western Guyana
ESS Essequibo
DUN Dunoon
NAS Nassau
APA Amapá
VIL Villavicencio
TAP Tapirapés

TABLE 88

Scales between interparietal and supraorbital semicircles, sexes combined, first Guianan transect

Scales	NEV	Hov	Pic	Geo	DUN	Lhy	Tib	Par	Mtp	NAS	Man	Sel	Cay	Mat	APA	Bel
1	1			2	2					1				1		
2	26		1	6	13					8	1	1	1	6	10	
3	8	1	2		1	1	2	1	4	15			2	5	16	
4		1						1		1					3	1
	35	2	3	8	16	1	2	2	4	25	1	1	3	12	29	1

NEV NE VENEZUELA
Hov Haul Over
Pic Pickersgill
Geo Georgetown
DUN DUNOON
Lhy La Haye
Tib Tibiti
Par Paramaribo
Mtp Moengo Tapoe
NAS NASSAU
Man Mana
Sel St. Élie
Cay Cayenne
Mat Matarony
APA AMAPÁ
Bel Belém

TABLE 89

Scales between interparietal and supraorbital semicircles, sexes combined, second Guianan transect

Scales	NEV	WBG	Ari	ESS	DUN	Aky	Kro	Tfb	NAS	Poe	Auy	Ror	Luc
1	1	2		1	2				1	1			
2	26	16	1	25	13	2	1		8	-		2	1
3	8	6		11	1		-	1	15	1		4	
4							1	1	1		1		
	35	24	1	37	16	2	2	2	25	2	1	6	1

NEV NE Venezuela
WBG Western Guyana
Ari Arimu River
ESS ESSEQUIBO
DUN DUNOON
Aky Akyma
Kro Kroetoe
Tfb Tafel Berg
NAS NASSAU
Poe Poeloegoedoe
Luc Lucie
Auy Auyân-Tepui
Ror Roraima

TABLE 90

Ventrals, males, major samples

Sample	N	R	M	I
Falcõn	17	43 - 51	46.6	45.5 - 47.7
NE Venezuela	14	39 - 50	44.8	42.8 - 46.8
Trinidad	24	42 - 54	48.5	47.3 - 49.6
Western Guyana	11	47 - 62	53.1	49.9 - 56.3
Essequibo	17	46 - 60	51.8	50.2 - 53.4
Dunoon	6	51 - 54	53.0	*
Nassau	10	54 - 65	60.1	57.9 - 62.3
Amapá	9	50 - 59	56.8	*
Villavicencio	20	43 - 50	46.5	45.5 - 47.5
Santa Cecilia	16	51 - 62	55.3	53.4 - 57.1
Limõn Cocha	16	49 - 62	55.6	53.5 - 57.7
Pampa Hermosa	16	45 - 57	51.6	49.4 - 53.7
Tapirapés	19	43 - 53	47.4	46.2 - 48.6

N individuals in sample R observed range M mean
I 95% confidence interval of the mean
* interval not computed because the distribution is too skew

TABLE 91

Ventrals, males, North Venezuelan transect

Ventrals	FAL	Bej	Car	Pdc	Dif	Anz	Suc	Cap	Yac	TRI
38					1					
39					-		1			
40			1	1	2		1			
41			3	-	3		-	1		
42		1	-	-	-		-	-		1
43	1		-	1	2		2	1		-
44	3		1		2	1		-		2
45	2		-		1	1		-	2	-
46	2		1		-	-		-	-	-
47	2		1		1	2		1	-	5
48	5		-		-	-		-	1	3
49	-		1		-	1		1		5
50	1				-			1		5
51	1				1					-
52										1
53										1
54										1
	17	1	8	2	13	5	4	5	3	24

FAL	FALCÓN	Pdc	Pie del Cerro	Suc	Sucre
Bej	Bejuma	Dif	Distrito Federal	Cap	Caripito
Car	Carabobo	Anz	Anzoâtegui	Yac	Yacua
				TRI	TRINIDAD

TABLE 92

Ventrals, males, first Guianan transect

Ventrals	NEV	Geo	DUN	Tib	Par	Mtp	NAS	Man	Sel	Cay	Mat	APA	Bel
39	1												
40	1												
41	1												
42	-												
43	3												
44	1												
45	1												
46	-												
47	3												
48	-												
49	2	1											
50	1	1										1	
51			1						1	1	1	-	
52			1	1		1				1	-	-	
53			1			-					-	-	
54			3			-	1				2	1	
55						-					-	1	
56						1	-				-	-	
57						-	1				-	-	1
58					1	-	1				-	2	
59						1	-				-	4	
60							2				-		
61							2				1		
62							1				-		
63							1				-		
64							-				1		
65							1						
	14	2	6	1	1	3	10	-	1	2	5	9	1

NEV	NE Venezuela	Par	Paramaribo	Sel	St. Élie
Geo	Georgetown	Mtp	Moengo Tapoe	Cay	Cayenne
DUN	DUNOON	NAS	NASSAU	Mat	Matarony
Tib	Tibiti	Man	Mana	APA	AMAPÁ
				Bel	Belém

TABLE 93

Ventrals, males, second Guianan transect

Ventrals	NEV	WBG	ESS	DUN	Aky	Kro	NAS	Poe	Auy	Ror	Luc
39	1										
40	1										
41	1										
42	-										
43	3										
44	1									1	
45	1									-	
46	-		1						1	-	
47	3	2	-							1	
48	-	-	1								
49	2	1	2								
50	1	1	1		1	1					
51		-	3	1		-					
52		2	3	1		-		1			
53		-	1	1		-					
54		1	4	3		-	1				
55		-	-			-	-				
56		1	-			1	-				
57		1	-				1				
58		1	-				1				
59		-	-				-				
60		-	1				2				
61		-					2				
62		1					1				
63							1				
64							-				
65							1				
66							1				1
	14	11	17	6	1	2	10	1	1	2	1

NEV NE VENEZUELA
WBG Western Guyana
ESS ESSEQUIBO
DUN DUNOON
Aky Akyma
Kro Kroetoe
NAS NASSAU
Poe Poeloegoedoe
Auy Auyán-Tepui
Ror Roraima
Luc Lucie

TABLE 94

Ventrals, males, Western transect

Ventrals	FAL	Cvb	Bog	VIL	Sco	SCE	LCO	Sum	Mis	Bob	Mia	Mar	PHE	Yar	Tam	Pur	Plp	Sjg	Rbb	Rta
43	1			2																
44	3		1	2							1			1	1					
45	2		-	2	1								2	1	-					
46	2		-	4	-								-	-	-					
47	2		-	4	-								1	-	-					
48	5		1	1	-								2	-	-					
49	-	1		4	-		1					1	1	1	1		1			
50	1	3		1	1		1			1		-	-		1		1			
51	1	-			-	3	1				1	1	-			1				
52		-			1	1	1				1	-	2			-				
53		1				2	1	1	1			2	1			-		1		
54		1				3	1	1	1			-	3			1			1	
55						-	3	-				1	1							
56						-	-	-				1	2							1
57						3	1	-				1	1							
58						1	2	1				-								
59						1	1					1								
60						-	1													
61						1	1													
62						1	1													
	17	6	2	22	3	16	16	3	2	1	2	8	16	3	3	2	1	1	1	1

FAL FALCÓN

Cvb Colombia-Venezuela border

Bog Bogotá

VIL VILLAVICENCIO

Sco South Colombia

SCE SANTA CECILIA

LCO LIMÓN COCHA

Sum Sumaco

Mis Rio Misahualli

Bob Bobonaza

Mia Miazal

Mar Marañon

PHE PAMPA HERMOSA

Yar Yarinacocha

Tam Rio Tamaya

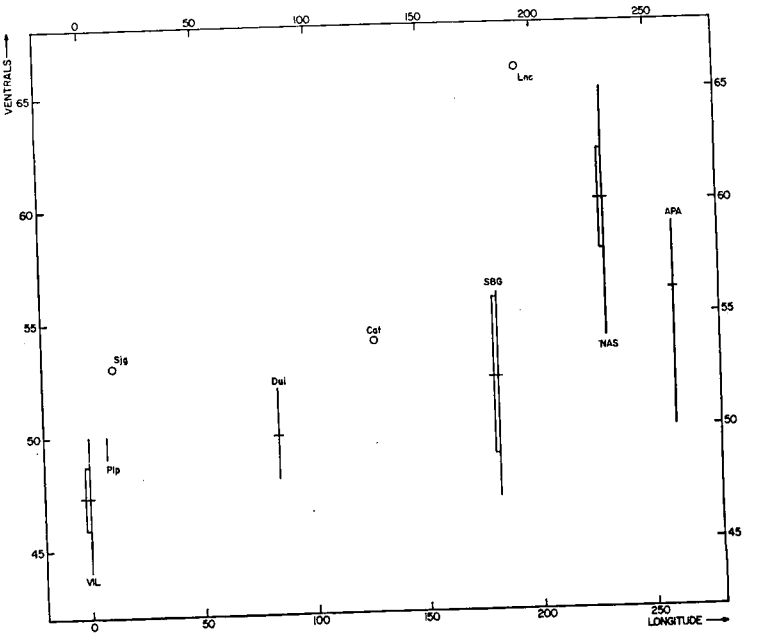
Pur Purus

Plp Puerto Lopez

Sjg S.José del Guaviare

Rbb Riobamba

Rta Rio Tapiche



Graph 3. Colombo-Guianan transect, males ventrals against longitude (in five minute units, origin in Villavicencio).

TABLE 95

Ventrals, males, Colombo-Guianan transect

Ventrals	VIL	Plp	Dui	SBG	Luc	NAS	Cat
43	2						
44	2						
45	2						
46	4						
47	4			1			
48	1		1	-			
49	4	1	1	-			
50	1	1	1	1			
51			-	-			
52			1	-			
53				1			
54				2		1	1
55				-		-	
56				1		-	
57						1	
58						1	
59						-	
60						2	
61						2	
62						1	
63						1	
64						-	
65						1	
66					1		
	22	2	4	6	1	10	1

VIL VILLAVICENCIO
Plp Puerto Lopez
Dui Duida
SBG Southern Guyana
Luc Lucie
NAS NASSAU
Cat Catrimani

TABLE 96

Ventrals, males.

first Guiano-Brasilian transect

Ventrals	ESS	SBG	Ita	Mau	Cax	TAP
43						1
44				1		-
45				-	1	4
46	1			-	1	2
47	-	1	1	-	-	3
48	1	-	-	-	1	3
49	2	-	1	-	-	4
50	1	1	1	1	-	-
51	3	-	1	1	-	-
52	3	-	-	-	1	1
53	1	1	1	2		1
54	4	2	1			
55	-	-				
56	-	1				
57	-					
58	-					
59	-					
60	1					
	17	6	6	5	4	19

ESS ESSEQUIBO
SBG Southern Guyana
Ita Itapiranga
Mau Manaus
Cax Cachimbo
TAP TAPIRAPÉS

TABLE 97

Ventrals, males, second Guiano-Brasilian transect

Ventrals	NAS	Poe	Tir	Ita	Cax	TAP	Luc	Mau
43						1		
44						-		1
45					1	4		-
46					1	2		-
47				1	-	3		-
48				-	1	3		-
49				1	-	4		-
50				1	-	-		1
51				1	-	-		1
52		1		-	1	1		-
53			1	1		1		2
54	1			1				
55	-							
56	-							
57	1							
58	1							
59	-							
60	2							
61	2							
62	1							
63	1							
64	-							
65	1							
66							1	
	10	1	1	6	4	19	1	5

NAS	NASSAU	Cax	Cachimbo
Poe	Poeloegoedoe	TAP	TAPIRAPÉS
Tir	Tiriós	Luc	Lucie
Ita	Itapiranga	Mau	Manaus

TABLE 98

Ventrals, males, Venezuelo-Brasilian transect

Ventrals	FAL	Dui	Mau	Ita	Cax	TAP	Pgt	Cbr	Ube	Spa	Aru
42								1			
43	1					1		-			
44	3		1			-		1			
45	2		-		1	4		1			
46	2		-		1	2		-			
47	2		-	1	-	3		1		1	
48	5	1	1	-	1	3					
49	-	1	-	1	-	4					
50	1	1	1	1	-	-	1				
51	1	-	1	1	-	-					
52		1	-	-	1	1					
53			2	1		1					
54				1							
	17	4	5	6	4	19	1	4	-	1	

FAL	FALCÓN	Ita	Itapiranga	Cbr	Cana Brava
Dui	Duida	Cax	Cachimbo	Ube	Uberlândia
Mau	Manaus	TAP	TAPIRAPÉS	Spa	S. Paulo
		Pgt	Porangatu	Aru	Aruanã

TABLE 99

Ventrals, males, Napo-Brasilian transect

Ventrals	SCE	LCO	Iqi	Jav	Pja	Mau	Ita	APA	Bel
44						1			
45						-			
46						-	1		
47						-	-		
48						-	1		
49		1				1	1	1	
50		1				1	1	-	
51	3	1	1	1		-	-	-	
52	1	1		-		2	1	-	
53	2	1		1			1	1	
54	3	1		1				1	
55	-	3		2				-	
56	-	-						-	1
57	3	1			1			2	
58	1	2						4	
59	1	1							
60	-	1							
61	1	1							
62	1	1							
	16	16	1	5	1	5	6	9	1

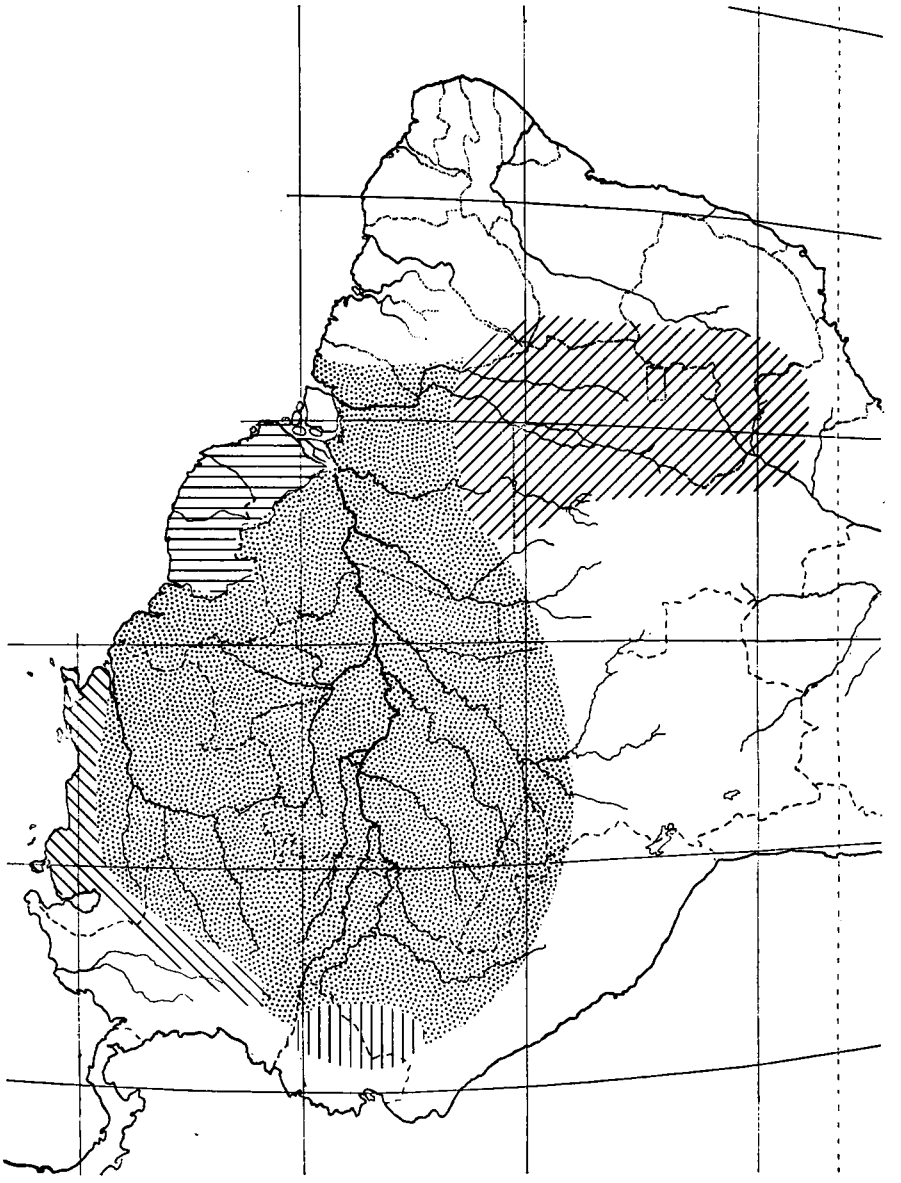
SCE SANTA CECILIA
LCO LIMÓN COCHA
Iqi Iquitos
Jav Rio Javarí
Pja Paraná do Jacaré
Mau Manaus
Ita Itapiranga
APA AMAPÁ
Bel Belém

TABLE 100

Ventrals, males, Ucayalo-Brasilian transect

Ventrals	PHE	Rta	Jur	Mup	Cax	TAP
43						1
44						-
45	2		1		1	4
46	-		-		1	2
47	1		-		-	3
48	2		-		1	3
49	1		-		-	4
50	-		-	1	-	-
51	-		-	-	-	-
52	2		1	-	1	1
53	1		1	1		1
54	3					
55	1					
56	2	1				
57	1					
	16	1	3	2	4	19

PHE PAMPA HERMOSA
Rta Rio Tapiche
Jur Rio Juruá
Mup Mutum Paranã
Cax Cachimbo
TAP TAPIRAPÉS



Map 11. Ventral scales, males; summary of geographic differentiation.

TABLE 101

Ventrals, females, major samples

Sample	N	R	M	I
Falcón	11	40 - 47	43.3	42.1 - 44.5
NE Venezuela	17	40 - 49	44.6	43.4 - 45.9
Trinidad	20	38 - 52	46.1	44.4 - 47.8
Western Guyana	9	45 - 56	49.0	46.7 - 51.3
Essequibo	15	46 - 55	49.5	48.3 - 50.8
Dunoon	7	43 - 52	47.4	44.7 - 50.2
Nassau	9	51 - 62	57.3	54.0 - 60.7
Amapá	14	50 - 63	54.7	52.8 - 56.6
Villavicencio	15	40 - 48	43.8	42.6 - 45.0
Santa Cecilia	14	49 - 60	54.1	52.0 - 56.1
Limón Cocha	15	47 - 58	52.8	50.9 - 54.7
Pampa Hermosa	8	44 - 56	49.6	46.5 - 52.8
Tapirapés	17	40 - 51	44.1	42.5 - 45.6

N individuals in sample R observed range M mean

I 95% confidence interval of the mean

TABLE 102

Ventrals, females, North Venezuelan transect

Ventrals	FAL	Bej	Car	Rgd	Dif	Anz	Suc	Cap	Yac	TRI
38					2					1
39			2		-					-
40	1		-		1		1			-
41	-		1	2	-		1		1	-
42	2		-	1	1		1	1		2
43	4	1	-	-	4		1	-		3
44	2		-	-	1		1	-		1
45	1		2	-			4	2		-
46	-			1			2			3
47	1						-			4
48						2	-			1
49							1			1
50										2
51										-
52										2
	11	1	5	4	9	2	12	3	1	20

FAL FALCÓN Rgd Rancho Grande Suc Sucre

Bej Bejuma Dif Distrito Federal Cap Caripito

Car Carabobo Anz Anzoátegui Yac Yacua

TRI TRINIDAD

TABLE 103

Ventrals, females, first Guianan transect

Ventrals	NEV	Hov	Pic	Geo	DUN	Lhy	Tib	Par	Mtp	NAS	Cay	Mat	APA
40	1												
41	1												
42	2												
43	1				1	1							
44	1				-								
45	6				1		1						
46	2				1								
47	-				-			1					
48	2			1	1								
49	1			-	2								
50		1	1	-	-							1	1
51		-	2	1	-					2		1	1
52		-		-	1					-		-	1
53		1		2						-		1	3
54										-		-	2
55									1	1		1	1
56										1	1	2	1
57										-		-	2
58										1		1	1
59										-		1	-
60										1			-
61										1			-
62										2			-
63													1
	17	2	3	4	7	1	1	1	1	9	1	8	14

NEV NE VENEZUELA
Hov Haul Over
Pic Pickersgill
Geo Georgetown
DUN DUNOON
Lhy La Haye
Tib Tibiti
Par Paramaribo
Mtp Moengo Tapoe
NAS NASSAU
Cay Cayenne
Mat Matarony
APA AMAPÁ

TABLE 104

Ventrals, females, second Guianan transect

Ventrals	NEV	WBG	Ari	ESS	DUN	Aky	Tfb	NAS	Ror
40	1								1
41	1								2
42	2				1				
43	1				-				
44	1				1				
45	6	1		1	1				
46	2	-		1	-				
47	-	1		4	1		1		
48	2	2	1	3	2		-		
49	1	3		1	-	1	-		
50		1		3	1		-	2	
51		-		-			-	-	
52		-		1			-	-	
53		-		-			-	1	
54		-		1			-	1	
55		-					1	-	
56		1						1	
57								-	
58								1	
59								-	
60								1	
61								-	
62								2	
	17	9	1	15	7	1	2	8	3

NEV NE Venezuela
WBG Western Guyana
Ari Arimu River
ESS ESSEQUIBO
DUN DUNOON
Aky Akyma
Tfb Tafel Berg
NAS NASSAU
Ror Roraima

TABLE 105

Ventrals, females, Western transect

Ventrals	FAL	Cvb	VIL	Sco	SCE	LCO	Sum	Mis	Bob	Mia	Mar	PHE	Roa	Yar	Tam	Pur	Plp	Rbb	Rll	Uhu
40	1		1																	
41	-		1																	
42	2	1	2																	
43	4		3																	
44	2		3									1								
45	1		2									-			1		1			
46	-		1									1	1							
47	1		1			1						-	-							
48			1			-	2		1			-	-	1						1
49				1	1	2	-		-		1	3	1	-						
50					2	1	-		-		2	-		-						
51					-	2	-		2		1	1		-		1				
52					3	2	-				-	-		-		1		1		
53					1	1	-				-	1		1						
54					1	1	-				1	-								
55					1	1	-					-								
56					1	-	1					1								
57					1	3													1	
58					1	1				1										
59					1					1										
60					1															
	11	1	15	1	14	15	3	-	3	2	5	8	2	2	1	2	1	1	1	1

FAL	FALCÓN	LCO	LIMÓN COCHA	Mar	Marañon	Pur	Purus
Cvb	Colombia-Venezuela border	Sum	Sumaco	PHE	PAMPA HERMOSA	Plp	Puerto Lopez
VIL	VILLAVICENCIO	Mis	Rio Misahualli	Roa	Roaboya	Rbb	Riobamba
Sco	South Colombia	Bob	Bobonaza	Yar	Yarinacocha	Rll	Rio Llushin
SCE	SANTA CECILIA	Mia	Miazal	Tam	Rio Tamaya	Uhu	Upper Huallaga

TABLE 106

Ventrals, females, Colombo-Guianan transect

Ventrals	VIL	Plp	Dui	SBG	NAS	Brv	Cat
40	1						
41	1						
42	2						
43	3						1
44	3						
45	2	1		1			
46	1			-			
47	1			-			
48	1		1	1		1	
49				-		-	
50				-		-	
51				-	2	2	
52				1	-		
53				-	-		
54				1	-		
55				-	1		
56				1	1		
57					-		
58					1		
59					-		
60					1		
61					1		
62					2		
	15	1	1	5	9	3	1

VIL	VILLAVICENCIO	SBG	Southern Guyana
Plp	Puerto Lopez	NAS	NASSAU
Dui	Duida	Brv	Brasil-Venezuela border
		Cat	Catrimani

TABLE 107

Ventrals, females,

first Guiano-Brasilian transect

Ventrals	ESS	SBG	Ita	Mau	Mes	Cax	TAP
40							2
41							2
42				1			1
43				-			3
44				1	1		2
45		1	1	-	-		2
46	1	-	1	-	-		2
47	1	-	1	-	-		1
48	4	1	-	1	-		1
49	3	-	1		-		-
50	1	-			-		-
51	3	-			-		1
52	-	1			-		
53	1	-			-		
54	-	1			-		
55	1	-			1		
56		1			1		
	15	5	4	3	3	-	17

ESS	ESSEQUIBO	Mau	Manaus
SBG	Southern Guyana	Mes	Maués
Ita	Itapiranga	Cax	Cachimbo
		TAP	TAPIRAPÉS

TABLE 108

Ventrals, females, second Guiano-Brasilian transect

Ventrals	NAS	Pal	Tir	Ita	Mes	Cax	TAP	Mau
40							2	
41							2	
42							1	1
43							3	-
44					1		2	1
45			1	1	-		2	-
46			-	1	-		2	-
47			-	1	-		1	-
48			-	-	-		1	1
49			-	1	-		-	
50			-		-		-	
51	2		1		-		1	
52	-		-		-			
53	-		1		-			
54	-				-			
55	1				1			
56	1				1			
57	-							
58	1							
59	-	1						
60	1							
61	1							
62	2							
	9	1	3	4	3	-	17	3

NAS	NASSAU	Mes	Maués
Pal	Paloemeu	Cax	Cachimbo
Tir	Tiriós	TAP	TAPIRAPÉS
Ita	Itapiranga	Mau	Manaus

TABLE 109

Ventrals, females, Venezuelo-Brasilian transect

Ventrals	FAL	Pay	Dui	Brv	Tpu	Mau	Ita	Mes	Cax	TAP	Cbr	Spa
40	1									2		
41	-									2		
42	2					1				1		1
43	4					-				3	1	-
44	2					1		1		2	-	1
45	1					-	1	-		2	-	-
46	-					-	1	-		2	1	-
47	1					-	1	-		1	1	-
48			1	1		1	-	-		1		-
49				-			1	-		-		-
50				-	1			-		-		-
51				2				-		1		-
52								-				1
53								-				
54								-				
55								1				
56								1			1	
57		1										
	11	1	1	3	1	3	4	3	-	17	3	3

FAL	FALCÓN	Tpu	Tapurucuara	Cax	Cachimbo
Pay	Puerto Ayacucho	Mau	Manaus	TAP	TAPIRAPÉS
Dui	Duida	Ita	Itapiranga	Cbr	Cana Brava
Brv	Brasil-Venezuela border	Mes	Maués	Spa	S. Paulo

TABLE 110

Ventrals, females, Napo-Brasilian transect

Ventrals	SCE	LCO	Iqi	Jav	Mau	Ita	Mes	APA	Bel
42					1				
43					-				
44					1		1		
45					-	1	-		
46					-	1	-		
47		1			-	1	-		
48		-		1	1	-	-		
49	1	2		-		1	-		
50	2	1		-			-	1	
51	-	2		-			-	1	
52	3	2		-			-	1	
53	1	1	1	-			-	3	
54	1	1		1			-	2	
55	1	1		-			1	1	
56	1	-		1			1	1	
57	1	3		-				2	1
58	1	1		-				1	
59	1			-				-	
60	1			1				-	
61								-	
62								-	
63								1	
	14	15	1	4	3	4	3	14	1

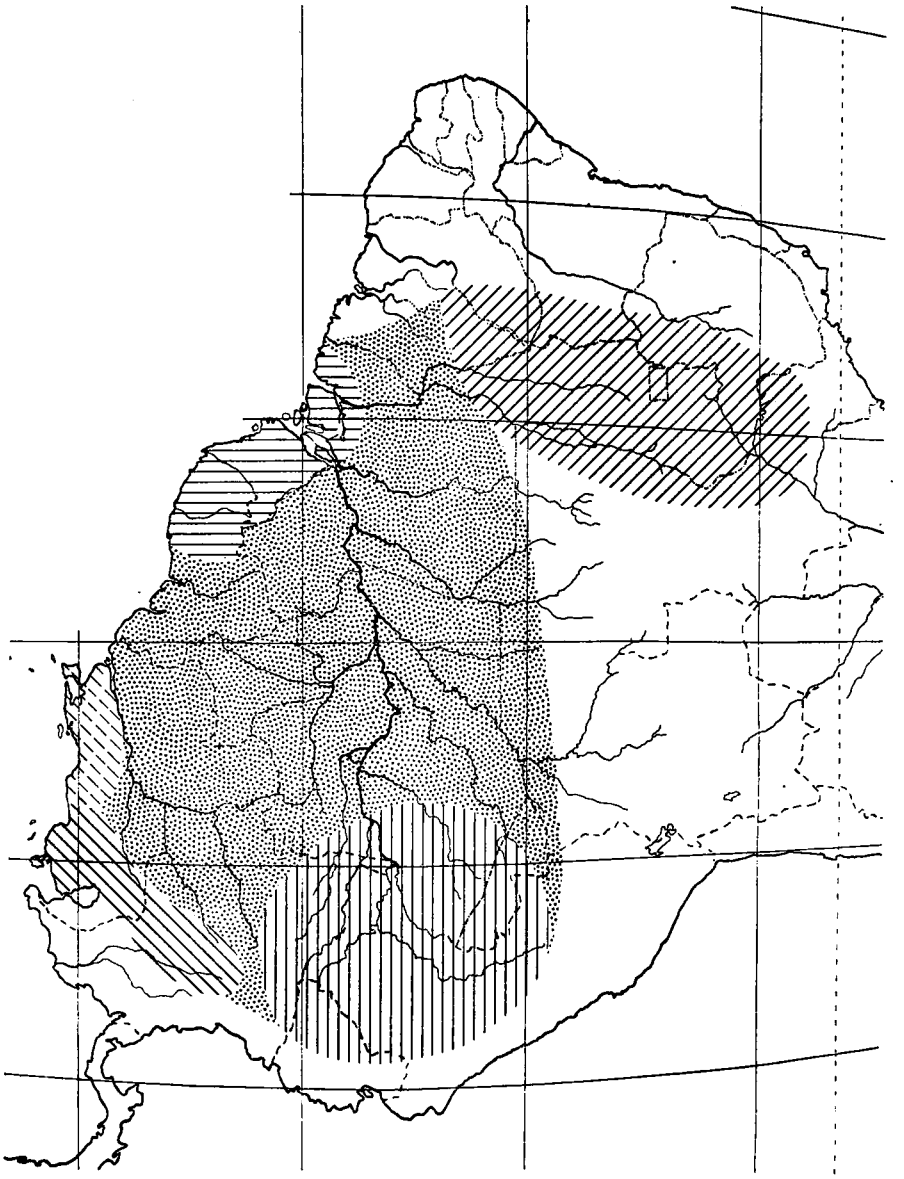
SCE SANTA CECILIA
LCO LIMÓN COCHA
Iqi Iquitos
Jav Rio Javarí
Mau Manaus
Ita Itapiranga
Mes Maués
APA AMAPÁ
Bel Belém

TABLE 111

Ventrals, females, Ucayalo-Brasilian transect

Ventrals	PHE	Jur	Cax	TAP	Lor
40				2	
41				2	
42				1	
43				3	
44	1			2	
45	-			2	
46	1			2	1
47	-			1	
48	-			1	
49	3			-	
50	-			-	
51	1			1	
52	-	1			
53	1	-			
54	-	1			
55	-				
56	1				
	8	2	-	17	1

PHE PAMPA HERMOSA
Jur Rio Juruá
Cax Cachimbo
TAP TAPIRAPÉS
Lor Loreto



Map 12. Ventral scales, females; summary of geographic differentiation.

TABLE 112

Ventrals, sexual differences

	Males		Females			
	N	M	N	M	d	t
Falcón	17	46.6 ± .54	11	43.3 ± .54	3.3	4.123 ***
Trinidad	24	48.5 .55	20	46.1 .81	2.4	2.470 *
Essequibo	17	51.8 .76	15	49.5 .61	2.3	2.252 *
Dunoon	6	53.0 .52	7	47.4 1.13	5.6	4.228 ***
Nassau	10	60.1 .99	9	57.3 1.45	2.8	1.993
Amapá	9	56.8 1.05	14	54.7 .89	2.1	1.478
Villavicencio	20	46.5 .47	15	43.8 .56	2.7	3.715 ***
Santa Cecilia	16	55.3 .89	14	54.1 .94	1.2	.911
Limón Cocha	16	55.6 .99	15	52.8 .88	2.8	2.074 *
Pampa Hermosa	16	51.6 1.00	8	49.6 1.36	1.9	1.139
Tapirapés	19	47.4 .57	17	44. .72	3.3	3.703 **

N individuals in sample M mean d difference between means

t Student's * significant at the .05 level

** significant at the .01 level *** significant at the .001 level

TABLE 113

Regression of tail length on body length, males, major samples

	N	R_x	b	a	y'_1	y'_2	F	r^2
Falcõn	16	25 - 64	2.88 ± .10	-35.5 ± 5.39	51.0	151.9	823	.98
NE Venezuela	13	29 - 63	2.80 .09	-26.9 4.97	56.9	154.9	861	.99
Trinidad	20	38 - 68	2.80 .15	-25.0 8.15	59.1	157.2	351	.95
Western Guyana	8	41 - 69	3.12 .19	-46.5 11.30	47.1	156.3	264	.98
Essequibo	14	45 - 62	3.28 .29	-55.0 16.04	43.5	158.5	127	.91
Nassau	15	31 - 61	2.33 .20	-18.8 3.60	51.1	132.7	136	.91
Amapá	9	32 - 59	2.22 .21	-13.9 10.66	52.8	130.5	110	.94
Villavicencio	16	34 - 60	3.00 .24	-32.4 12.68	57.5	162.3	154	.92
Santa Cecilia	15	36 - 69	2.85 .20	-38.8 11.20	46.6	146.3	198	.94
Limõn Cocha	24	30 - 73	2.58 .09	-26.8 4.80	50.5	140.8	790	.97
Pampa Hermosa	6	31 - 70	2.46 .08	-18.5 4.66	55.3	141.4	994	.996
Tapirapés	15	28 - 64	2.63 .23	-15.2 13.16	63.6	155.4	131	.91

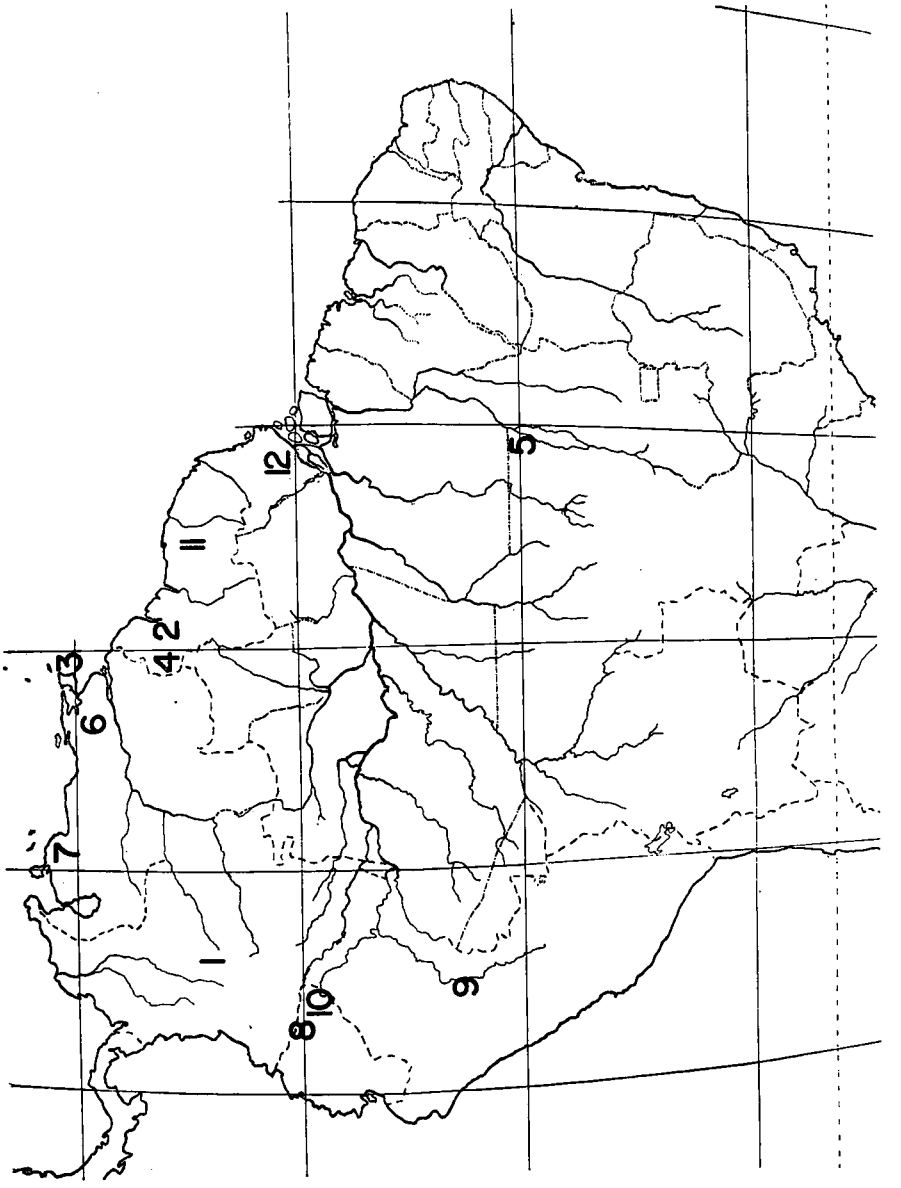
N specimens in sample
R_x range of body length
b regression coefficient
a regression constant
y'_1 tail length at 30 mm body length
y'_2 tail length at 65 mm body length
F between mean squares due to regression and to error
r correlation coefficient

TABLE 114

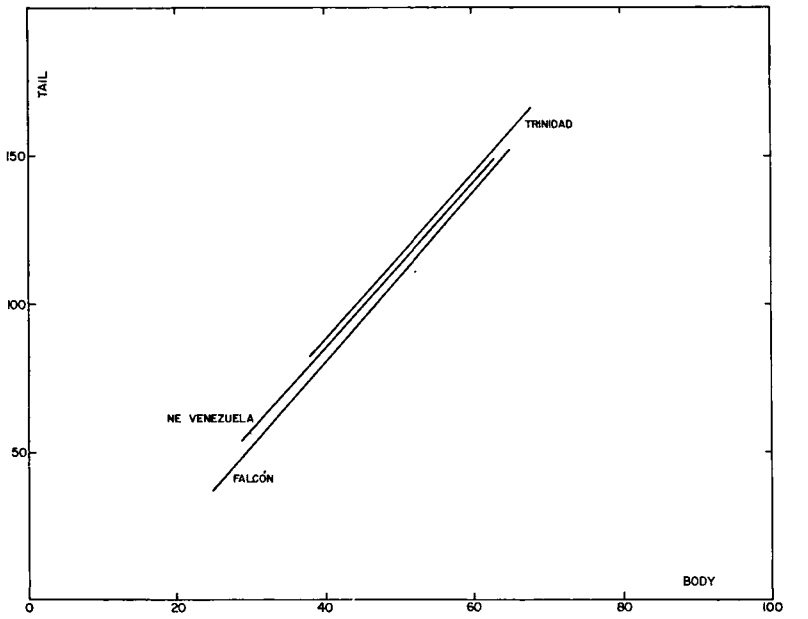
Tail length at 65 mm body length,

males, ranking of major samples

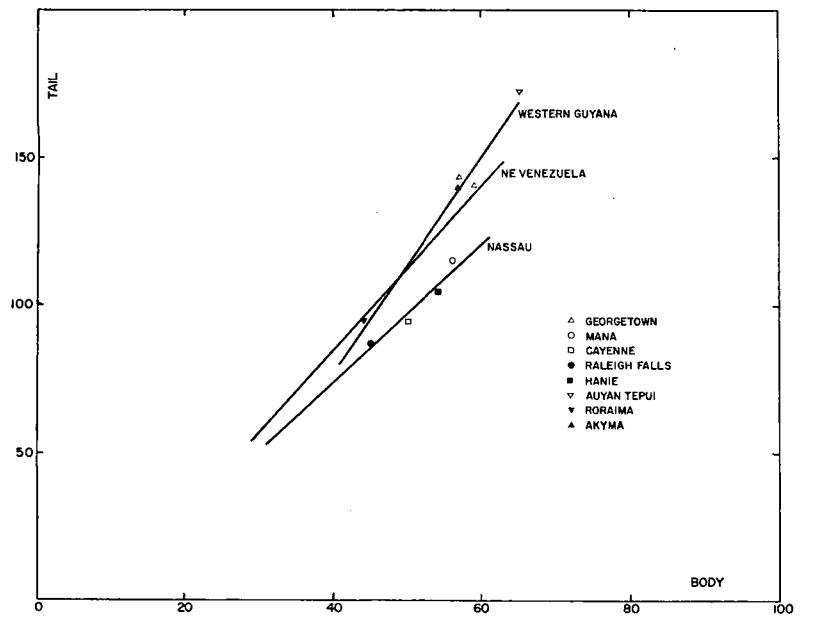
Rank		Tail lenght
1	Villavicencio	162.3
2	Essequibo	158.5
3	Trinidad	157.2
4	Western Guyana	156.3
5	Tapirapés	155.4
6	NE Venezuela	154.9
7	Falcõn	151.9
8	Santa Cecilia	146.3
9	Pampa Hermosa	141.4
10	Limõn Cocha	140.8
11	Nassau +	132.7
12	Amapá	130.5



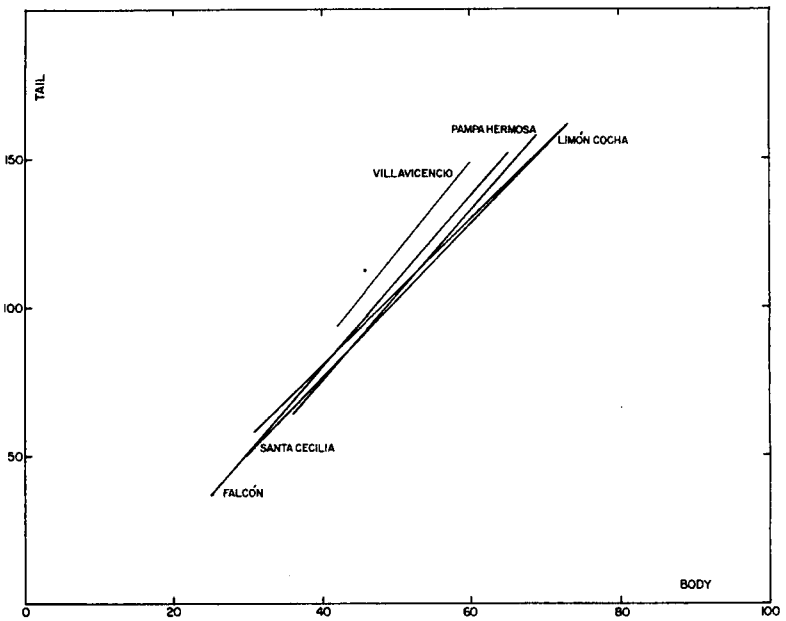
Map 13. Tail length, males; distribution of major sample ranks.



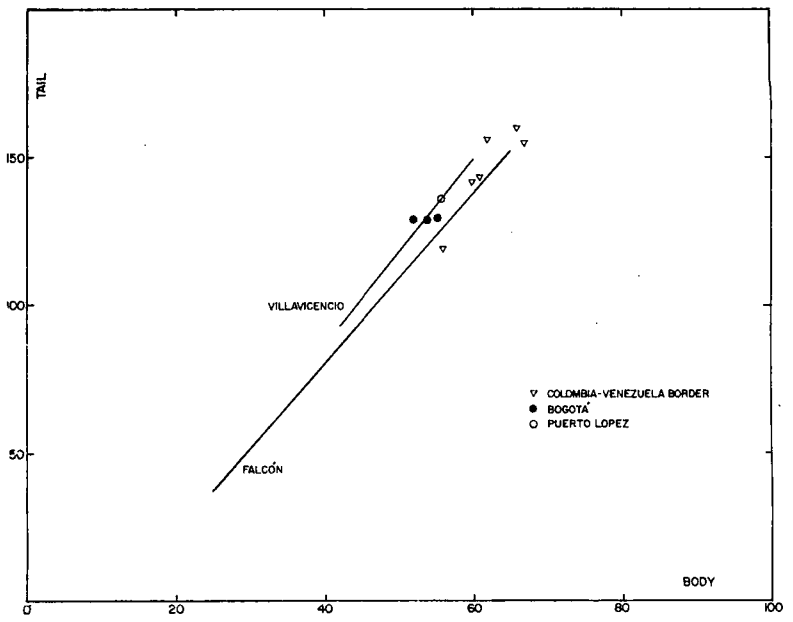
Graph 4. North Venezuelan transect, males, tail length on body length.



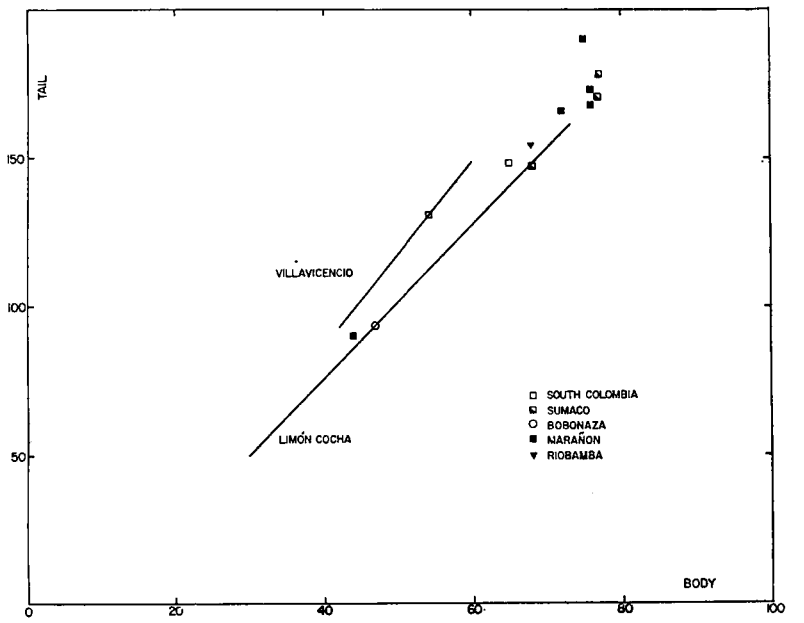
Graph 5. First and second Guianan transects, males, tail length on body length.



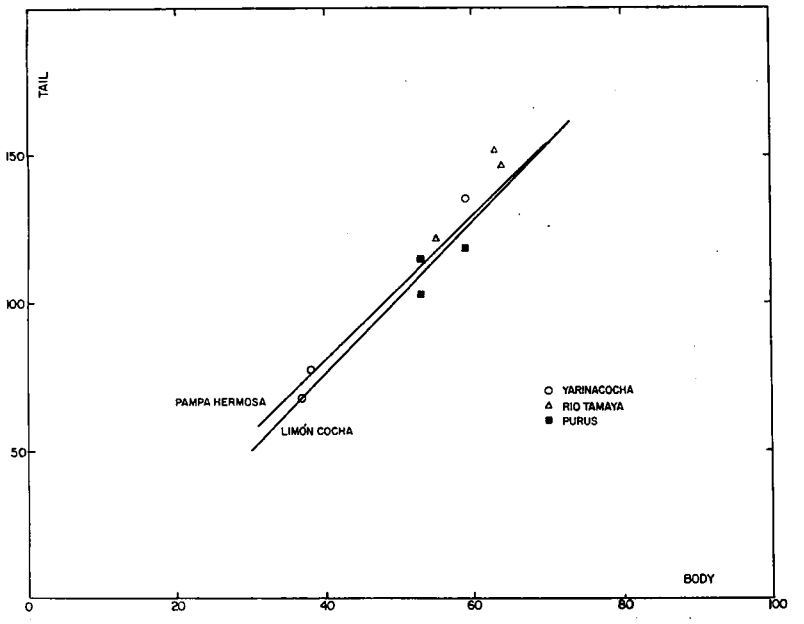
Graph 6. Western transect, males, tail length on body length, major samples.



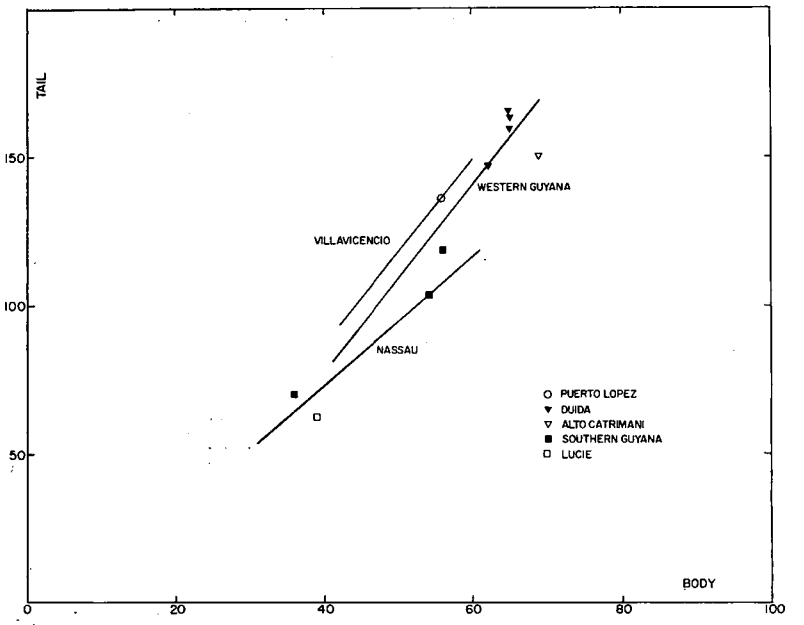
Graph 7. Western transect, from Falcón to Villavicencio, males, tail length on body length.



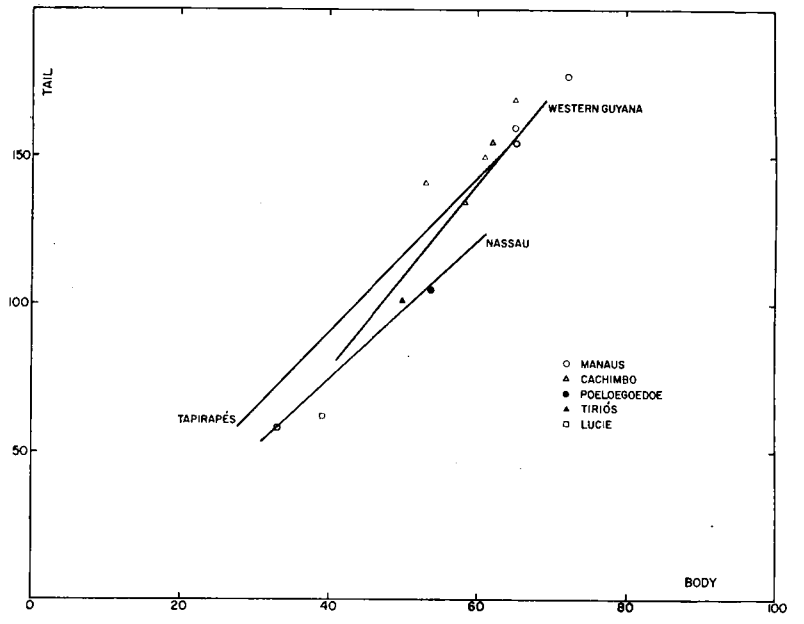
Graph 8. Western transect, from Villavicencio to the Marañon, males, tail length on body length.



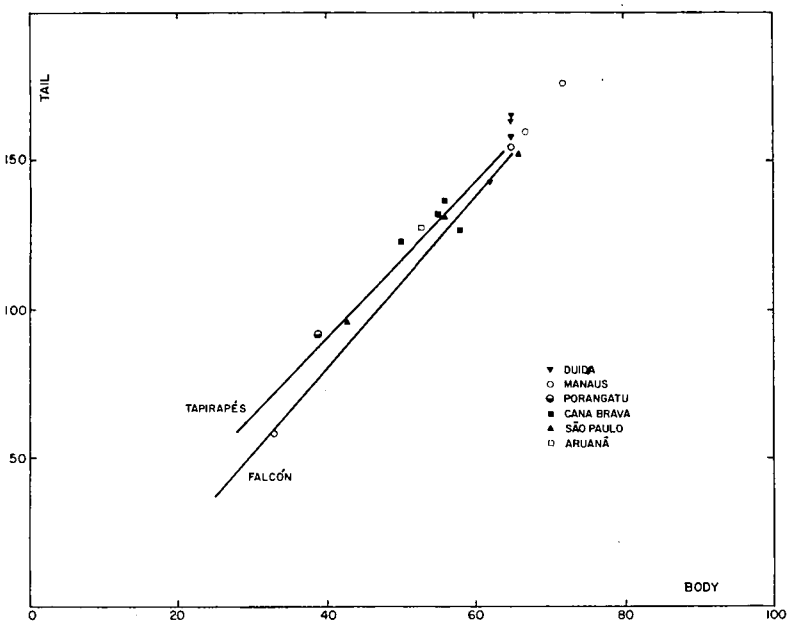
Graph 9. Western transect, south of the Marañon, males, tail length on body length.



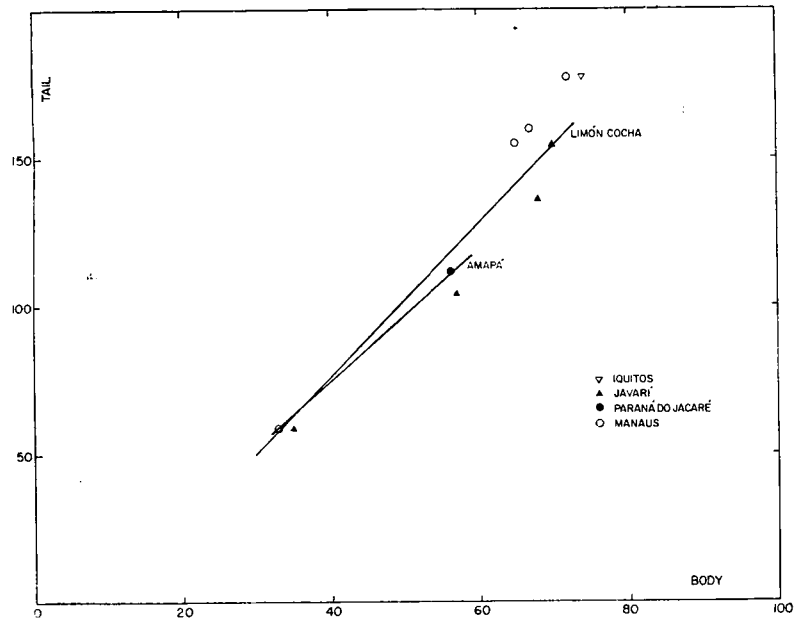
Graph 10. Colombo-Guianan transect, males, tail length on body length.



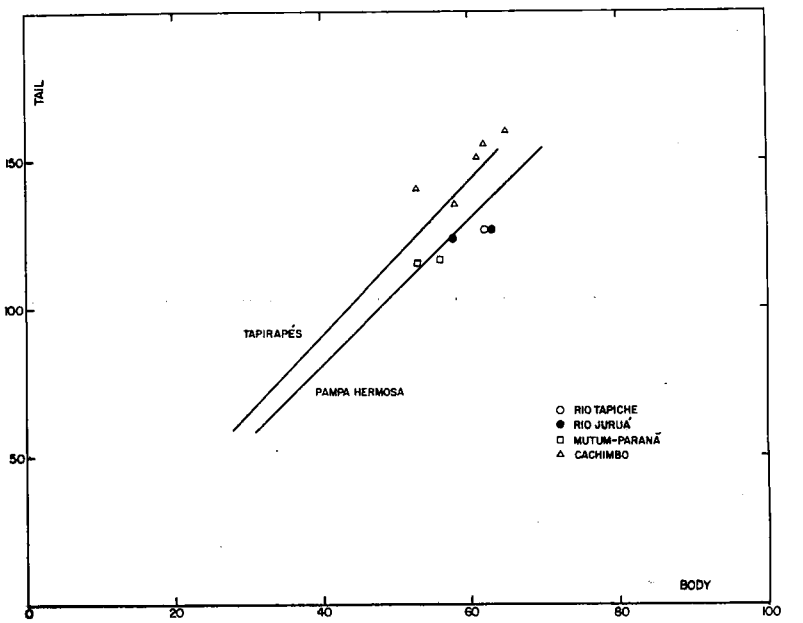
Graph 11. First and second Guiano-Brasilian transects, males, tail length on body length.



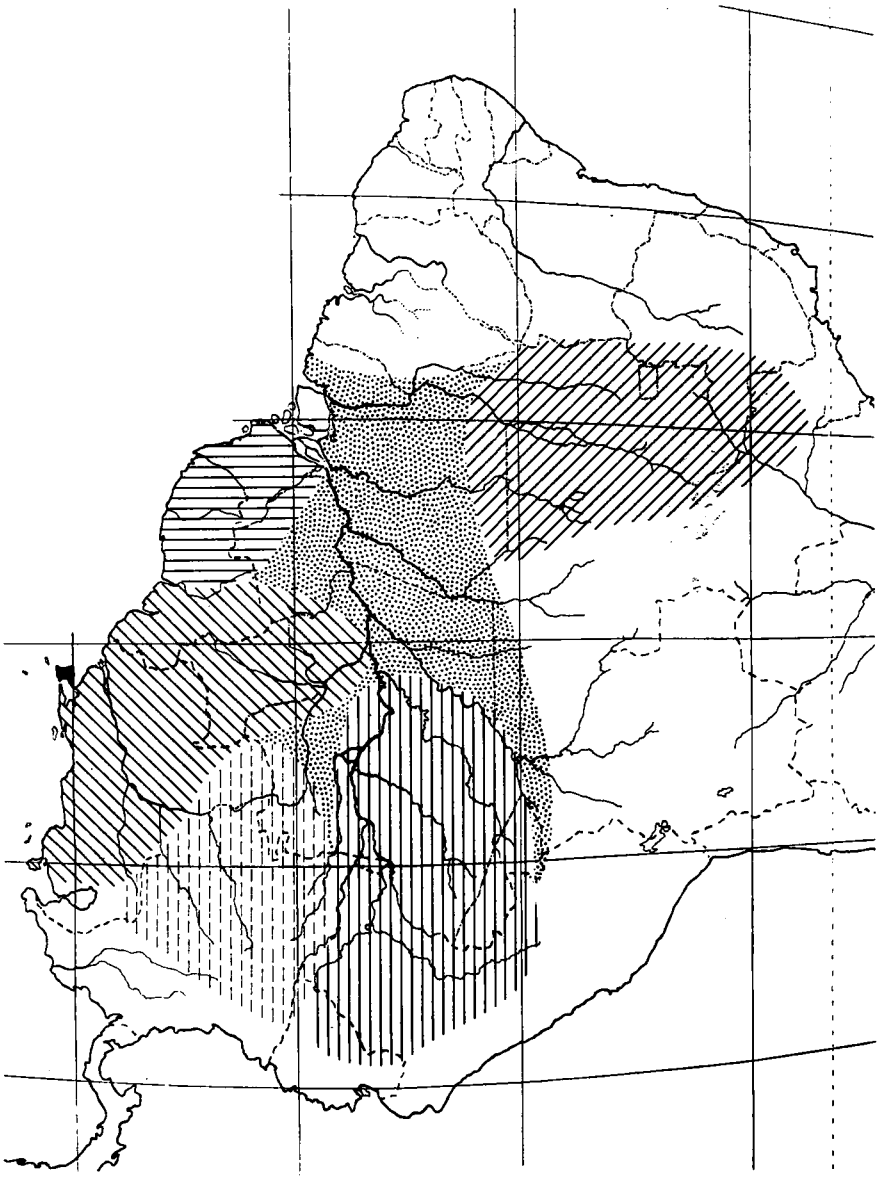
Graph 12. Venezuelo-Brasilian transect, males, tail length on body length.



Graph 13. Napo-Brasilian transect, males, tail length on body length.



Graph 14. Ucayalo-Brasilian transect, males, tail length on body length.



Map 14. Tail length, males; summary of geographic differentiation.

TABLE 115

Regression of tail length on body length, females, major samples

	N	R_x	b	a	y'_1	y'_2	F	r^2
Falcón	9	32 - 65	2.21 ± .12	-10.1 ± 6.48	56.3	133.7	314	.98
NE Venezuela	14	30 - 62	2.01 .16	6.9 7.62	67.2	137.5	159	.93
Trinidad	18	25 - 67	2.24 .12	- 6.0 6.23	61.2	139.7	338	.95
Western Guyana	11	30 - 67	2.19 .15	- 5.6 7.76	60.0	136.6	224	.96
Essequibo	16	31 - 62	2.25 .10	- 8.3 5.22	59.2	137.9	490	.97
Nassau	11	28 - 64	1.78 .12	- 3.7 5.31	49.7	112.1	235	.96
Amapá	14	22 - 55	1.75 .15	- .1 5.68	52.4	113.7	137	.92
Villavicencio	13	29 - 63	2.10 .23	5.8 12.06	68.8	142.3	86	.89
Santa Cecilia	17	32 - 74	2.31 .09	-17.9 4.81	51.5	132.4	612	.98
Limón Cocha	23	30 - 74	2.12 .07	- 9.6 3.26	54.2	128.5	1031	.98
Pampa Hermosa	7	30 - 80	2.30 .06	-12.9 3.56	56.0	136.4	1356	.996
Tapirapés	12	29 - 65	2.37 .19	- 8.4 10.90	62.8	145.9	149	.94

N specimens in sample
R_x range of body length
b regression coefficient
a regression constant
y'_1 tail length at 30 mm body length
y'_2 tail length at 65 mm body length
F between mean squares due to regression and to error
r correlation coefficient

TABLE 116

Tail length at 65 mm body length

females, ranking of major samples

Rank		Tail length
1	Tapirapés	145.0
2	Villavicencio	142.3
3	Trinidad	139.7
4	Essequibo	137.9
5	NE Venezuela	137.5
6	Western Guyana	136.6
7	Pampa Hermosa	136.4
8	Falcón	133.7
9	Santa Cecilia	132.4
10	Limón Cocha	128.5
11	Amapá	113.7
12	Nassau	112.1

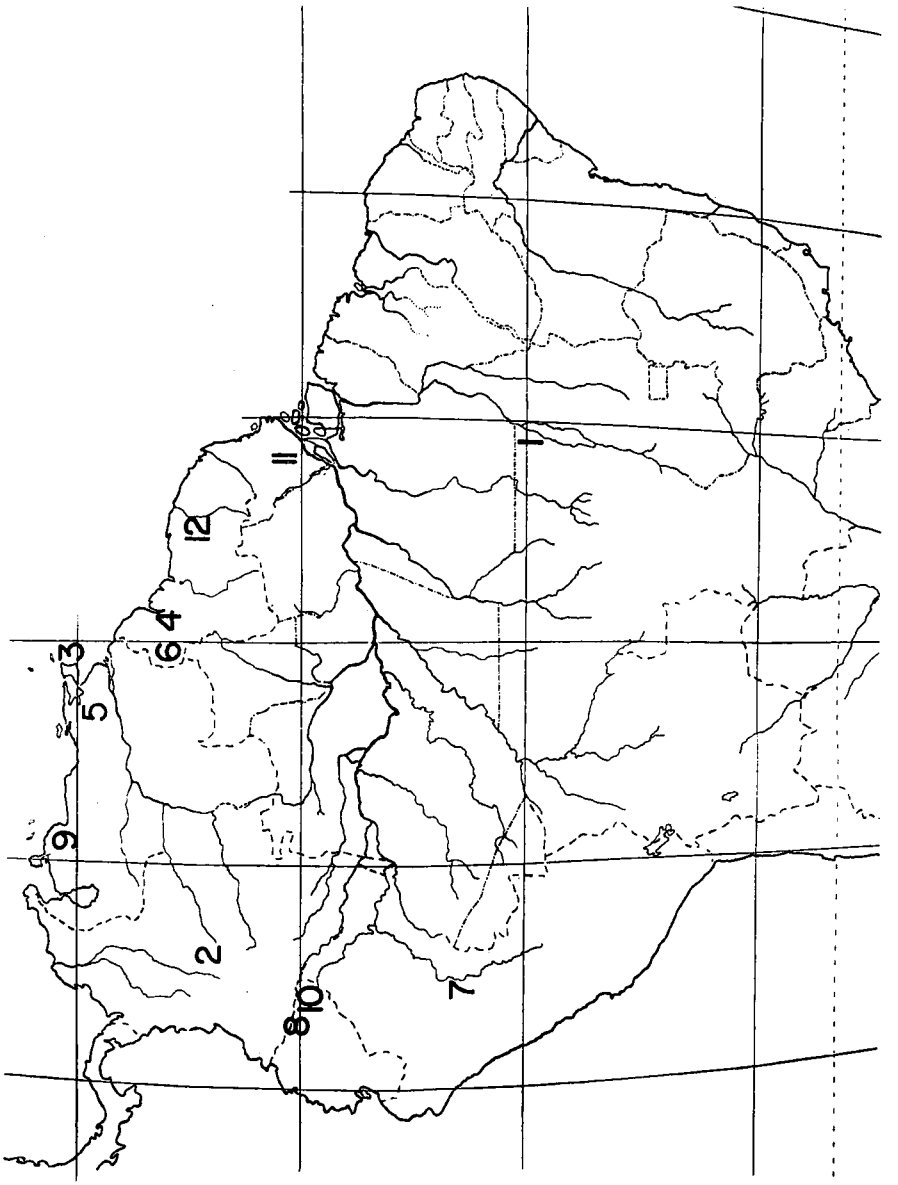
TABLE 117

Tail length at 65 mm body length,

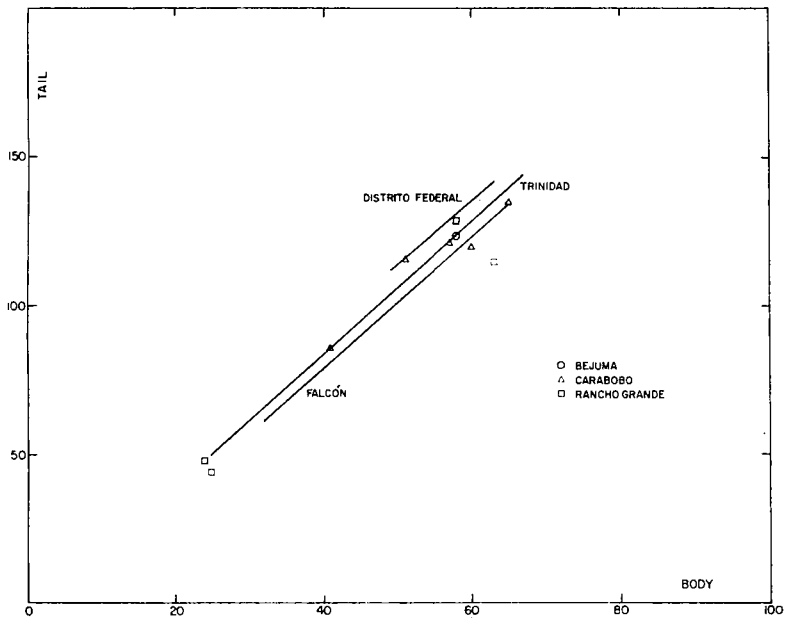
major samples, sex differences

	♂	♀	d	p
Falcón	151.9	133.7	18.2	.88
NE Venezuela	154.9	137.5	17.4	.89
Trinidad	157.2	139.7	17.5	.89
Western Guyana	156.3	136.6	19.7	.87
Essequibo	158.5	137.9	20.6	.87
Nassau	132.7	112.1	20.6	.84
Amapá	130.5	113.7	16.8	.87
Villavicencio	162.3	142.3	20.0	.88
Santa Cecilia	146.3	132.4	13.9	.90
Limón Cocha	140.8	128.5	12.3	.91
Pampa Hermosa	141.4	136.4	5.0	.96
Tapirapés	155.4	145.9	9.5	.94

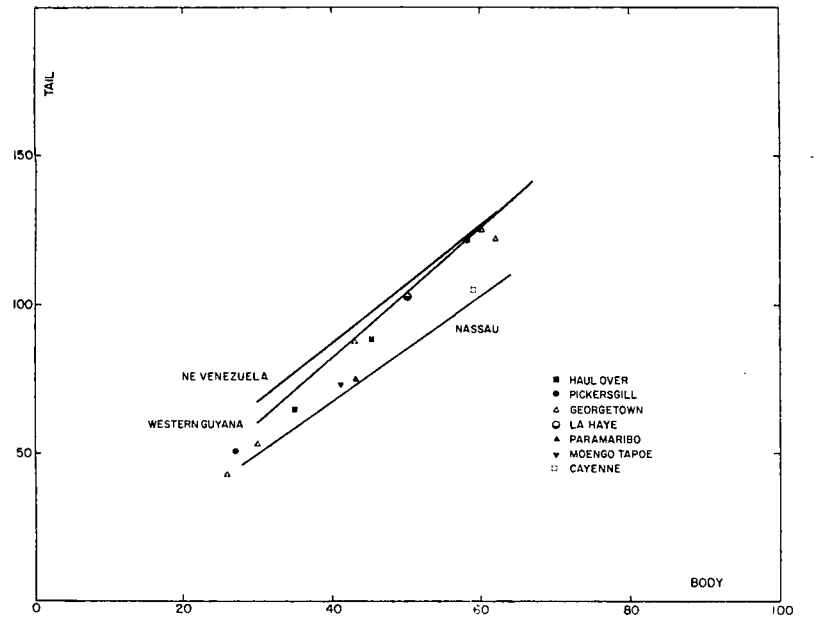
d difference p female length/male length



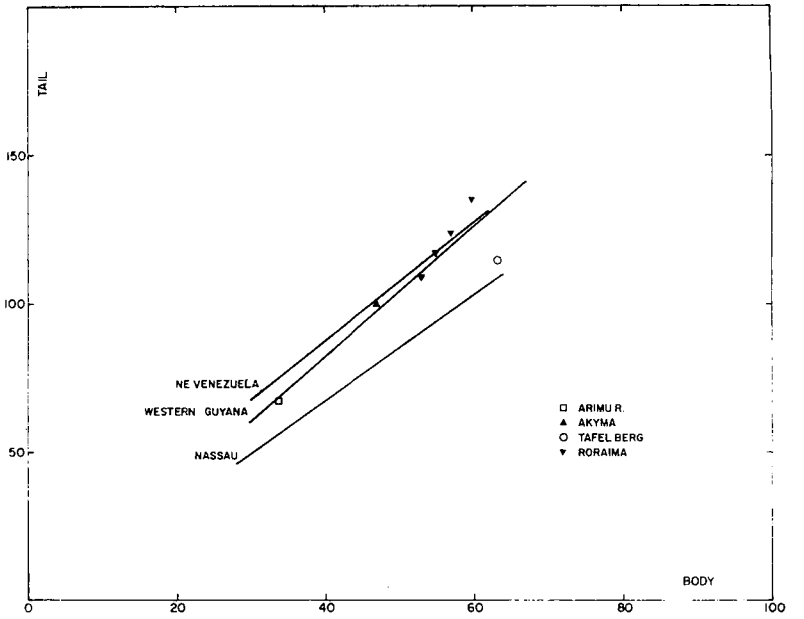
Map 15. Tail length, females; distribution of major sample ranks.



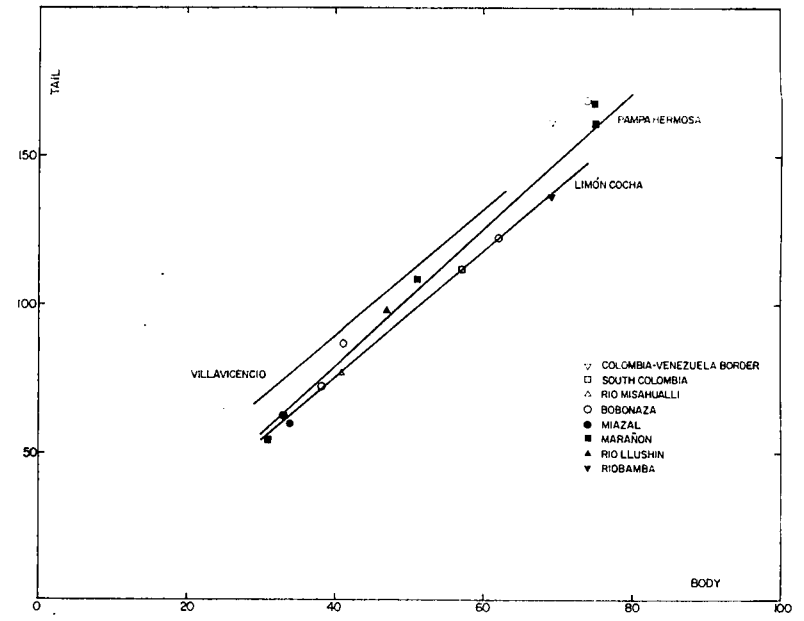
Graps 15. North Venezuelan transect, females, tail length on body length.



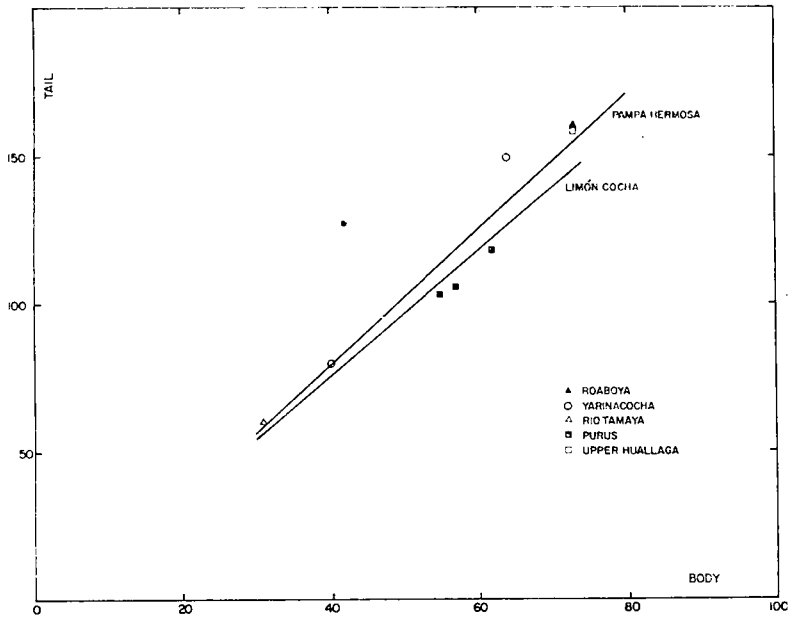
Graph 16. First Guianan transect, females, tail length on body length.



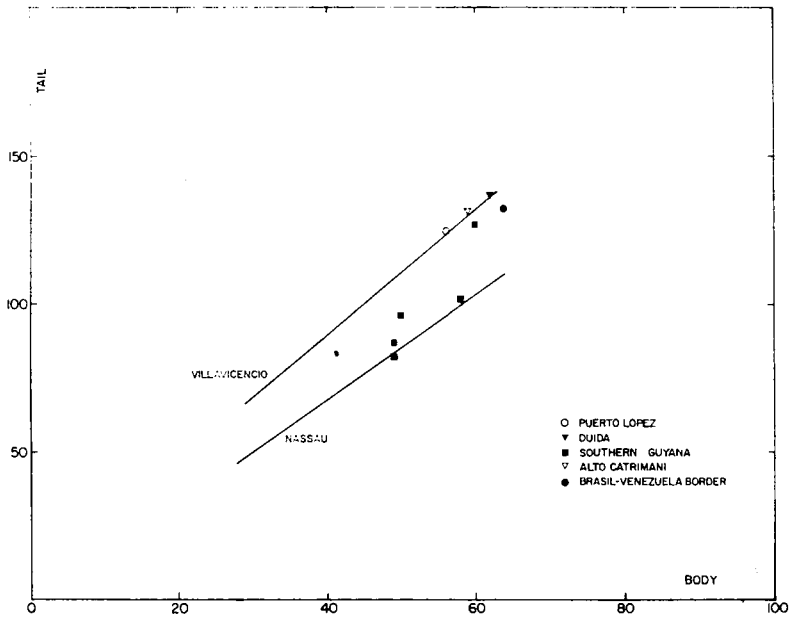
Graph 17. Second Guianan transect, females, tail length on body length.



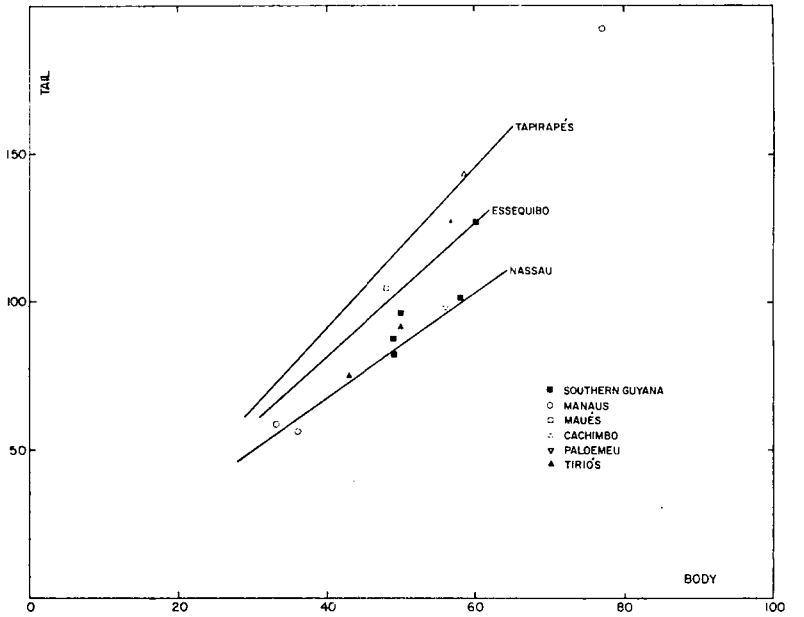
Graph 18. Western transect, Falcón to Marañon, females, tail length on body length.



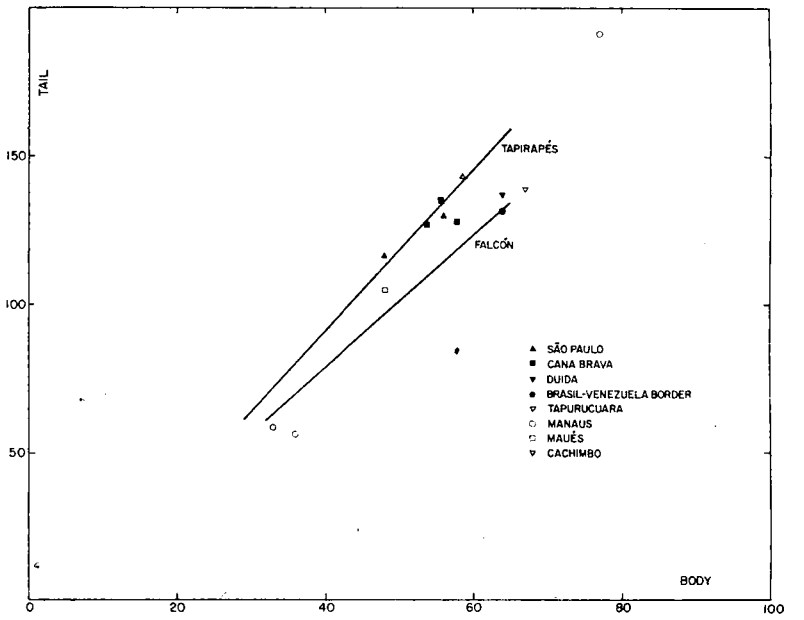
Graph 19. Western transect, south of the Marañon, females, tail length on body length.



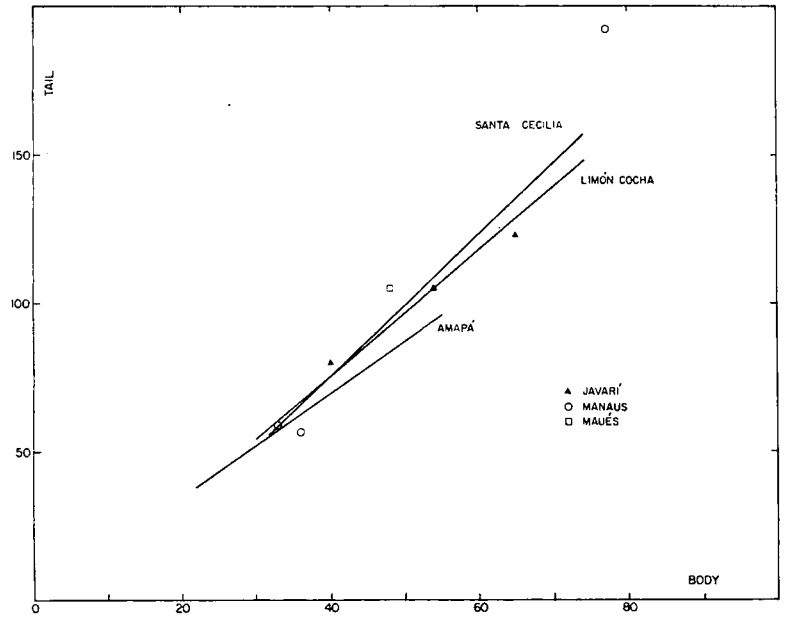
Graph 20. Colombo-Guianan transect, females, tail length on body length.



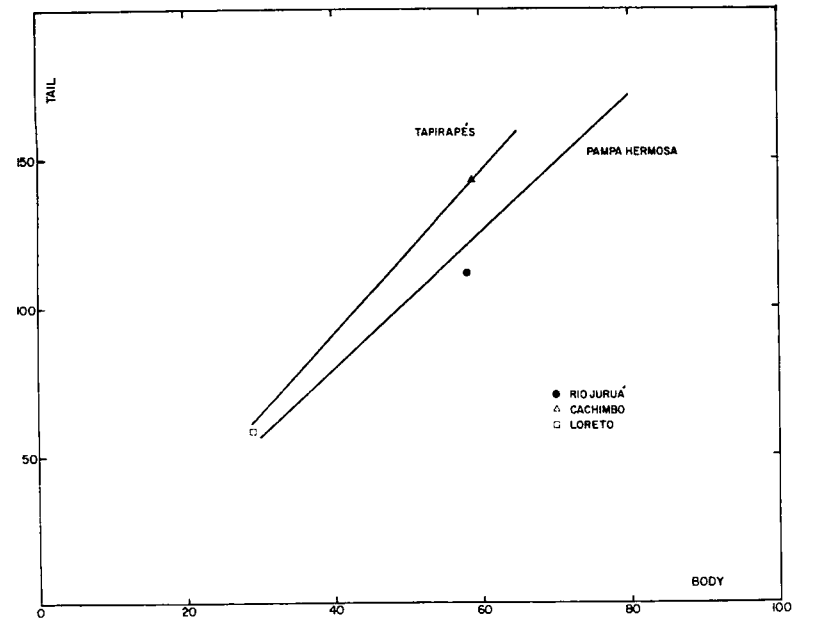
Graph 21. First and second Guiano-Brasilian transects, females, tail length on body length.



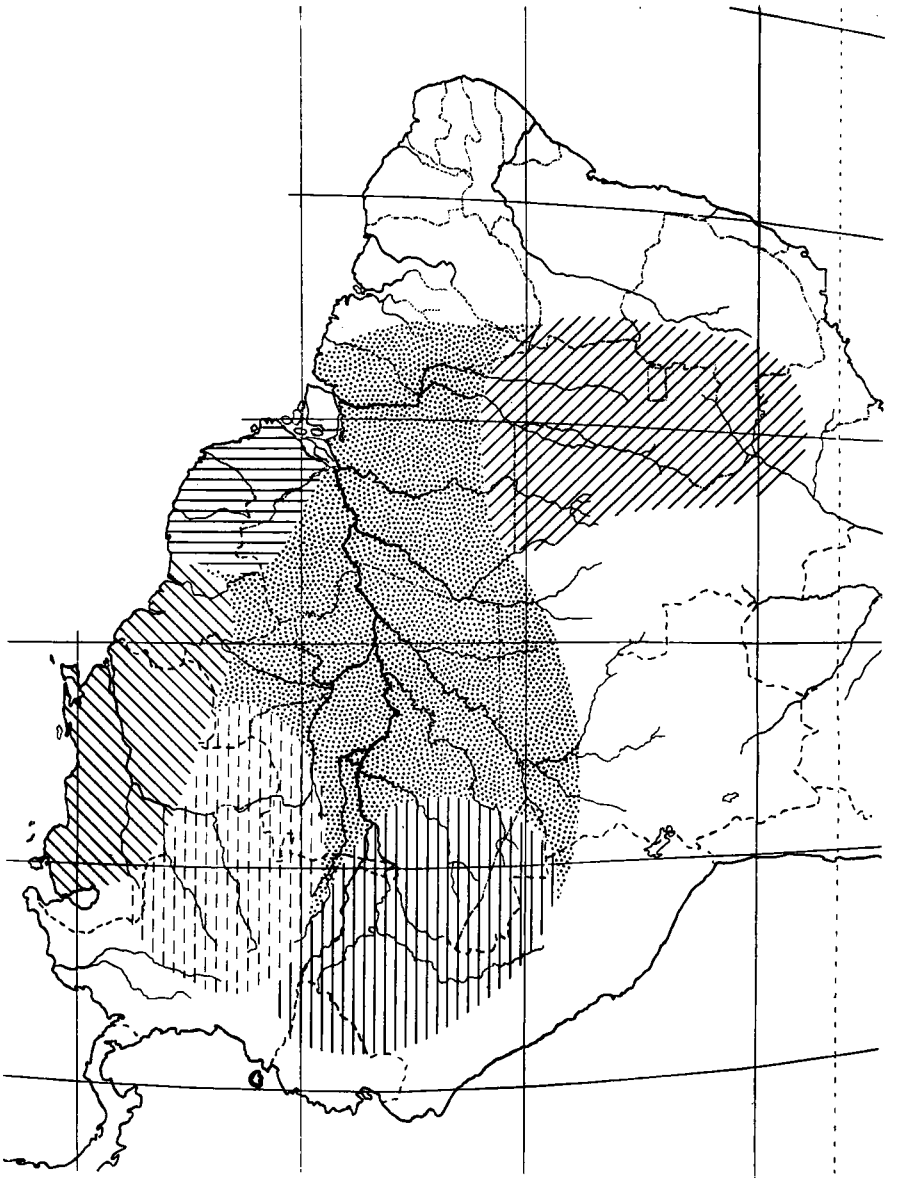
Graph 22. Venezuelo-Brasilian transect, females, tail length on body length.



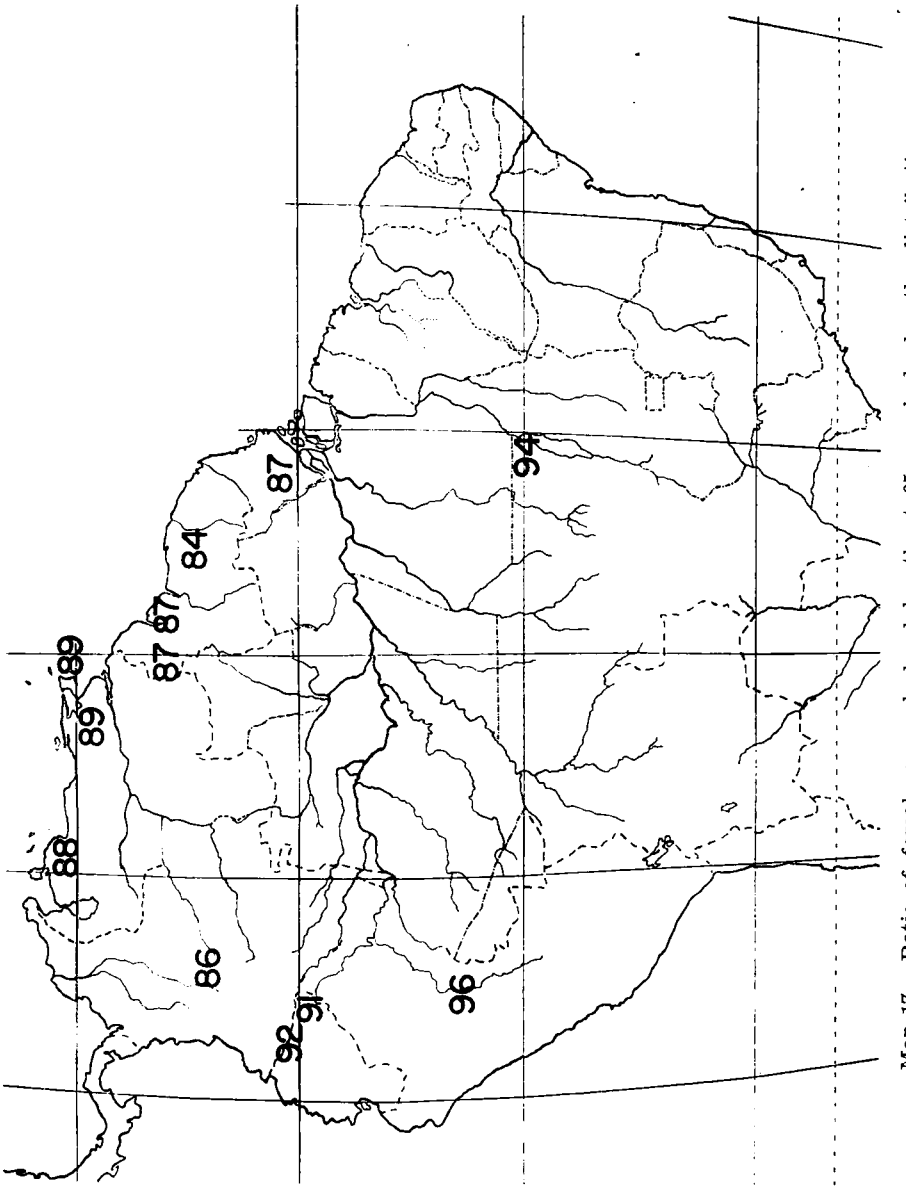
Graph 23. Napo-Brasilian transect, females, tail length on body length.



Graph 24. Ucayalo-Brasilian transect, females, tail length on body length.



Map 16. Tail length, females; summary of geographic differentiation.



Map 17. Ratio of female on male head length at 65 mm body length; distribution of major sample ranks.

TABLE 118

Tail length at 65 mm body length, major samples, male and female ranks compared

	♂	♀	d
Villavicencio	1	2	- 1
Essequibo	2	4	- 2
Trinidad	3	3	0
Western Guyana	4	6	- 2
Tapirapés	5	1	+ 4
NE Venezuela	6	5	+ 1
Falcõn	7	8	- 1
Santa Cecilia	8	9	- 1
Pampa Hermosa	9	7	+ 2
Limõn Cocha	10	10	0
Nassau	11	12	- 1
Amapá	12	11	+ 1

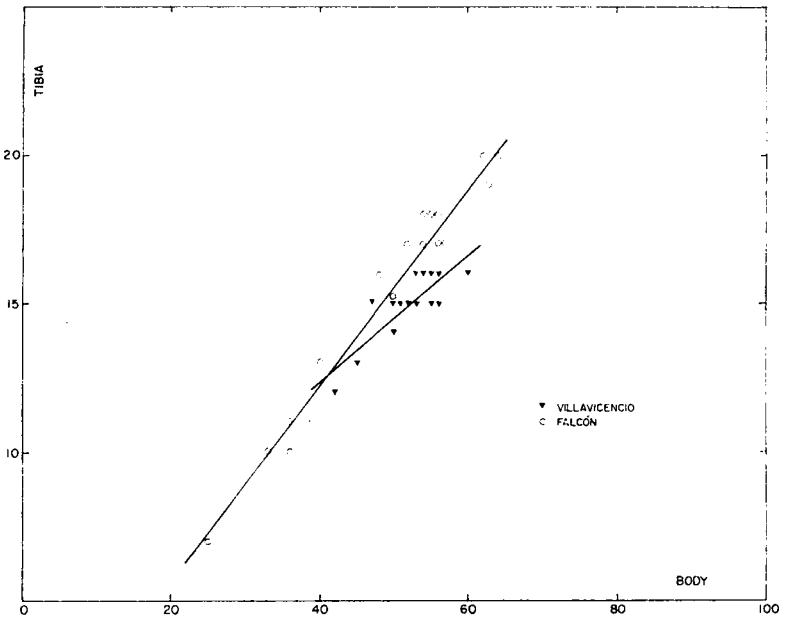
d male rank minus female rank

TABLE 119

Regression of length of tibia on body length, males, major samples

	N	R_x	b	a	y_1'	y_2'	F	r^2
Falcõn	21	25 - 64	.33 ± .014	-1.10 ± .74	8.9	20.5	539	.97
NE Venezuela	17	29 - 63	.34 .023	-1.30 1.23	8.8	20.7	213	.93
Trinidad	26	31 - 68	.31 .015	.54 .80	9.7	20.4	419	.95
Western Guyana	11	41 - 69	.32 .013	.60 .76	10.3	21.6	633	.99
Essequibo	18	45 - 62	.31 .029	.80 1.57	10.1	20.9	113	.88
Dunoon	7	36 - 55	.44 .028	-4.99 1.36	8.1	23.3	250	.98
Nassau	11	31 - 61	.35 .036	- .91 1.92	9.6	21.8	92	.91
Amapã	9	32 - 59	.29 .027	1.65 1.35	10.5	20.8	119	.95
Villavicencio	22	34 - 60	.23 .022	2.56 1.17	9.6	17.8	109	.85
Santa Cecilia	17	31 - 78	.31 .017	.78 .95	10.0	20.7	322	.96
Limõn Cocha	31	30 - 74	.33 .015	- .84 .83	9.2	20.9	477	.94
Pampa Hermosa	17	29 - 70	.30 .013	- .07 .74	9.1	19.7	557	.97
Tapirapẽs	26	28 - 64	.27 .020	1.01 1.13	9.1	18.4	178	.88

N specimens in sample
R_x range of body length
b regression coefficient
a regression constant
y_1' tail length at 30 mm body length
y_2' tail length at 65 mm body length
F between mean squares due to regression and to error
r correlation coefficient

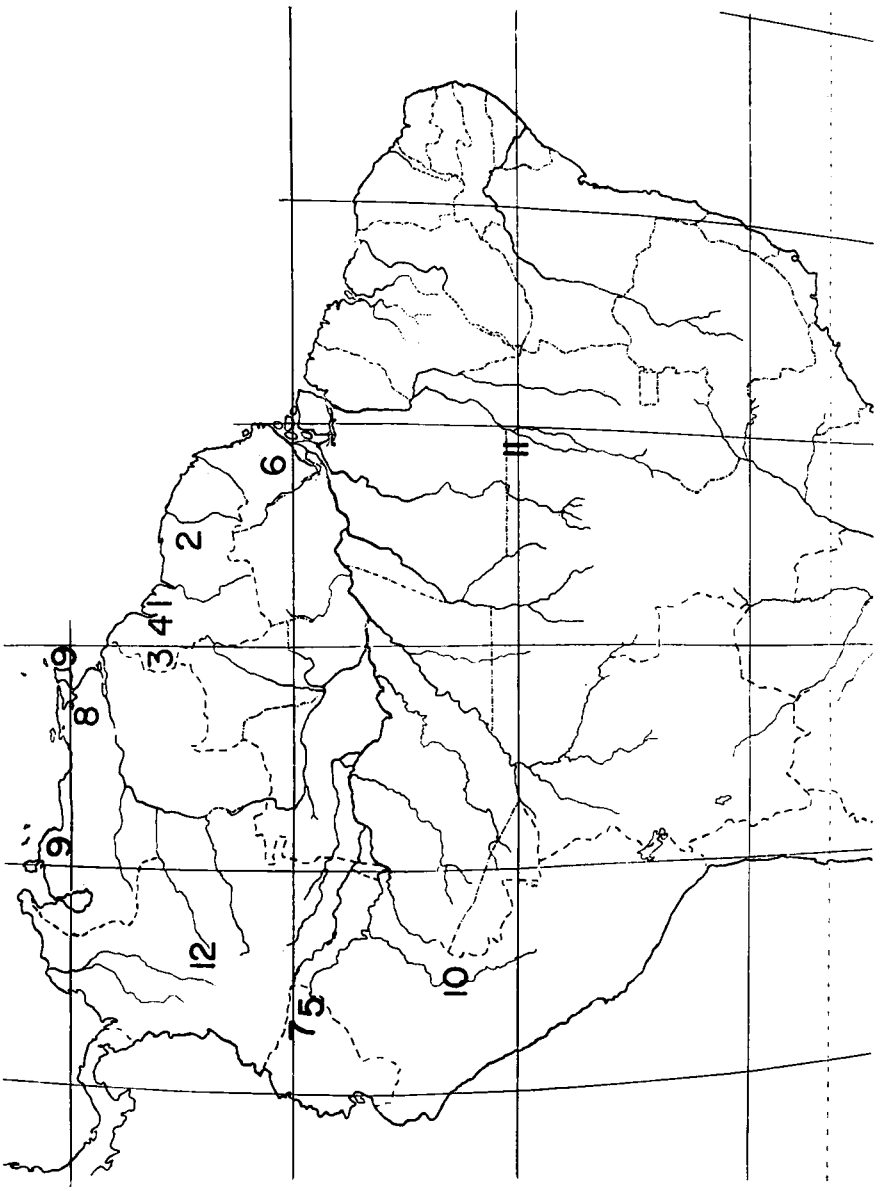


Graph 25. Villavivencio and Falcón, males, length of tibia on body length.

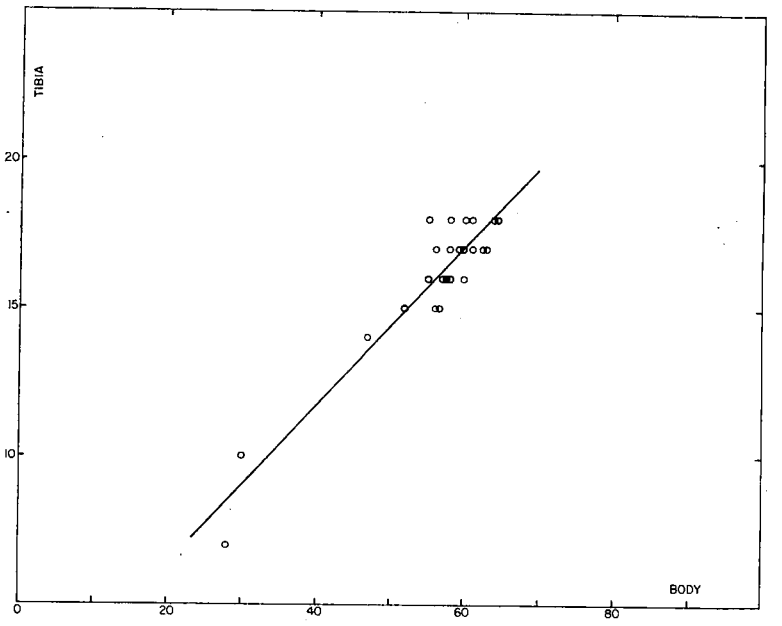
TABLE 120

Length of tibia at 65 mm body length, males, ranking of major samples

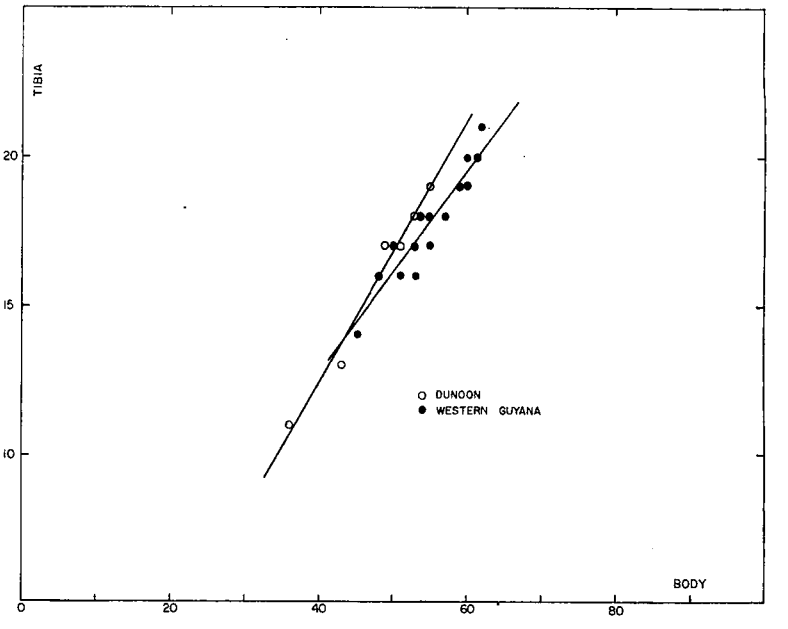
Rank		Tibia
1	Dunoon	23.3
2	Nassau	21.8
3	Western Guyana	21.6
4	Essequibo	20.9
	Limón Cocha	20.9
5	Amapá	20.8
6	Santa Cecilia	20.7
	NE Venezuela	20.7
7	Falcón	20.5
8	Trinidad	20.4
9	Pampa Hermosa	19.7
10	Tapirapés	18.4
11	Villavicencio	17.8



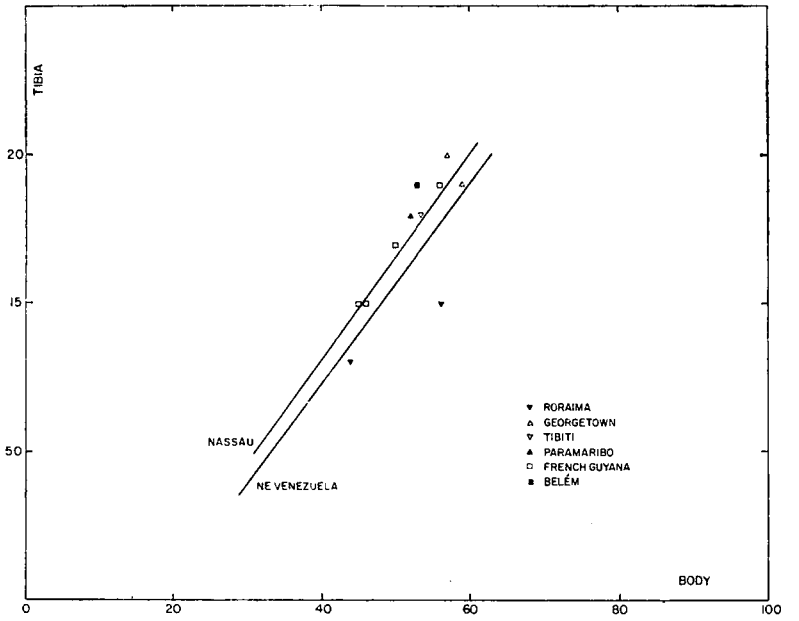
Map 18. Length of tibia, males; distribution of major sample ranks.



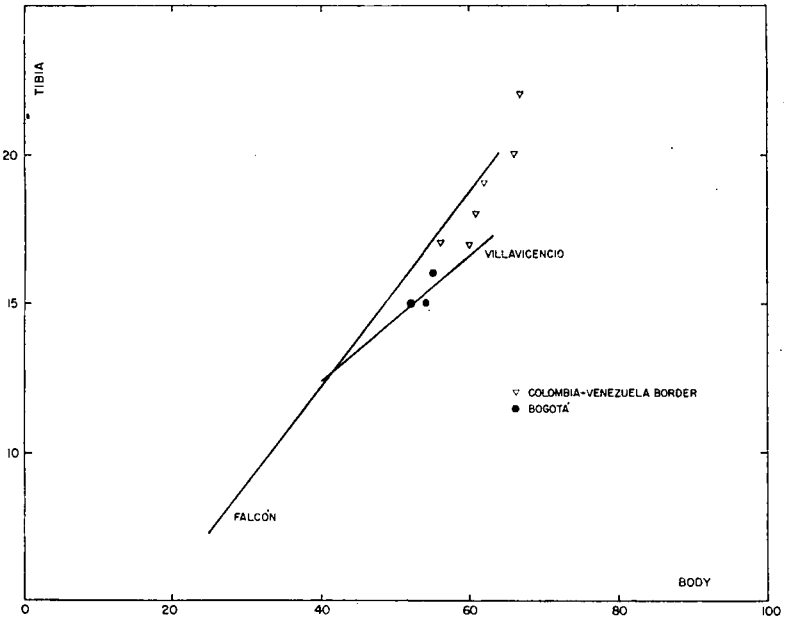
Graph 26. Tapirapés, males, length of tibia on body length.



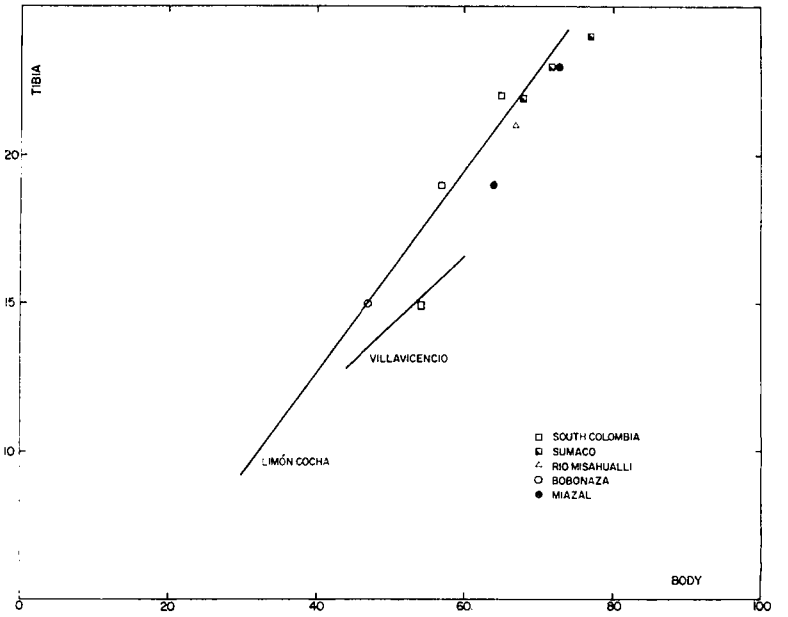
Graph 27. Dunoon and Western Guyana, males, length of tibia on body length.



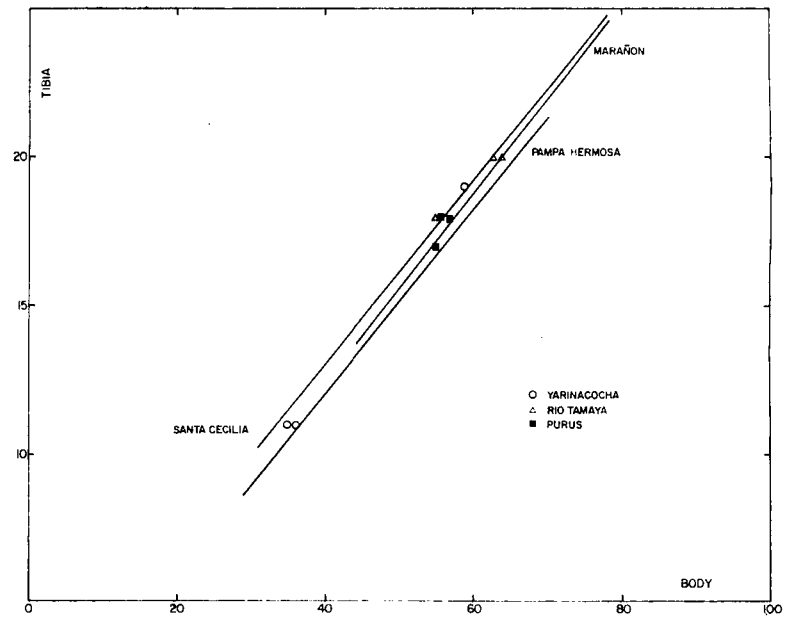
Graph 28. Second Guianan transect, males, length of tibia on body length.



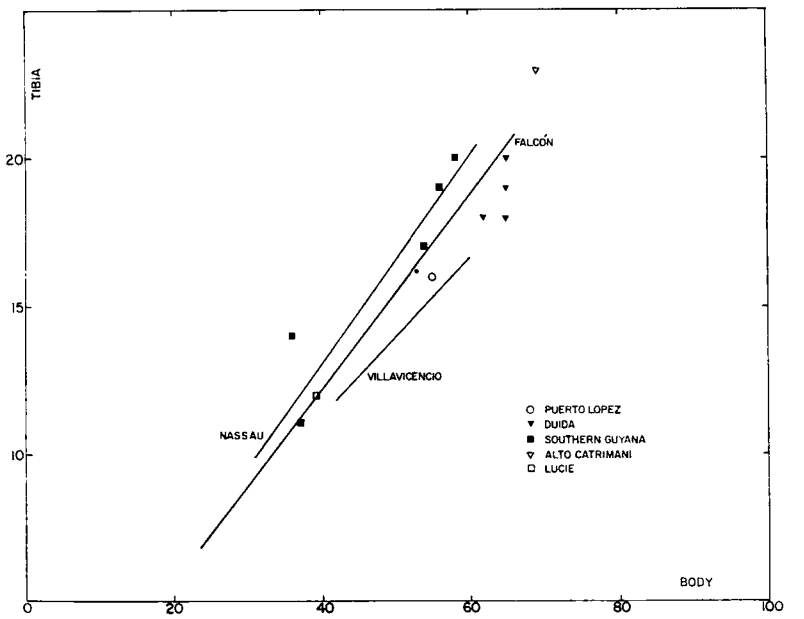
Graph 29. Western transect, Falcón to Villavicencio, males, length of tibia on body length.



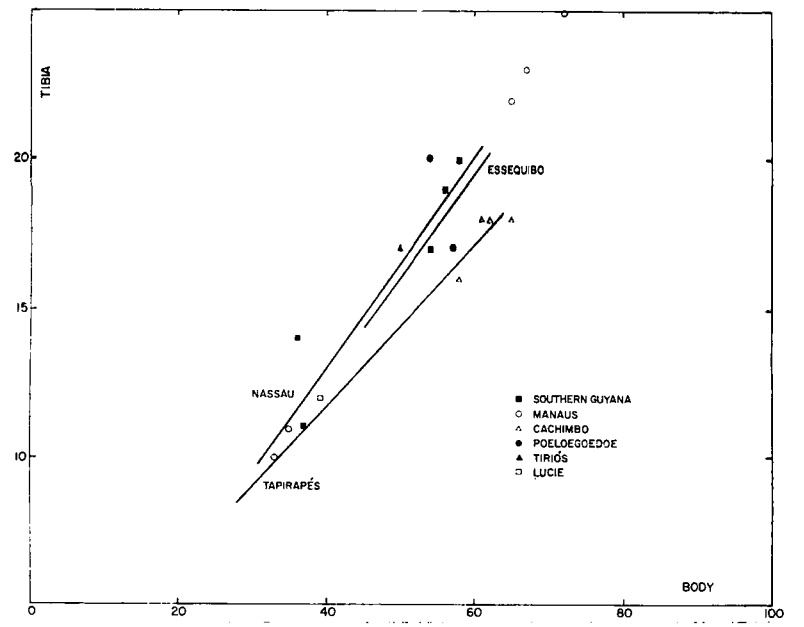
Graph 30. Western transect, Villavicencio to southern Ecuador, males, length of tibia on body length.



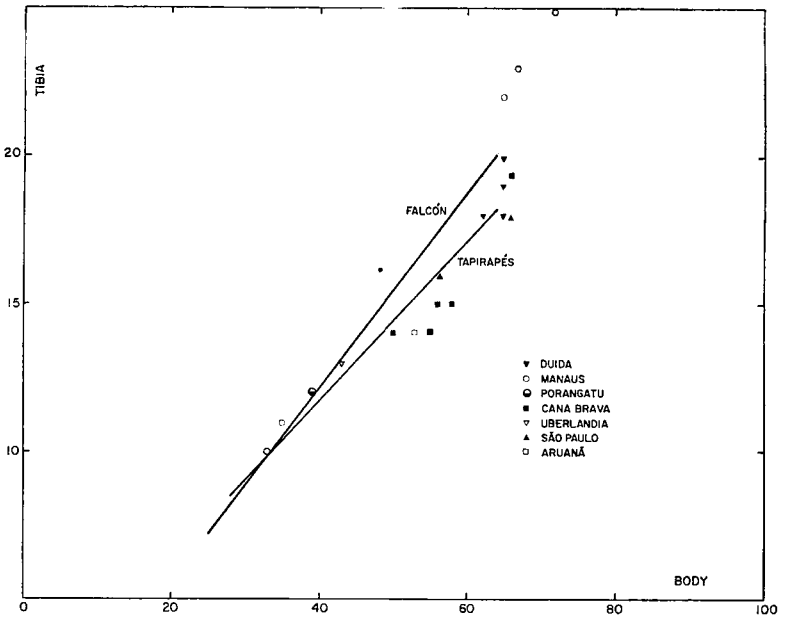
Graph 31. Western transect, from the Marañon south, males, length of tibia on body length.



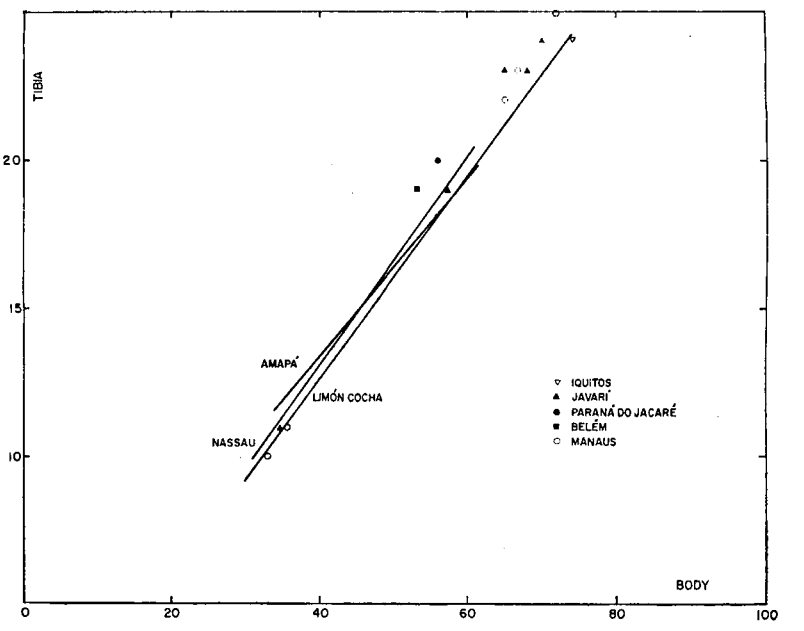
Graph 32. Colombo-Guianan transect, males, length of tibia on body length.



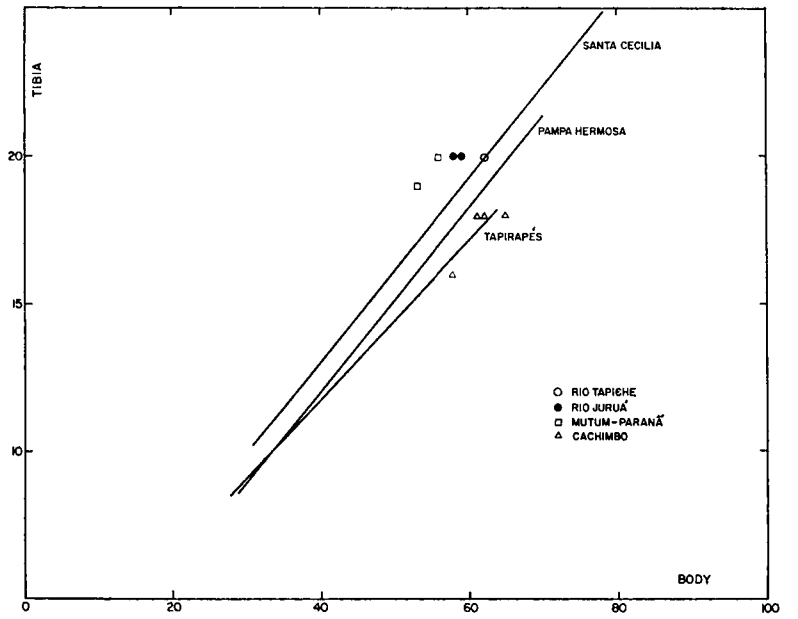
Graph 33. First and second Guiano-Brasilian transects, males, length of tibia on body length.



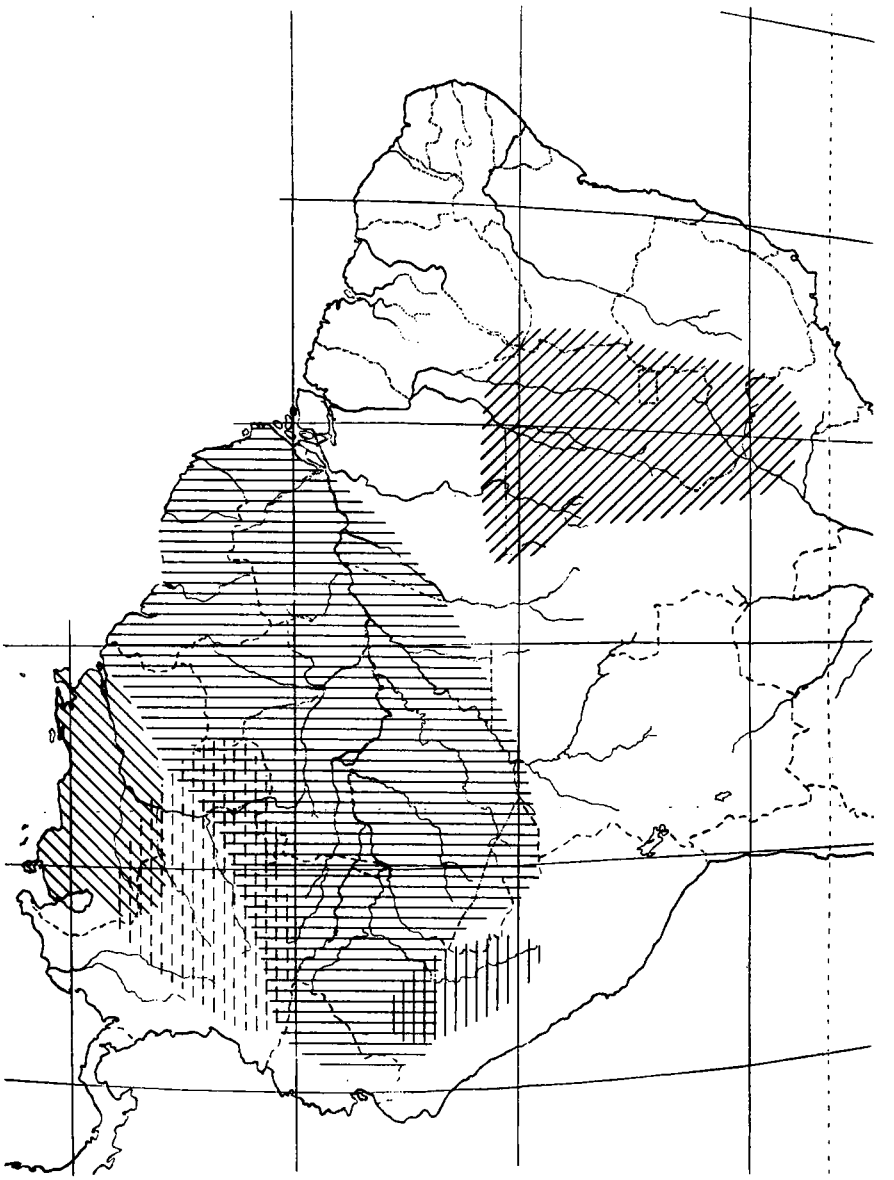
Graph 34. Venezuelo-Brasilian transect, males, length of tibia on body length.



Graph 35. Napo-Brasilian transect, males, length of tibia on body length.



Graph 36. Ucayalo-Brasilian transect, males, length of tibia on body length.



Map 19. Length of tibia, males; summary of geographic differentiation.

TABLE 121

Regression of length of tibia on body length, females, major samples

	N	R_x	b		a		y'_1	y'_2	F	r^2
Falcõn	13	31 - 68	.28	± .020	1.21	± 1.00	9.7	19.5	207	.95
NE Venezuela	18	30 - 63	.29	.017	.32	.80	9.2	19.4	297	.95
Trinidad	23	25 - 68	.29	.018	.73	.92	9.5	19.8	272	.93
Western Guyana	13	30 - 67	.33	.025	- .28	1.29	9.5	21.0	173	.94
Essequibo	19	31 - 62	.30	.016	1.16	.81	10.2	20.7	369	.96
Dunoon	10	28 - 58	.33	.020	- .38	.79	9.5	21.1	277	.97
Nassau	14	28 - 64	.33	.010	- .95	.44	9.0	20.6	1196	.99
Amapá	16	22 - 58	.32	.022	.47	.87	9.1	20.3	206	.94
Villavicencio	17	29 - 63	.24	.019	2.18	0.97	9.3	17.6	153	.91
Santa Cecilia	19	32 - 77	.32	.015	- .49	.77	9.2	20.5	485	.97
Limõn Cocha	29	29 - 74	.32	.011	.05	.54	9.6	20.7	875	.97
Pampa Hermosa	9	30 - 80	.31	.014	- .96	0.84	8.4	19.4	488	.99
Tapirapés	24	28 - 65	.26	.017	1.32	.93	9.0	18.0	233	.91

N specimens in sample
R_x range of body length
b regression coefficient
a regression constant
y'_1 tail length at 30 mm body length
y'_2 tail length at 65 mm body length
F between mean squares due to regression and to error
r correlation coefficient

TABLE 122

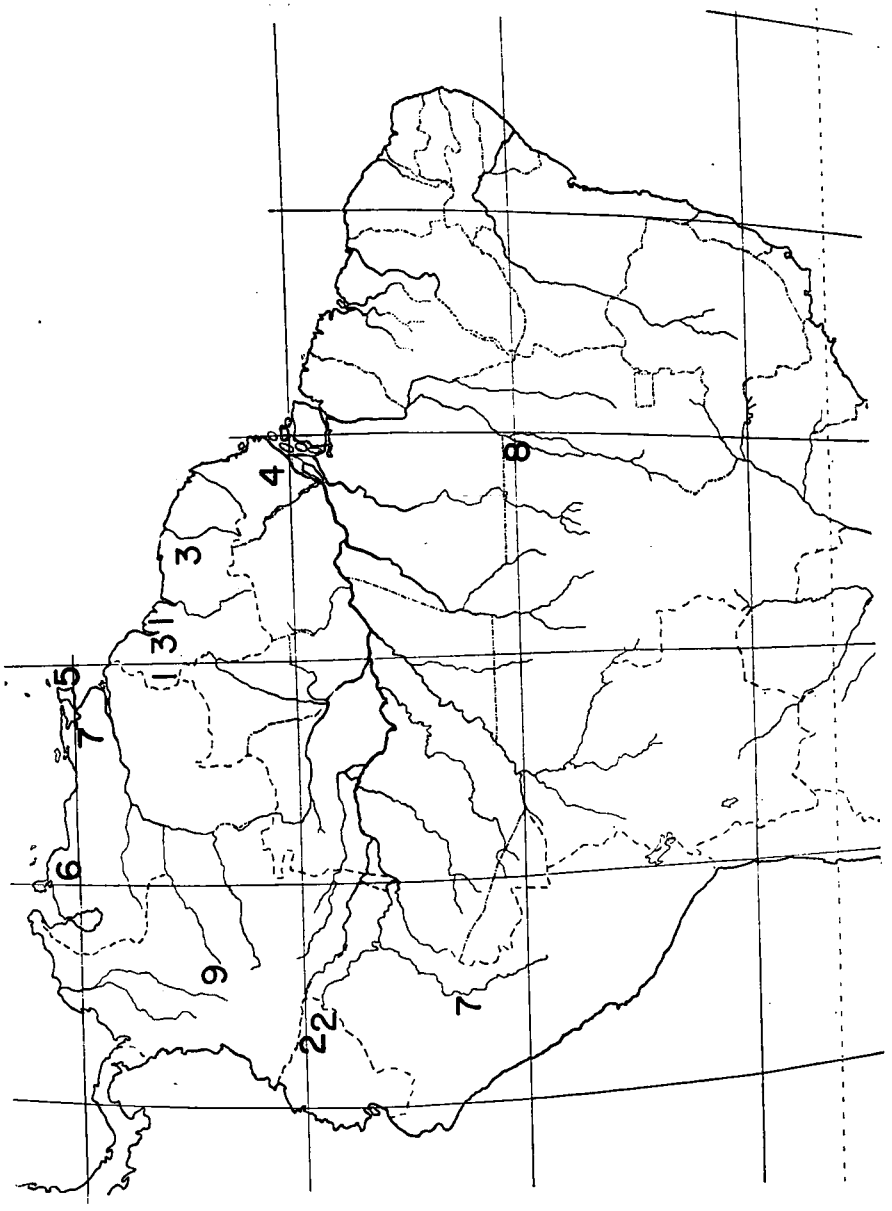
Length of tibia at 65 mm body length, females, ranking of major samples

Rank		Tibia
1	Dunoon	21.1
2	Western Guyana	21.0
3	Limón Cocha	20.7
	Essequibo	20.7
4	Nassau	20.6
5	Santa Cecilia	20.5
6	Amapá	20.3
7	Trinidad	19.8
8	Falcón	19.5
9	NE Venezuela	19.4
	Pampa Hermosa	19.4
10	Tapirapés	18.0
11	Villavicencio	17.6

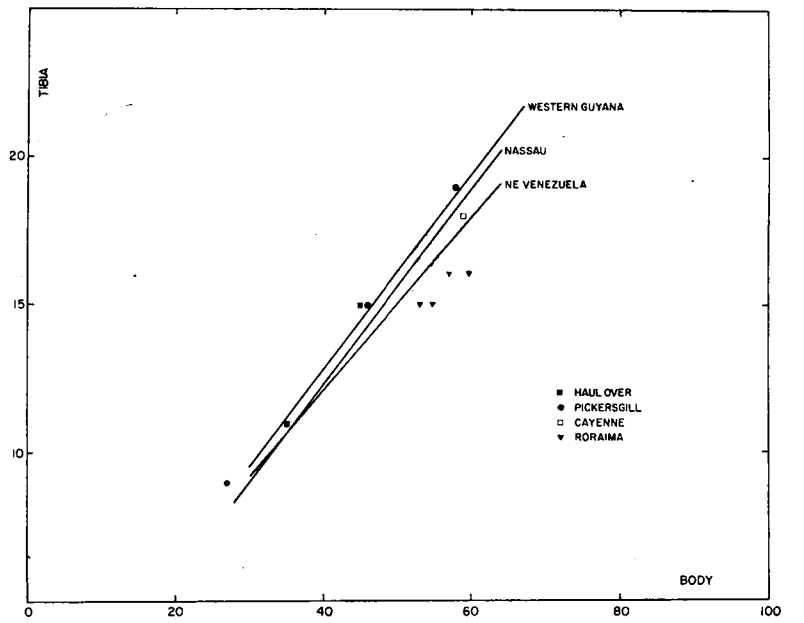
TABLE 123

Length of tibia at 65 mm body length, major samples, male and female ranks compared

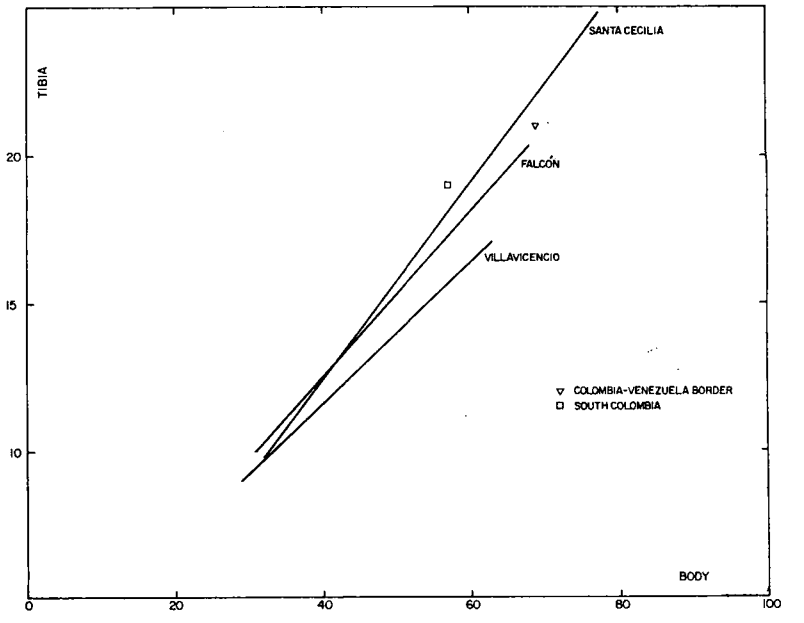
	♂	♀	d
Dunoon	1	1	0
Nassau	2	5	-3
Western Guyana	3	2	1
Essequibo	4.5	3.5	1
Limón Cocha	4.5	3.5	1
Amapá	6	7	-1
Santa Cecilia	7.5	6	1.5
NE Venezuela	7.5	10.5	-3
Falcón	9	9	0
Trinidad	10	8	2
Pampa Hermosa	11	10.5	.5
Tapirapés	12	12	0
Villavicencio	13	13	0



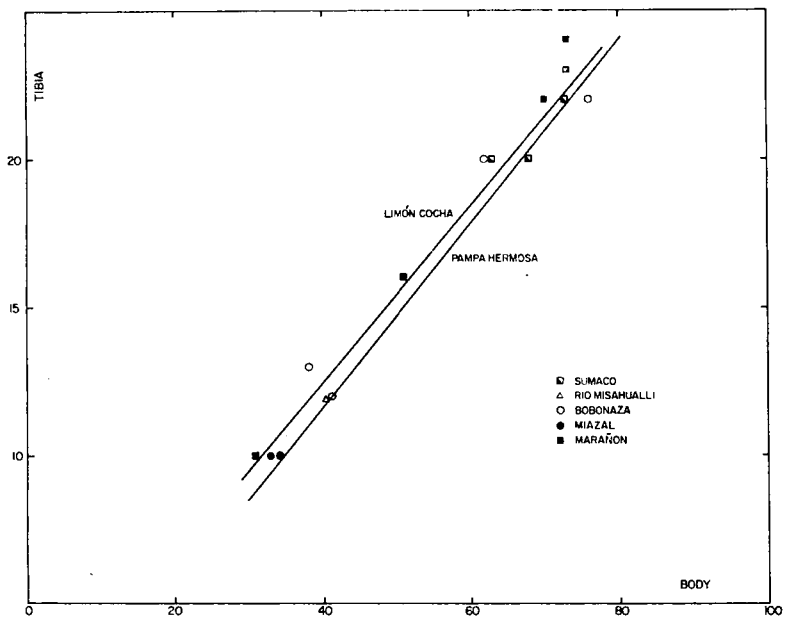
Map 20. Length of tibia, females; distribution of major sample ranks.



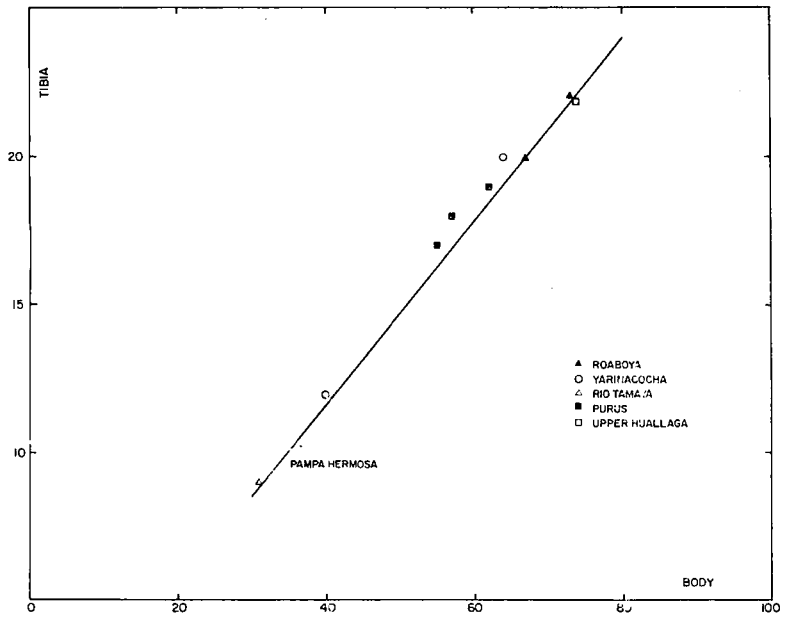
Graph 37. First and second Guianan transects, females, length of tibia on body length.



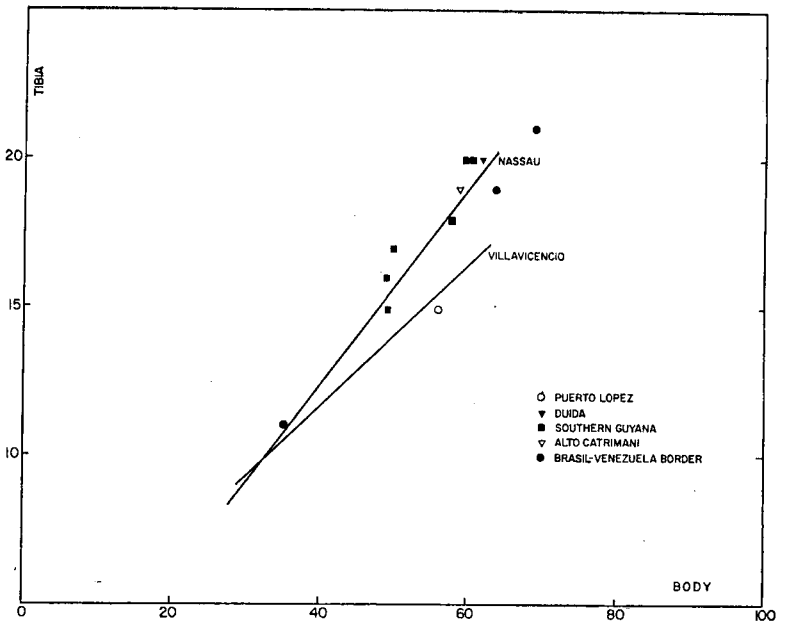
Graph 38. Western transect, Falcón to Santa Cecilia, females, length of tibia on body length.



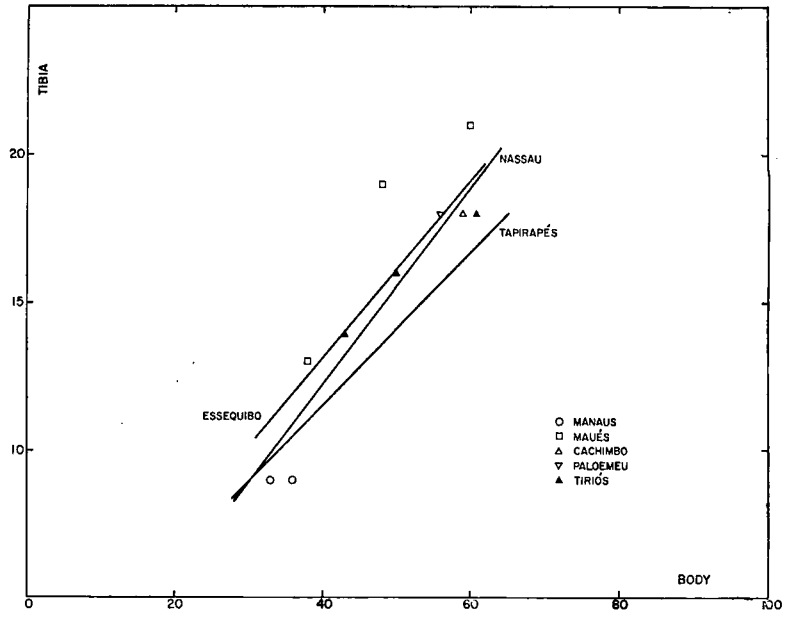
Graph 39. Western transect, Limón Cocha to the Marañon, females, length of tibia on body length.



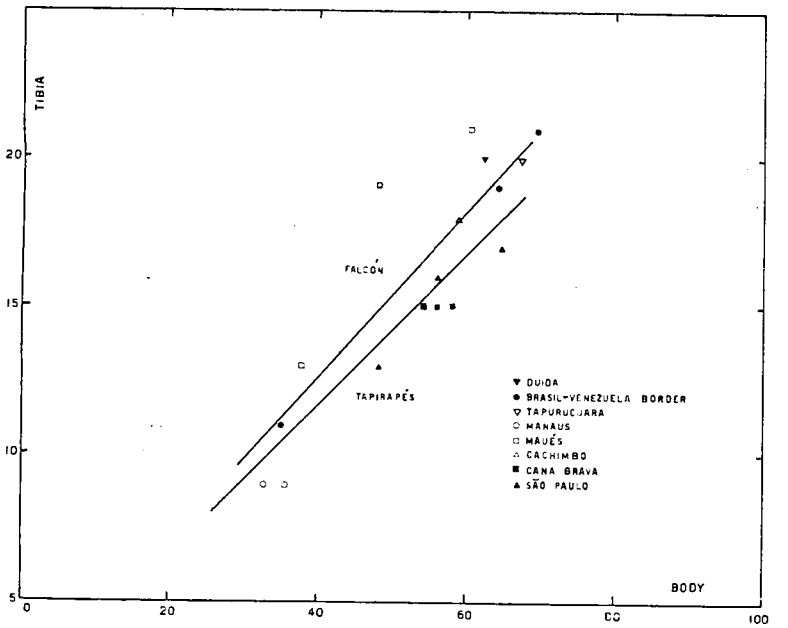
Graph 40. Western transect, south of the Marañon, females, length of tibia on body length.



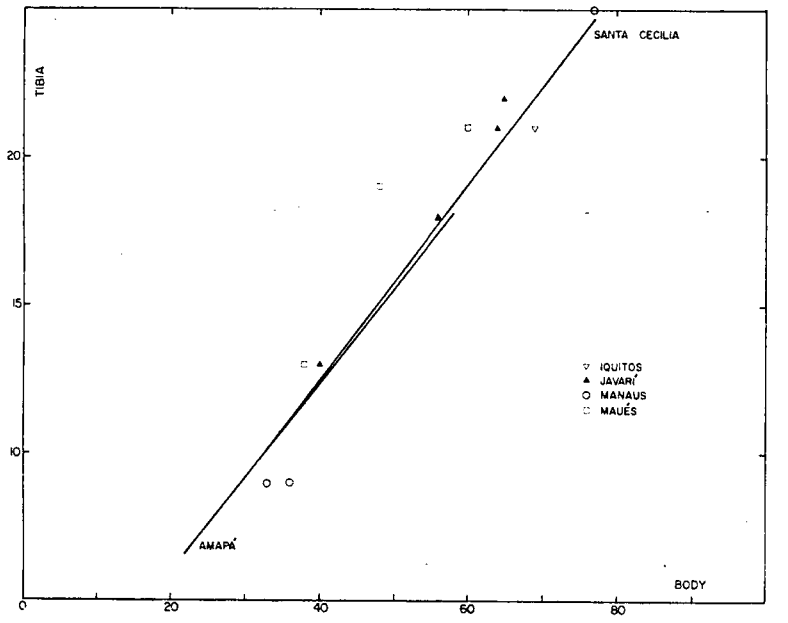
Graph 41. Colombo-Guianan transect, females, length of tibia on body length.



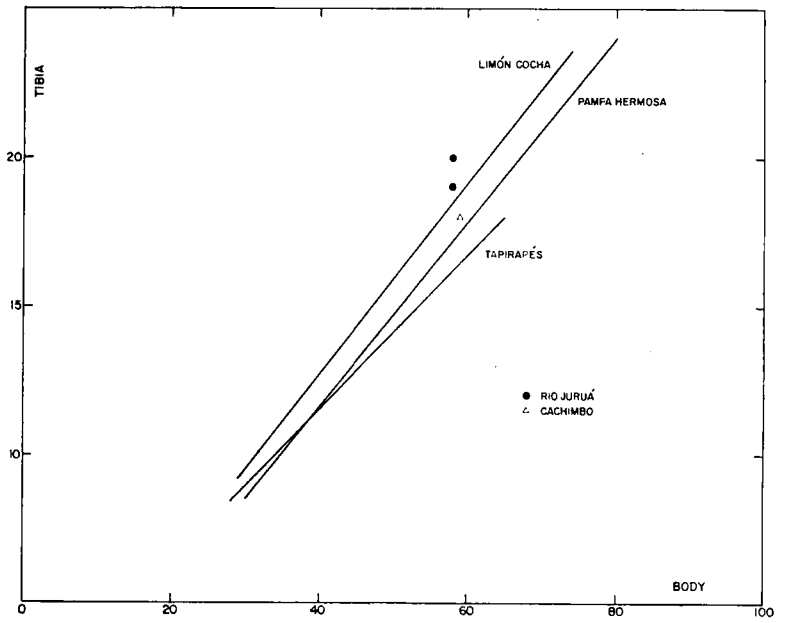
Graph 42. First and second Guiano-Brasilian transects, females, length of tibia on body length.



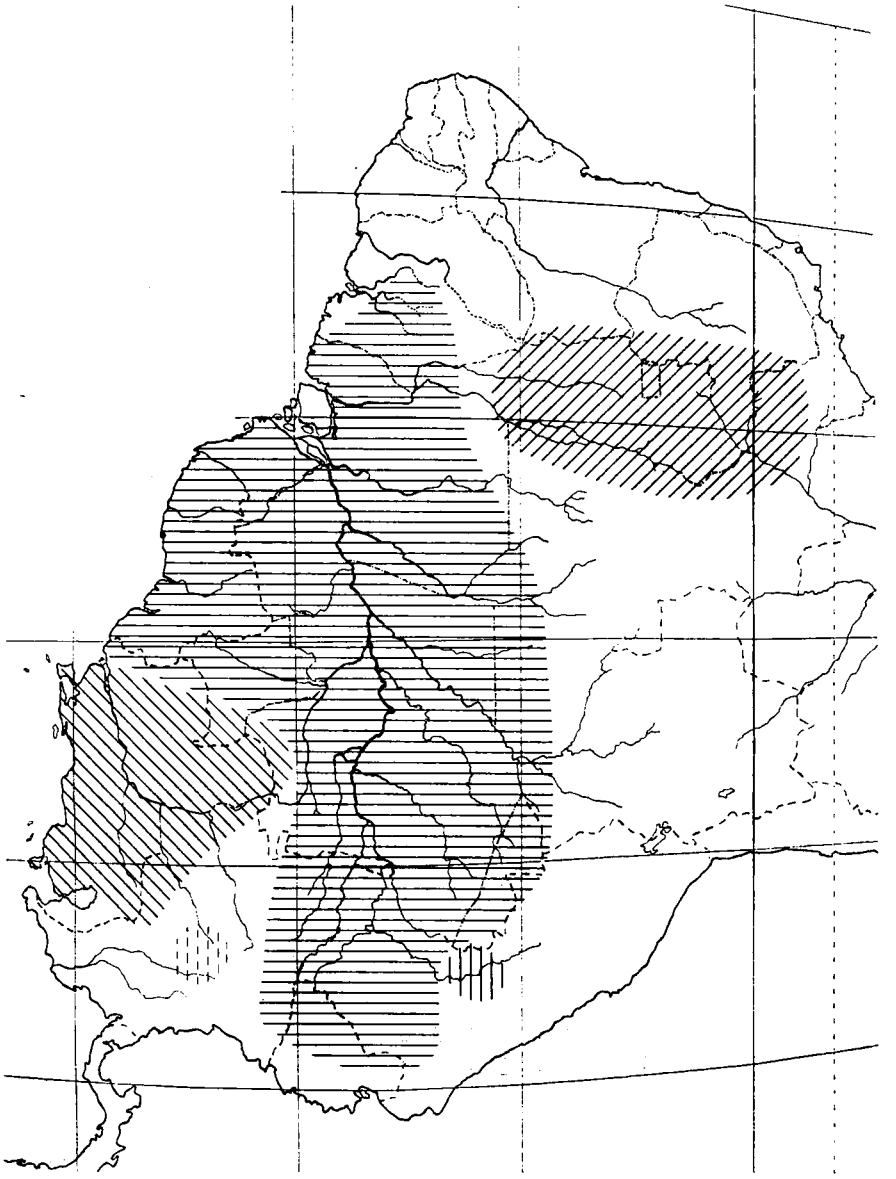
Graph 43. Venezuelo-Brasilian transect, females, length of tibia on body length.



Graph 44. Napo-Brasiliam transect, females, length of tibia on body length.



Graph 45. Ucayalo-Brasilian transect, females, length of tibia on body length.



Map 21. Length of tibia, females; summary of geographic differentiation.

TABLE 124

Regression of head length on trunk length, males, major samples

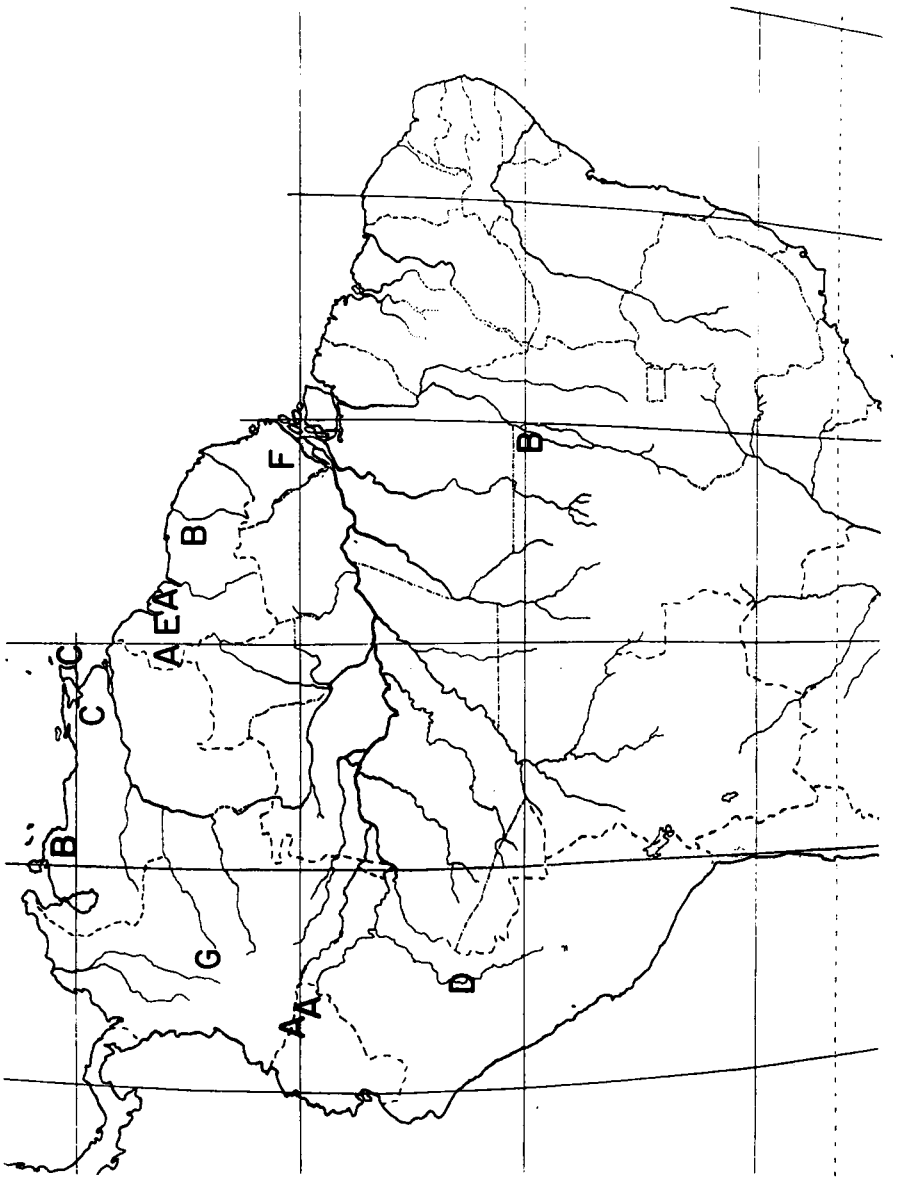
	N	R_x	b	a	y'_1	y'_2	F	r^2
Falcõn	21	17 - 49	.27 ± .018	3.17 ± .70	8.6	16.3	217	.92
NE Venezuela	16	20 - 48	.22 .018	4.88 .72	9.3	15.4	146	.91
Trinidad	26	23 - 51	.24 .020	3.84 .81	8.7	15.5	143	.86
Western Guyana	11	38 - 49	.25 .030	4.86 1.33	9.8	16.7	66	.88
Essequibo	18	33 - 46	.18 .029	6.67 1.16	10.3	15.4	27	.64
Dunoon	7	25 - 40	.23 .038	5.47 1.36	10.1	16.5	36	.88
Nassau	11	22 - 46	.25 .022	4.05 .87	9.0	16.0	126	.93
Amapá	9	23 - 41	.23 .026	4.88 .96	9.5	16.1	81	.92
Villavicencio	22	24 - 46	.16 .027	3.20 1.06	10.3	14.7	32	.62
Santa Cecilia	17	21 - 58	.28 .016	3.90 .65	9.4	17.2	298	.95
Limõn Cocha	30	20 - 56	.27 .014	4.26 .55	9.6	17.0	351	.93
Pampa Hermosa	17	20 - 53	.24 .010	4.12 .44	9.0	15.8	576	.97
Tapirapés	26	20 - 48	.27 .027	3.25 1.11	8.7	16.3	104	.81

N specimens in sample
R_x range of trunk length
b regression coefficient
a regression constant
y'_1 tail length at 20 mm trunk length
y'_2 tail length at 48 mm trunk length
F between mean squares due to regression and to error
r correlation coefficient

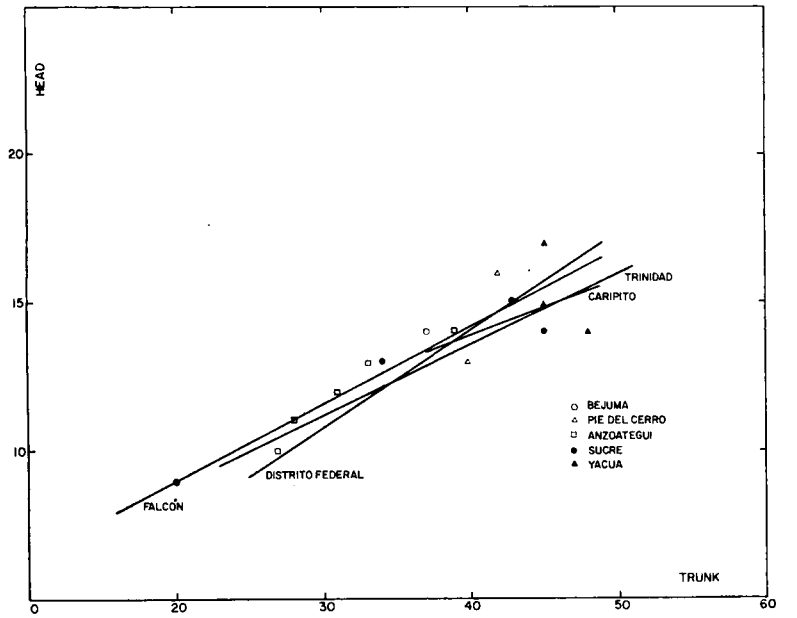
TABLE 125

Head length at 48 mm trunk length,
males, ranking of major samples

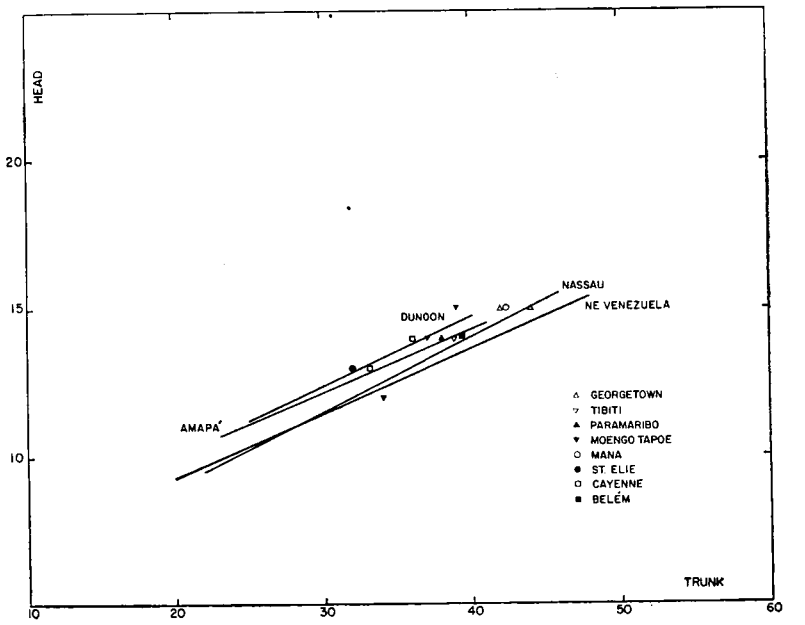
Rank		Head
1	Santa Cecilia	17.2
2	Limón Cocha	17.0
3	Western Guyana	16.7
4	Dunoon	16.5
5	Tapirapés	16.3
	Falcón	16.3
6	Amapá	16.1
7	Nassau	16.0
8	Pampa Hermosa	15.8
9	Trinidad	15.5
10	Essequibo	15.4
	NE Venezuela	15.4
11	Villavicencio	14.7



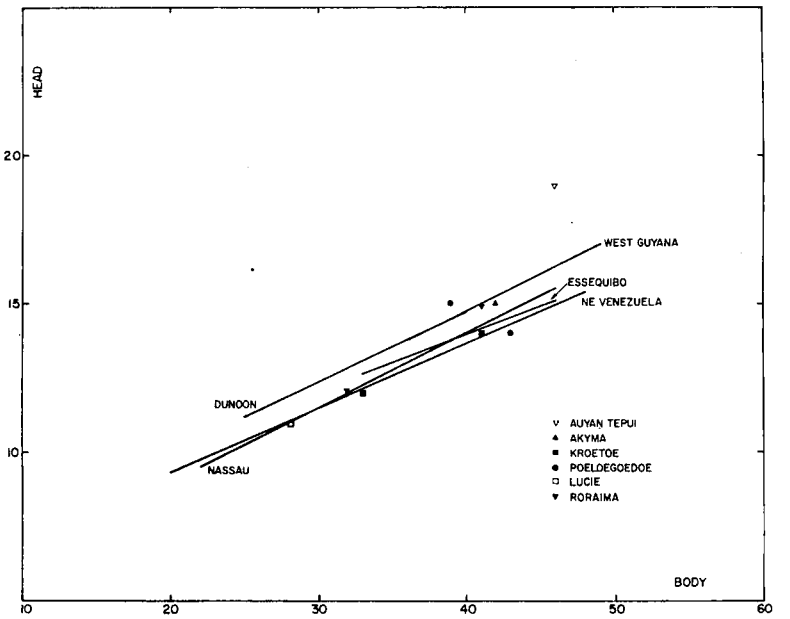
Map 22. Head length, males; distribution of homogeneous groups of major samples.



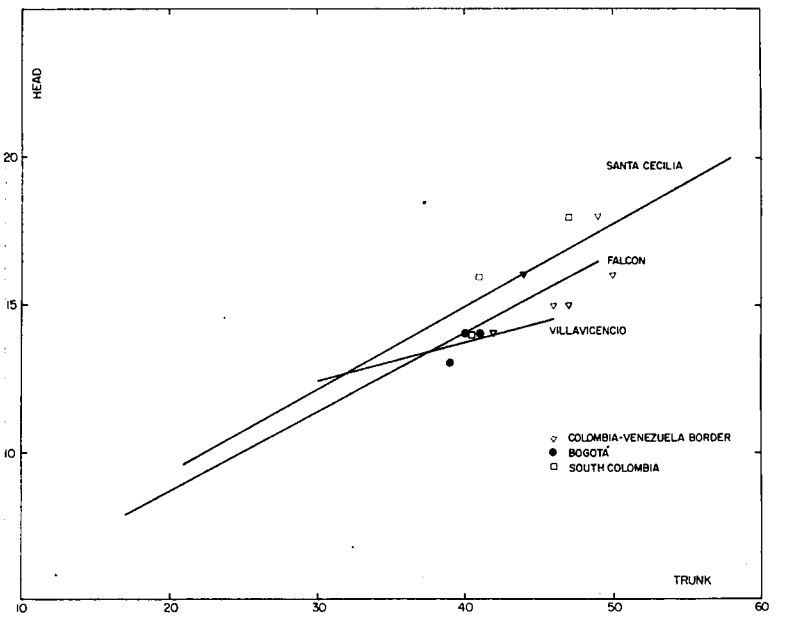
Graph 46. North Venezuelan transect, males, head length on trunk length.



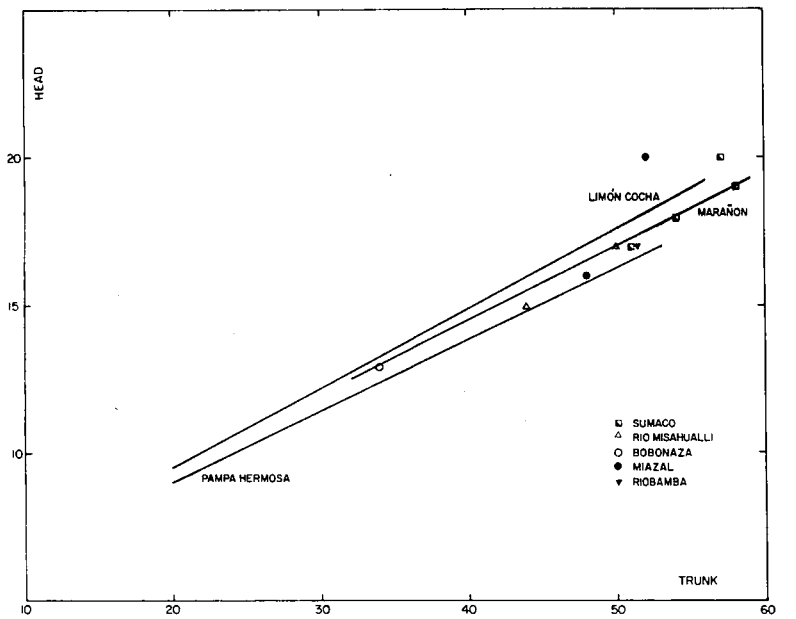
Graph 47. First Guianan transect, males, head length on trunk length.



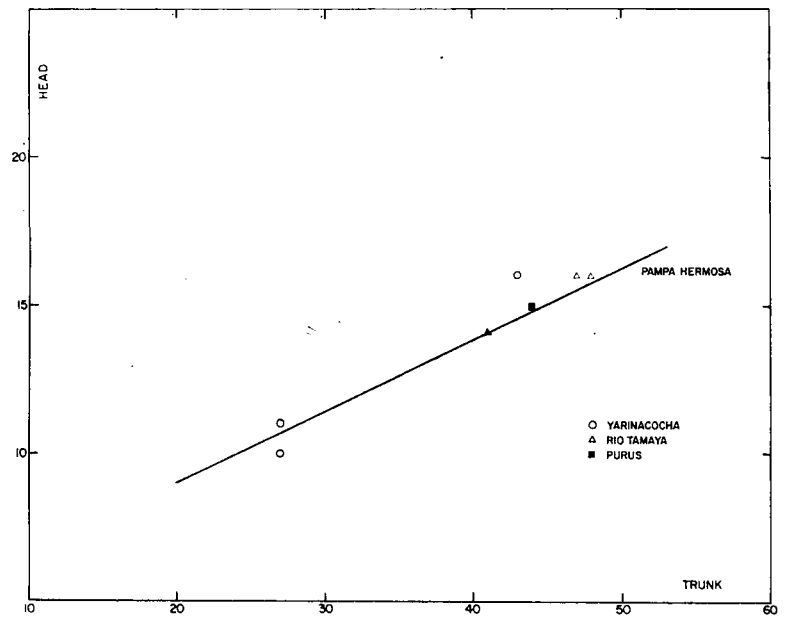
Graph 48. Second Guianan transect, males, head length on trunk length.



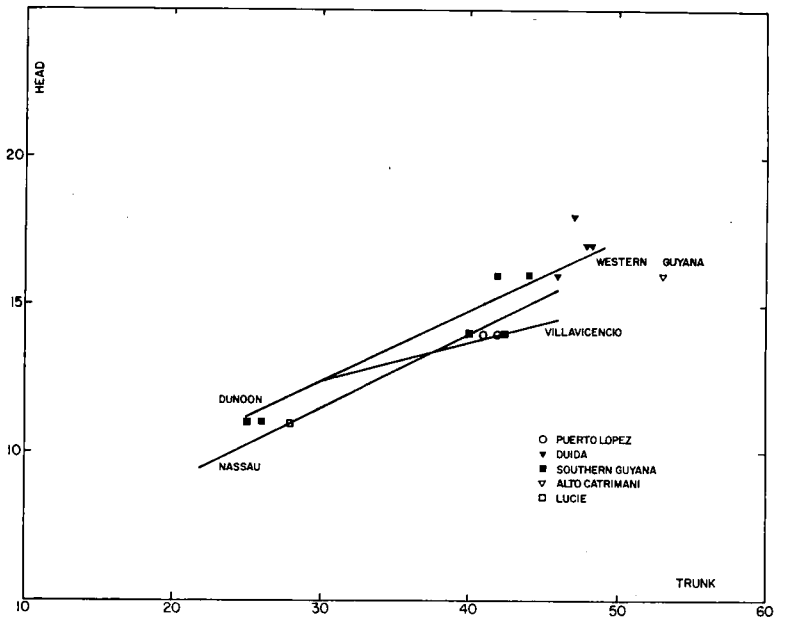
Graph 49. Western transect, Falcôn to Santa Cecilia, males, head length on trunk length.



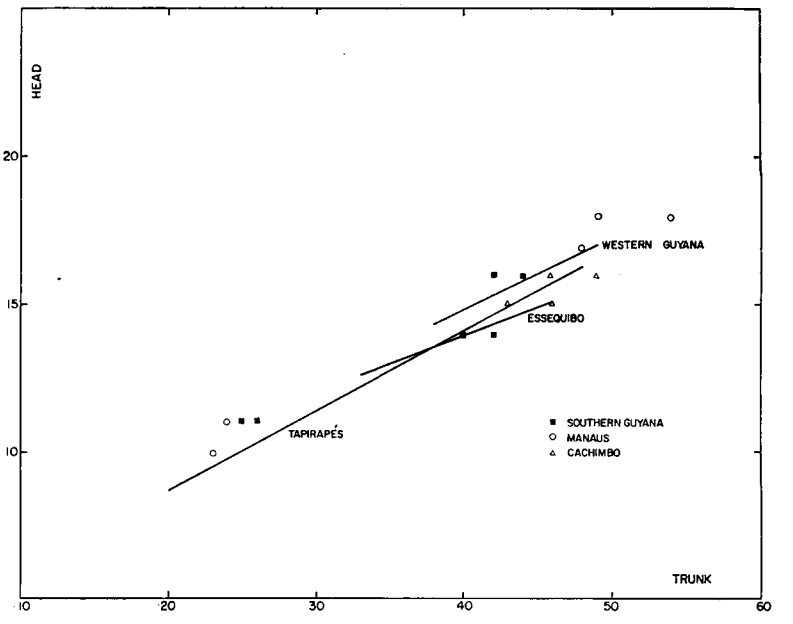
Graph 50. Western transect, Limón Cocha to Pampa Hermosa, males, head length on trunk length.



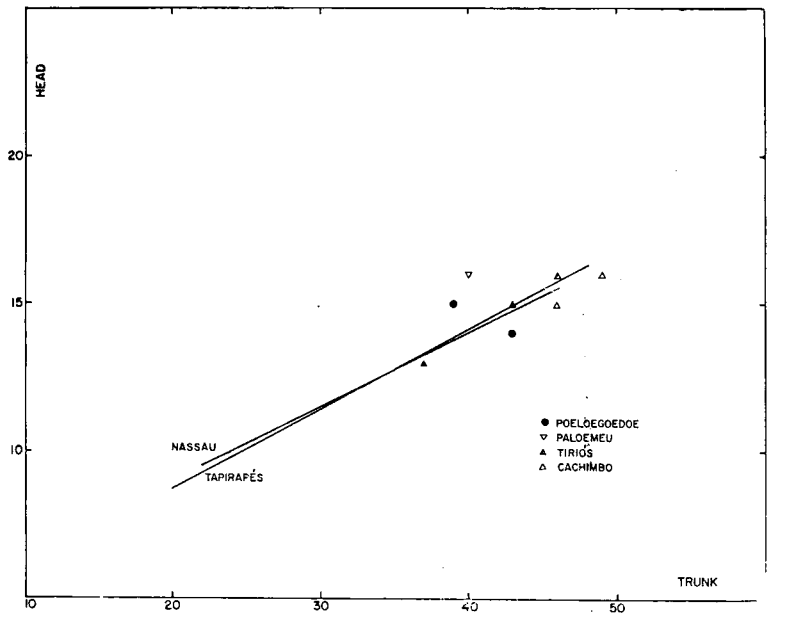
Graph 51. Western transect, Pampa Hermosa and south, males, head length on trunk length.



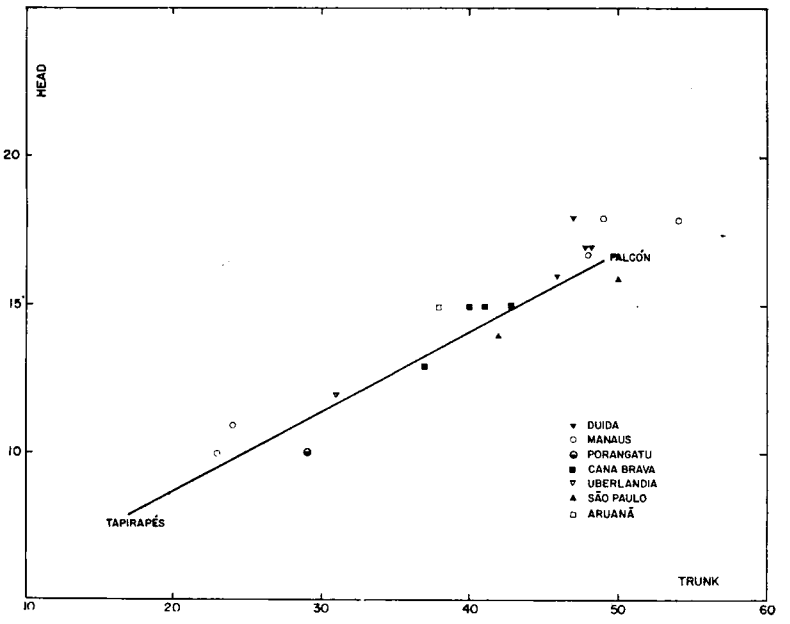
Graph 52. Colombo-Guianan transect, males, head length on trunk length.



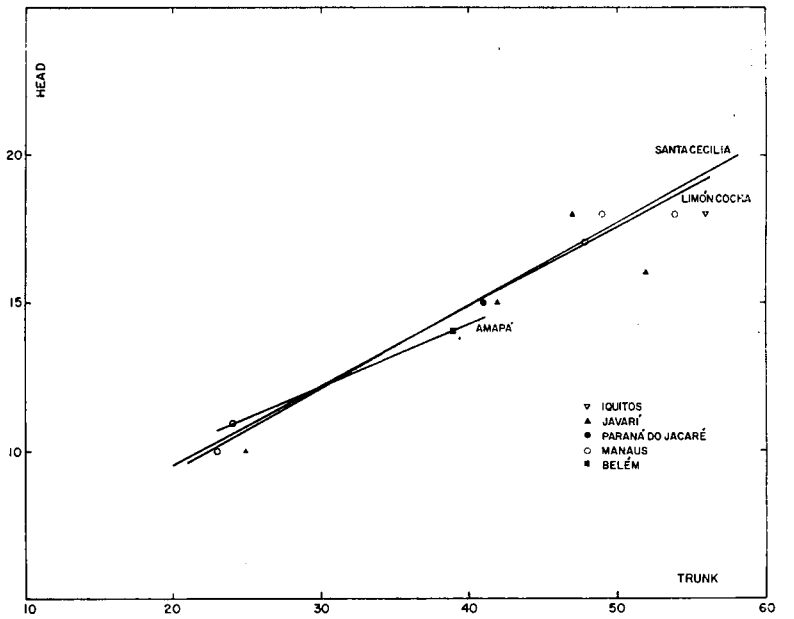
Graph 53. First Guiano-Brasilian transect, males, head length on trunk length.



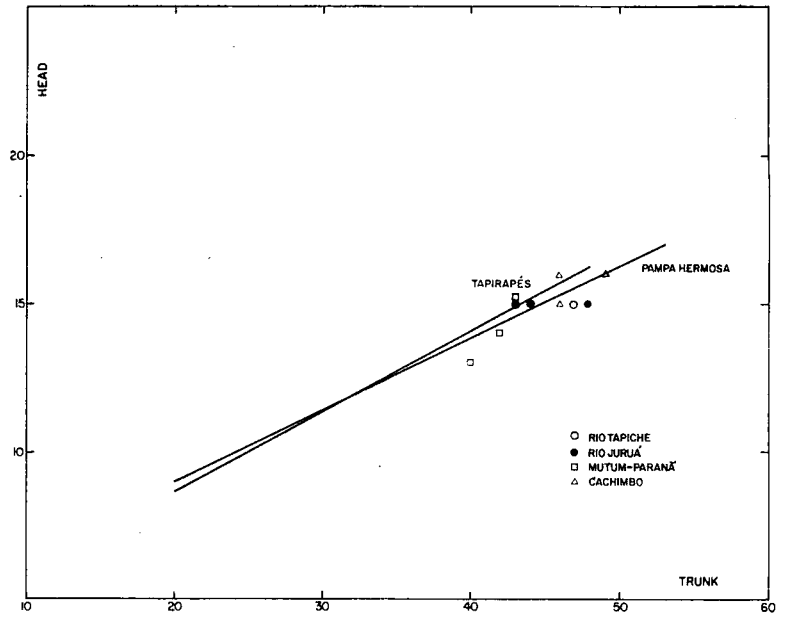
Graph 54. Second Guiano-Brasilian transect, males, head length on trunk length.



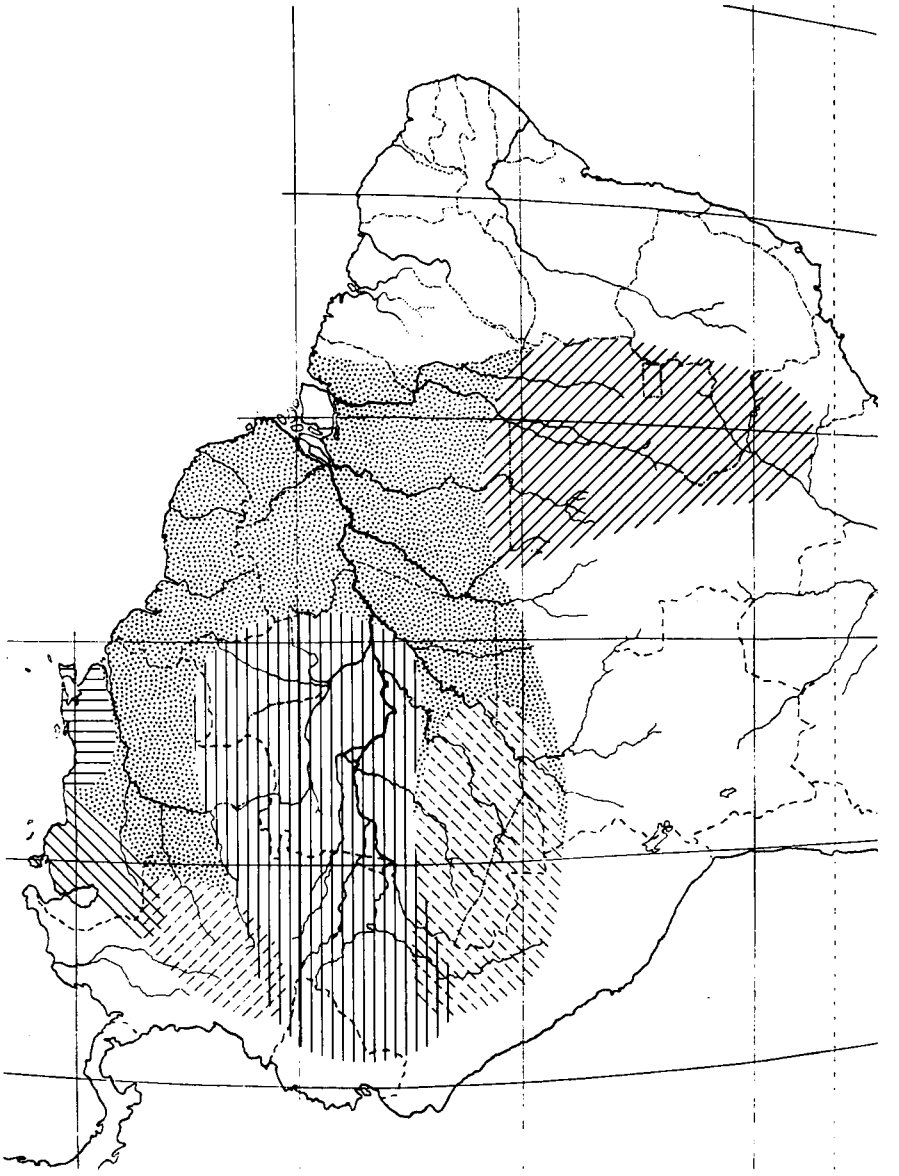
Graph 55. Venezuelo-Brasilian transect, males, head length on trunk length.



Graph 56. Napo-Brasilian transect, males, head length on trunk length.



Graph 57. Ucayalc-Brasilian transect, males, head length on trunk length.



Map 23. Head length, males; summary of geographic differentiation.

TABLE 126

Regression of head length on trunk length, females, major samples

	N	R_x	b		a		y'_1	y'_2	F	r^2
Falcõn	13	21 - 50	.28	± .018	3.61	.68	9.2	17.1	231	.95
NE Venezuela	18	21 - 47	.24	.022	4.09	.75	9.0	15.8	127	.89
Trinidad	23	17 - 51	.26	.017	3.24	.66	8.5	15.8	232	.92
Western Guyana	13	21 - 49	.30	.027	3.01	1.01	9.0	17.5	125	.92
Essequibo	18	21 - 46	.26	.026	4.44	1.00	9.5	16.7	93	.85
Dunoon	10	18 - 42	.33	.030	2.53	.84	9.0	18.2	118	.94
Nassau	14	19 - 43	.31	.019	2.80	.63	9.0	17.6	267	.96
Amapá	16	14 - 42	.32	.020	2.44	.55	8.8	17.7	352	.96
Villavicencio	17	21 - 47	.29	.034	1.84	1.29	7.7	15.8	73	.83
Santa Cecilia	19	22 - 57	.32	.017	2.05	.65	8.5	17.6	353	.95
Limõn Cocha	31	20 - 55	.28	.012	4.06	.42	9.8	17.7	576	.95
Pampa Hermosa	9	20 - 60	.25	.014	4.46	.63	9.5	16.5	320	.98
Tapirapés	24	19 - 48	.27	.024	3.73	.97	9.2	16.8	133	.86

N specimens in sample
R_x range of trunk length
b regression coefficient
a regression constant
y'_1 tail length at 20 mm trunk length
y'_2 tail length at 48 mm trunk length
F between mean squares due to regression and to error
r correlation coefficient

TABLE 127

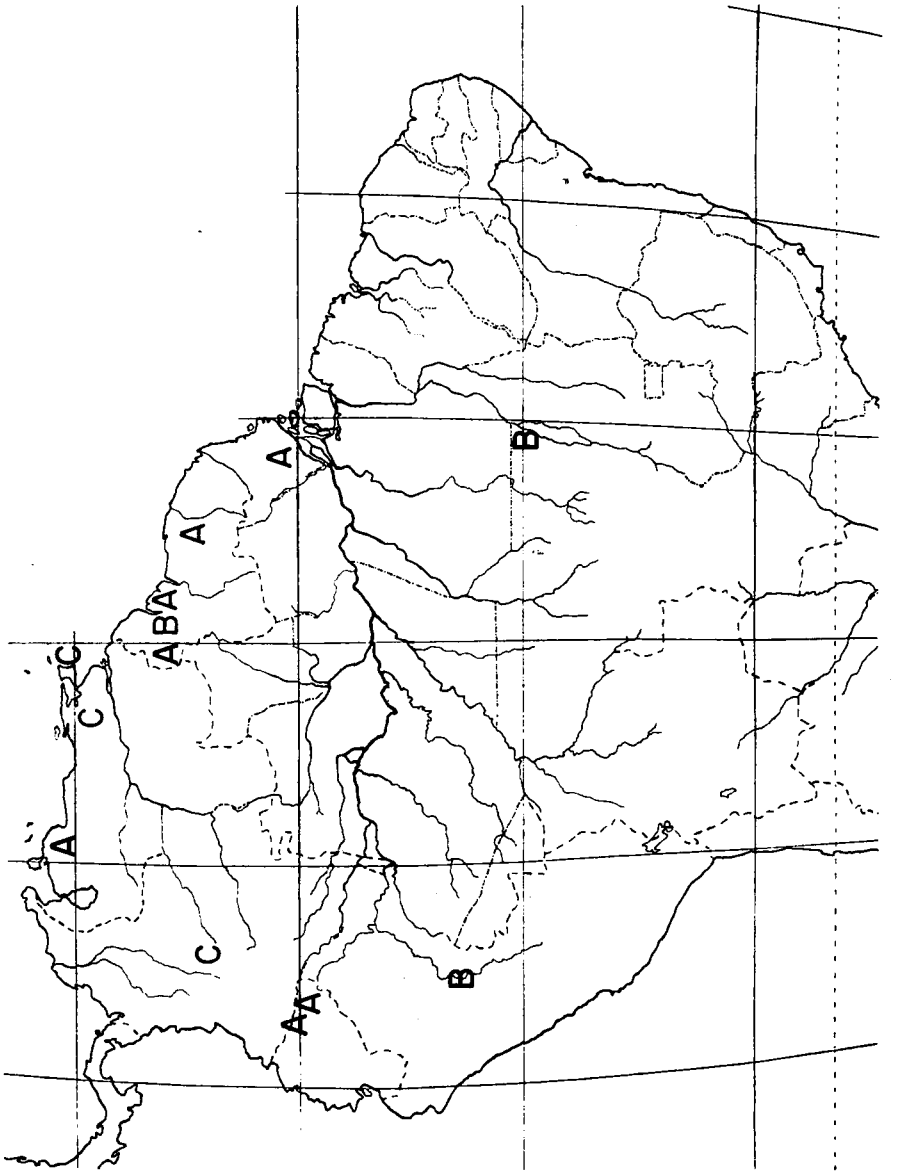
Head length at 48 mm trunk length,
females, ranking of major samples

Rank		Head
1	Dunoon	18.2
2	Amapá	17.7
	Limón Cocha	17.7
3	Nassau	17.6
	Santa Cecilia	17.6
4	Western Guyana	17.5
5	Falcón	17.1
6	Tapirapés	16.8
7	Essequibo	16.7
8	Pampa Hermosa	16.5
9	Villavicencio	15.8
	NE Venezuela	15.8
10	Trinidad	15.8

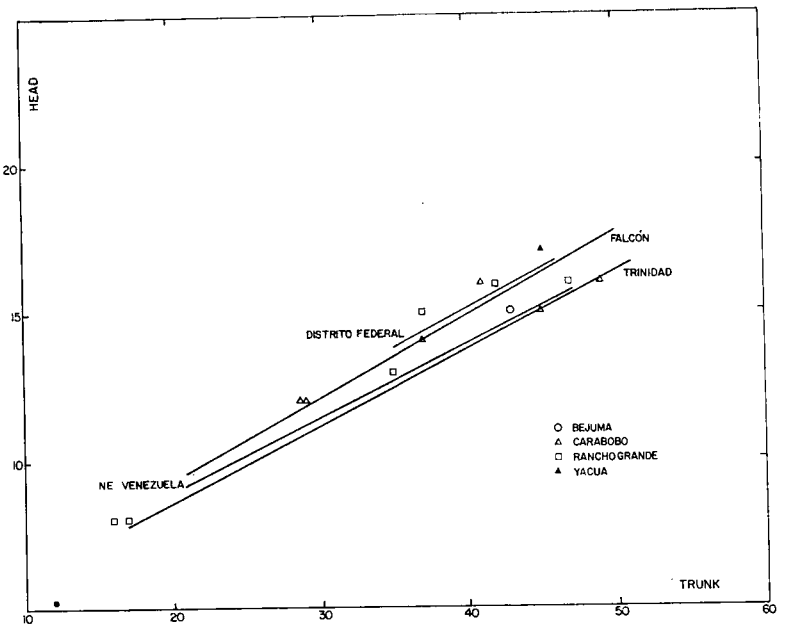
TABLE 128

Head length at 48 mm trunk length, major samples,
male and female ranks compared

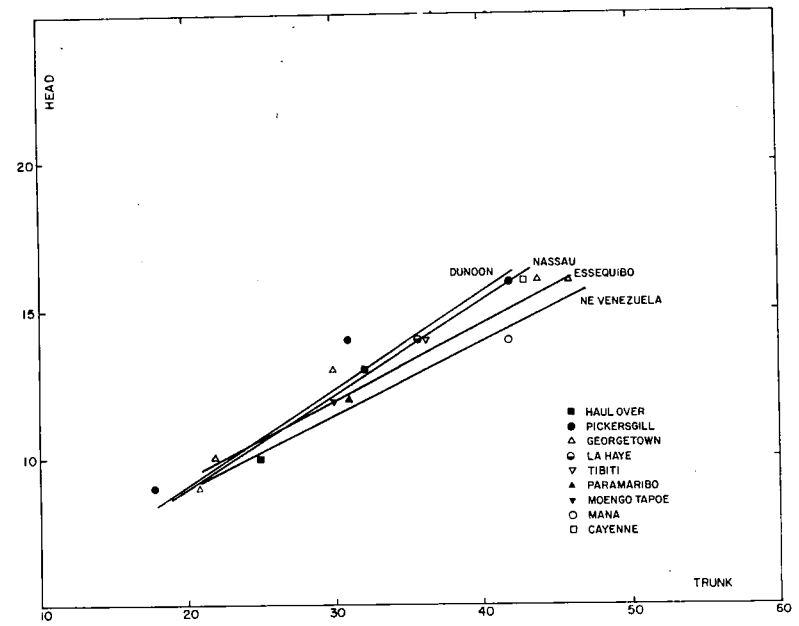
	♂	♀	d
Santa Cecilia	1	4.5	-3.5
Limón Cocha	2	2.5	- .5
Western Guyana	3	6	-3
Dunoon	4	1	3
Tapirapés	5.5	8	-2.5
Falcón	5.5	7	-1.5
Amapá	7	2.5	4.5
Nassau	8	4.5	3.5
Pampa Hermosa	9	10	-1
Trinidad	10	13	-3
Essequibo	11.5	9	1.5
NE Venezuela	11.5	11.5	0
Villavicencio	13	11.5	1.5



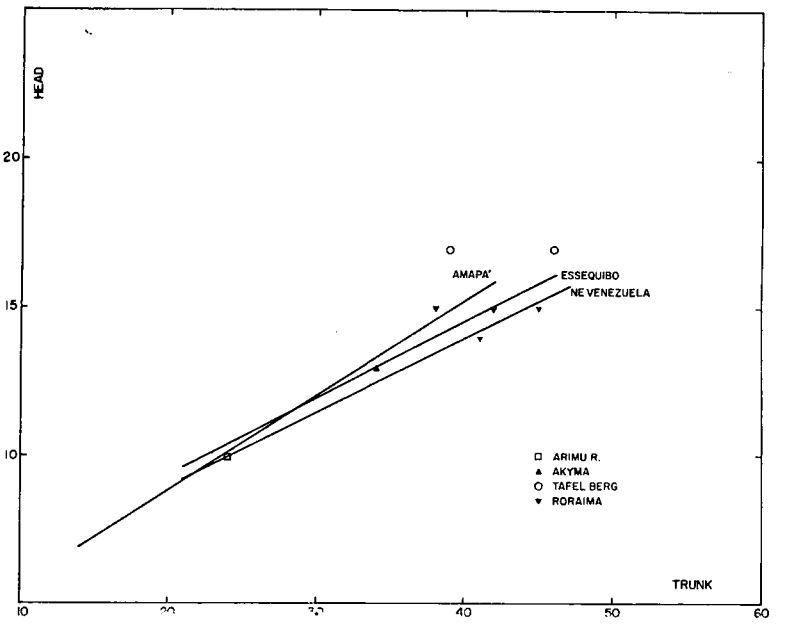
Map 24. Head length, females; distribution of homogeneous groups of major samples.



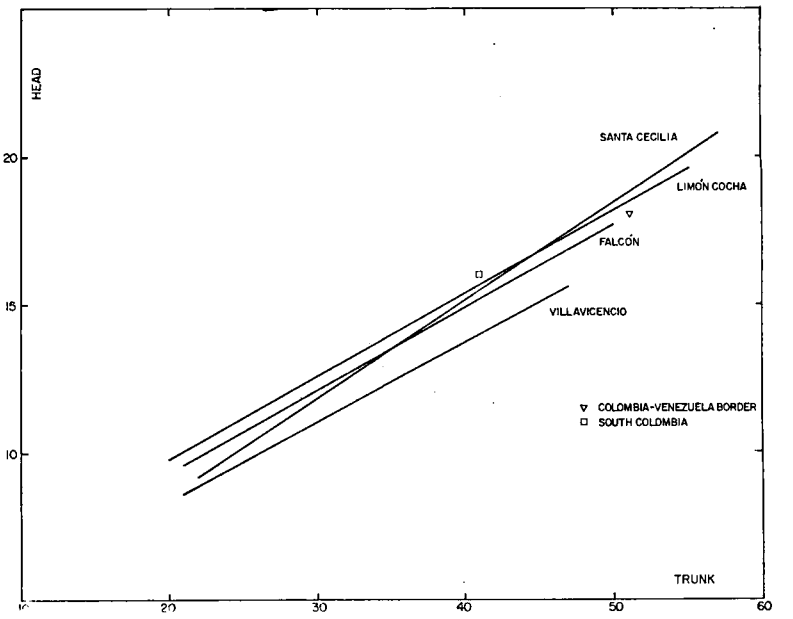
Graph 58. North Venezuelan transect, females, head length on trunk length.



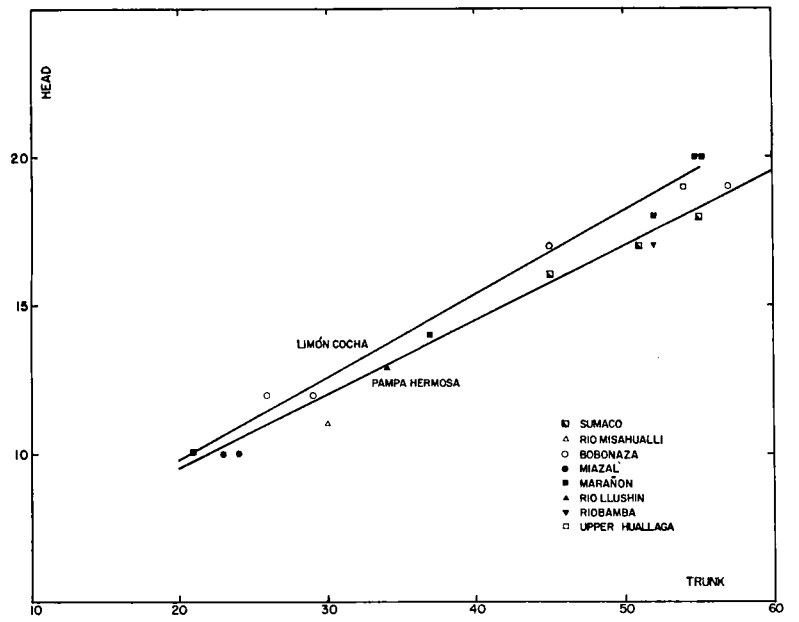
Graps 59. First Guianan transect, females, head length on trunk length.



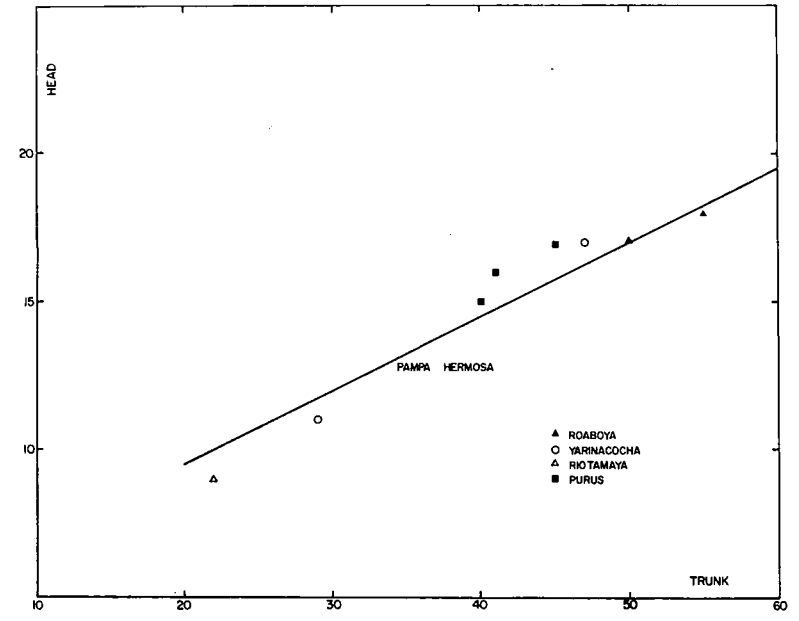
Graph 60. Second Guianan transect, females, head length on trunk length.



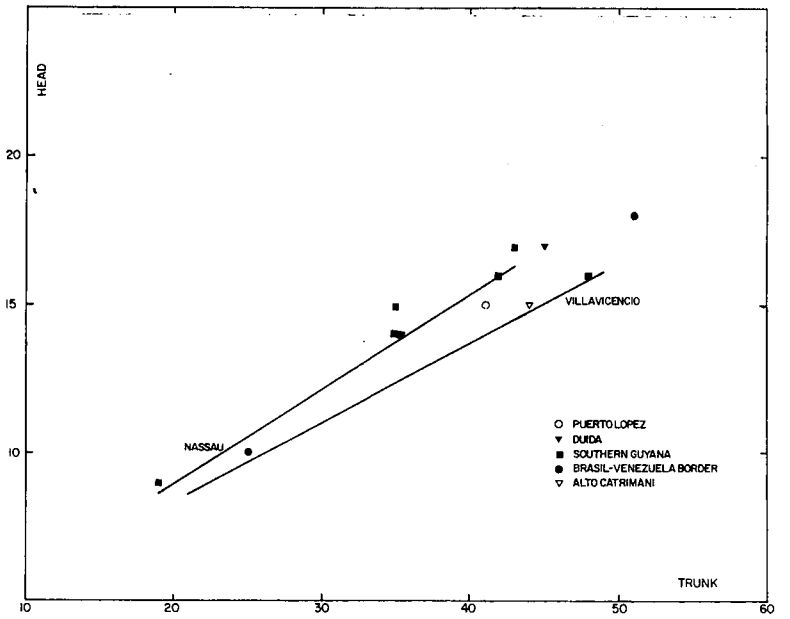
Graph 61. Western transect, Falcón to Limón Cocha, females, head length on trunk length.



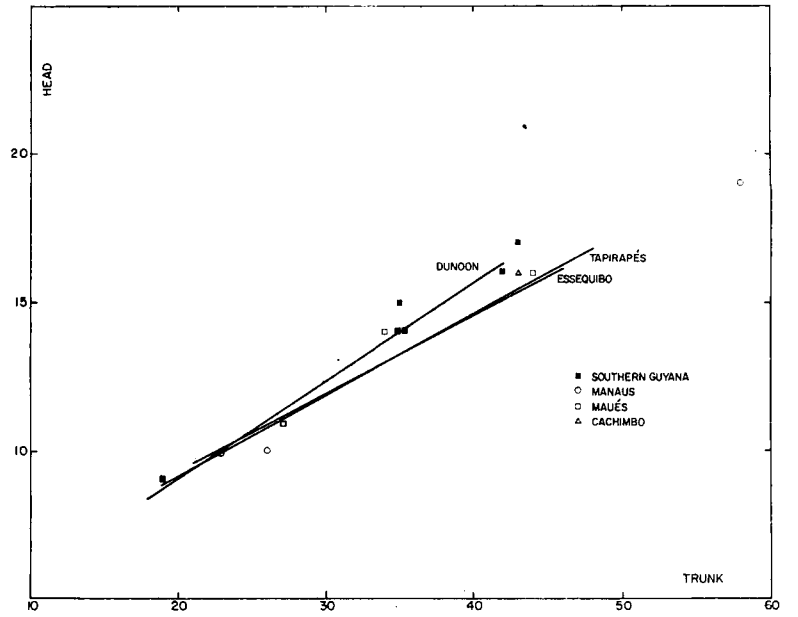
Graph 62. Western transect, Limón Cocha to Pampa Hermosa, females, head length on trunk length.



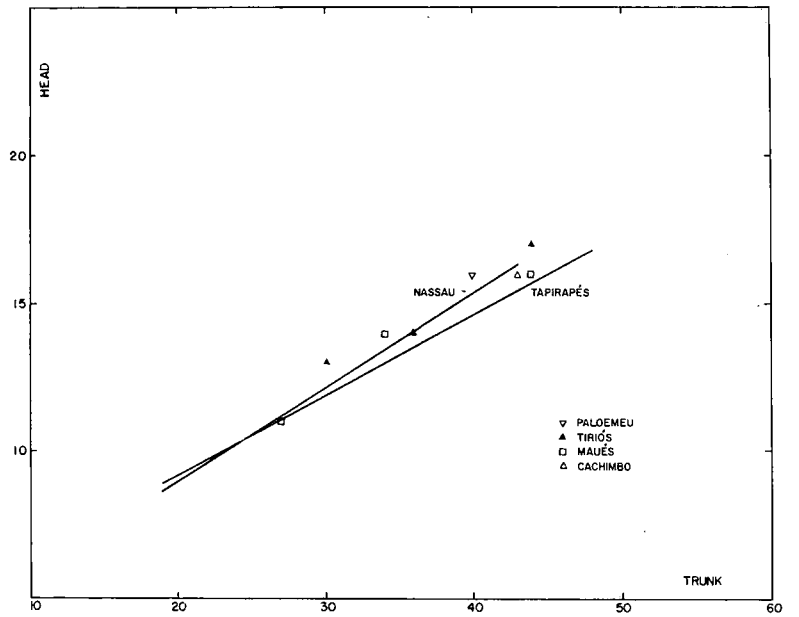
Graph 63. Western transect, south of Pampa Hermosa, females, head length on trunk length.



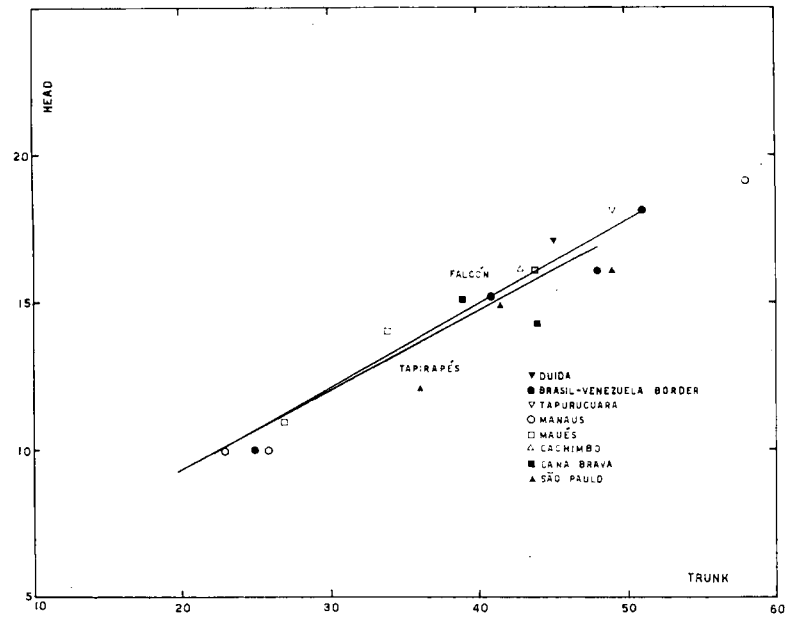
Graph 64. Colombo-Guianan transect, females, head length on trunk length.



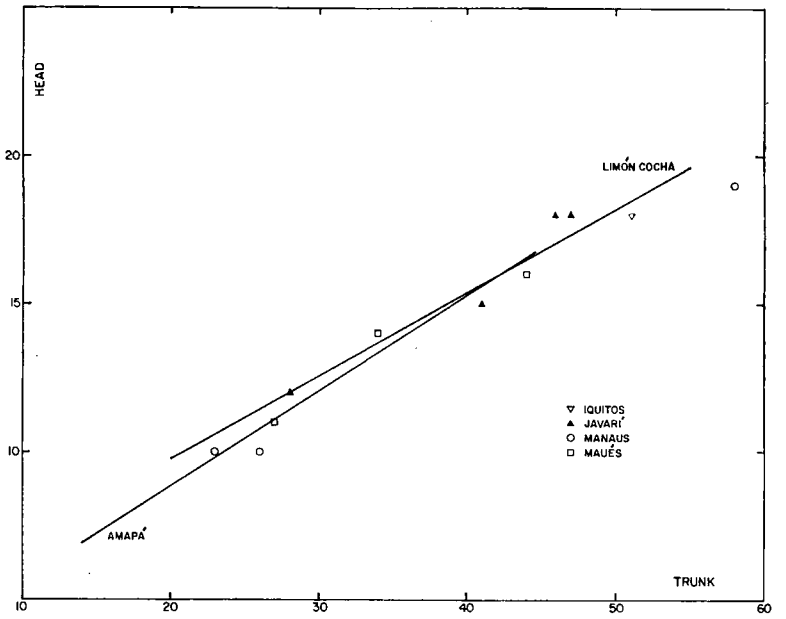
Graph 65. First Guiano-Brasilian transect, females, head length on trunk length.



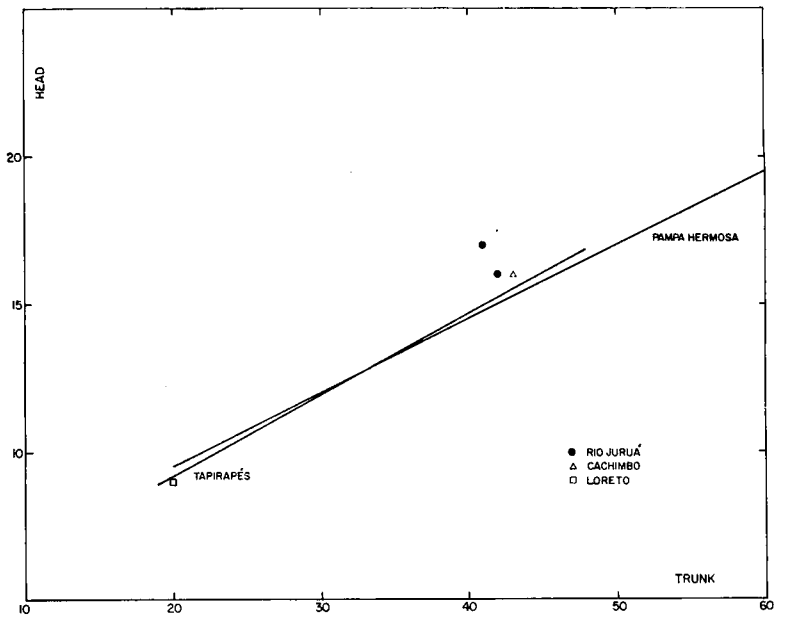
Graph 66. Second Guiano-Brasilian transect, females, head length on trunk length.



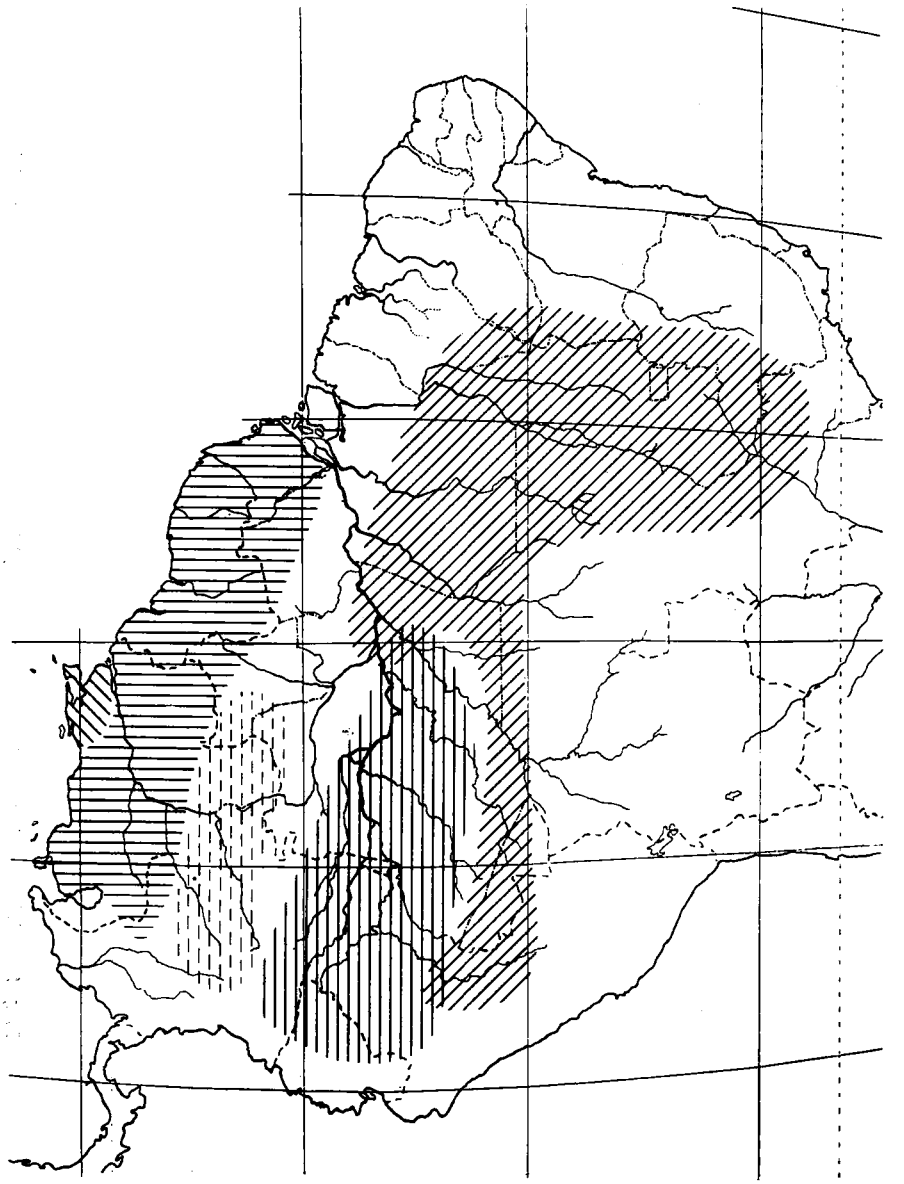
Graph 67. Venezuelo-Brasilian transect, females, head length on trunk length.



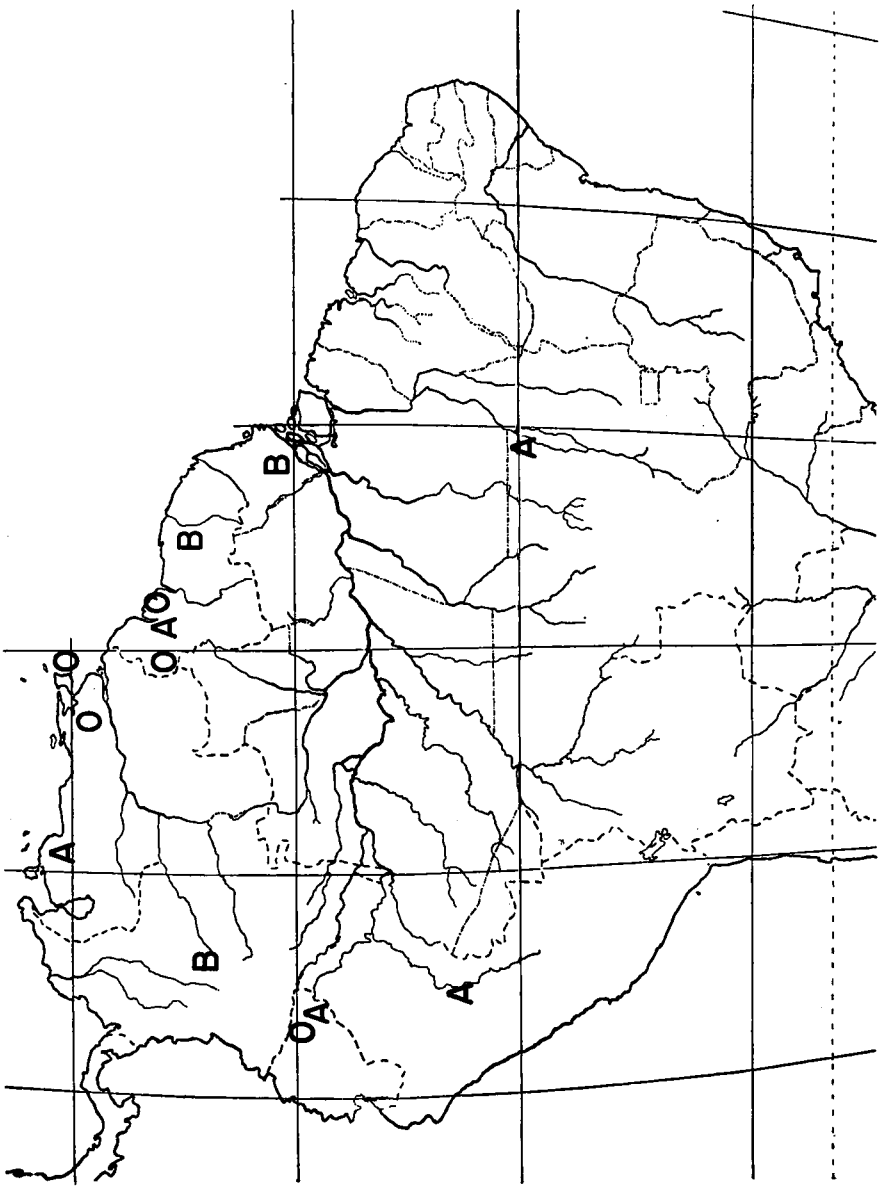
Graph 68. Napo-Brasilian transect, females, head length on trunk length.



Graph 69. Ucayalo-Brasilian transect, females, head length on trunk length.



Map 25. Head length, females; summary of geographic differentiation.

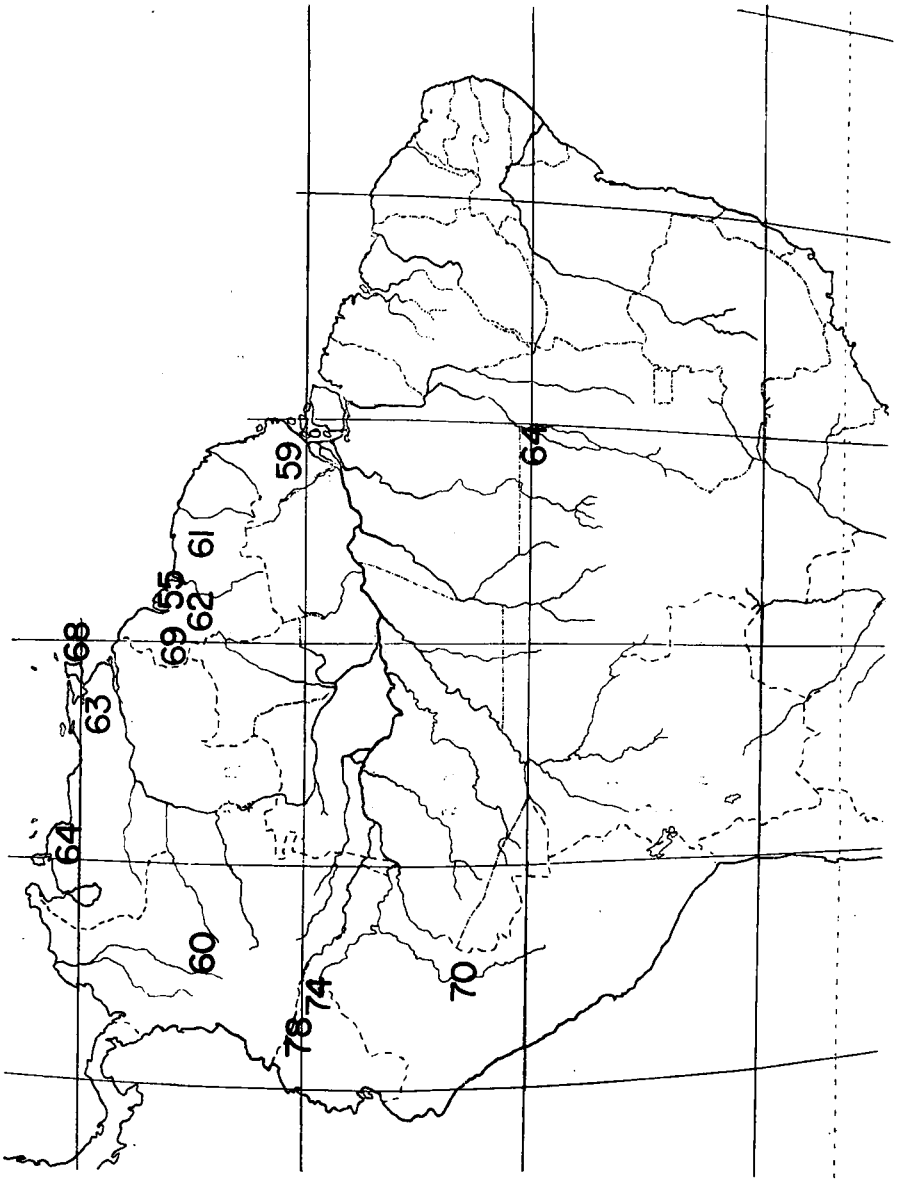


Map 26. Distribution of the sexual dimorphism in head length, major samples.

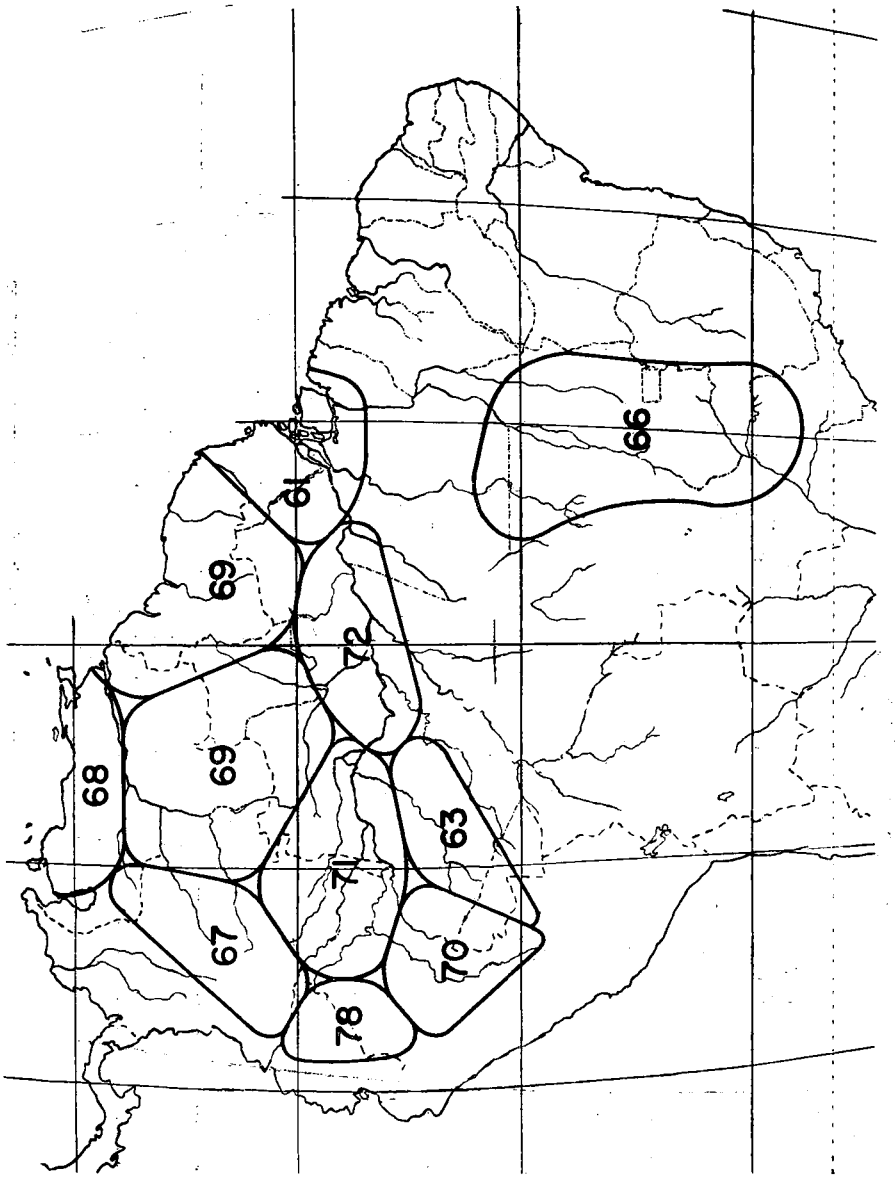
TABLE 129

Maximum body length, males and females, major samples

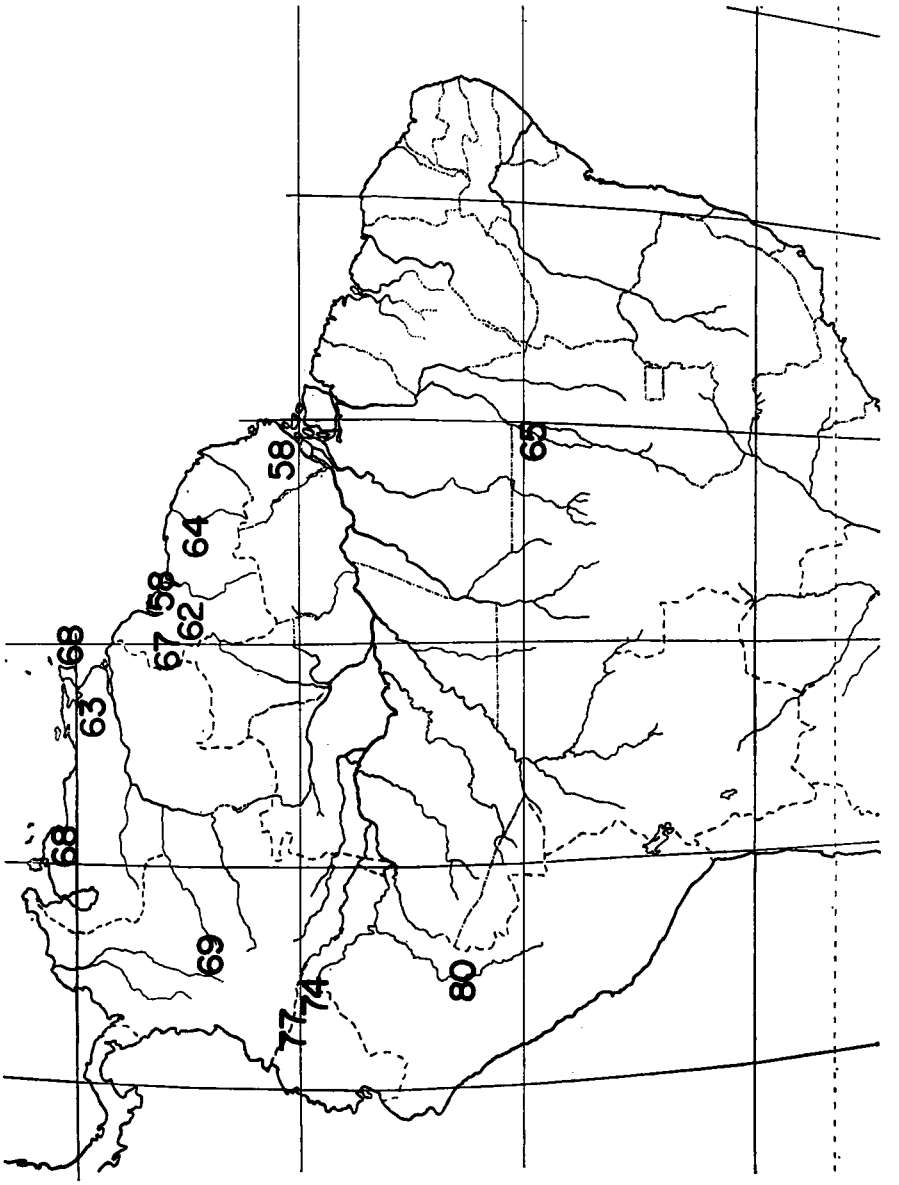
	♂	♀	d
Falcón	64	68	+ 4
NE Venezuela	63	63	0
Trinidad	68	68	0
Western Guyana	69	67	- 2
Essequibo	62	62	0
Dunoon	55	58	+ 3
Nassau	61	64	+ 3
Amapá	59	58	- 1
Villavicencio	60	63	+ 3
Santa Cecilia	78	77	- 1
Limón Cocha	74	74	0
Pampa Hermosa	70	80	+ 10
Tapirapés	64	65	+ 1



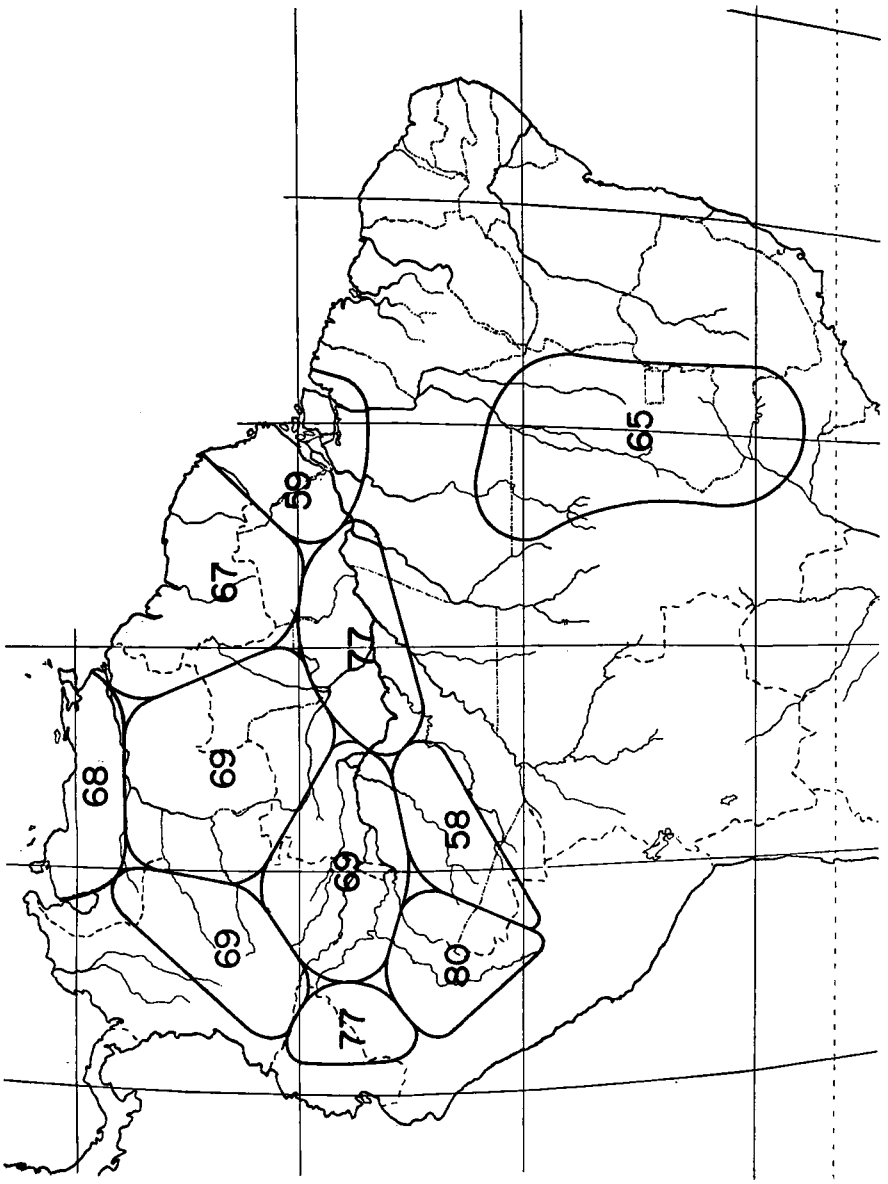
Map 27. Maximum body length, males, major samples.



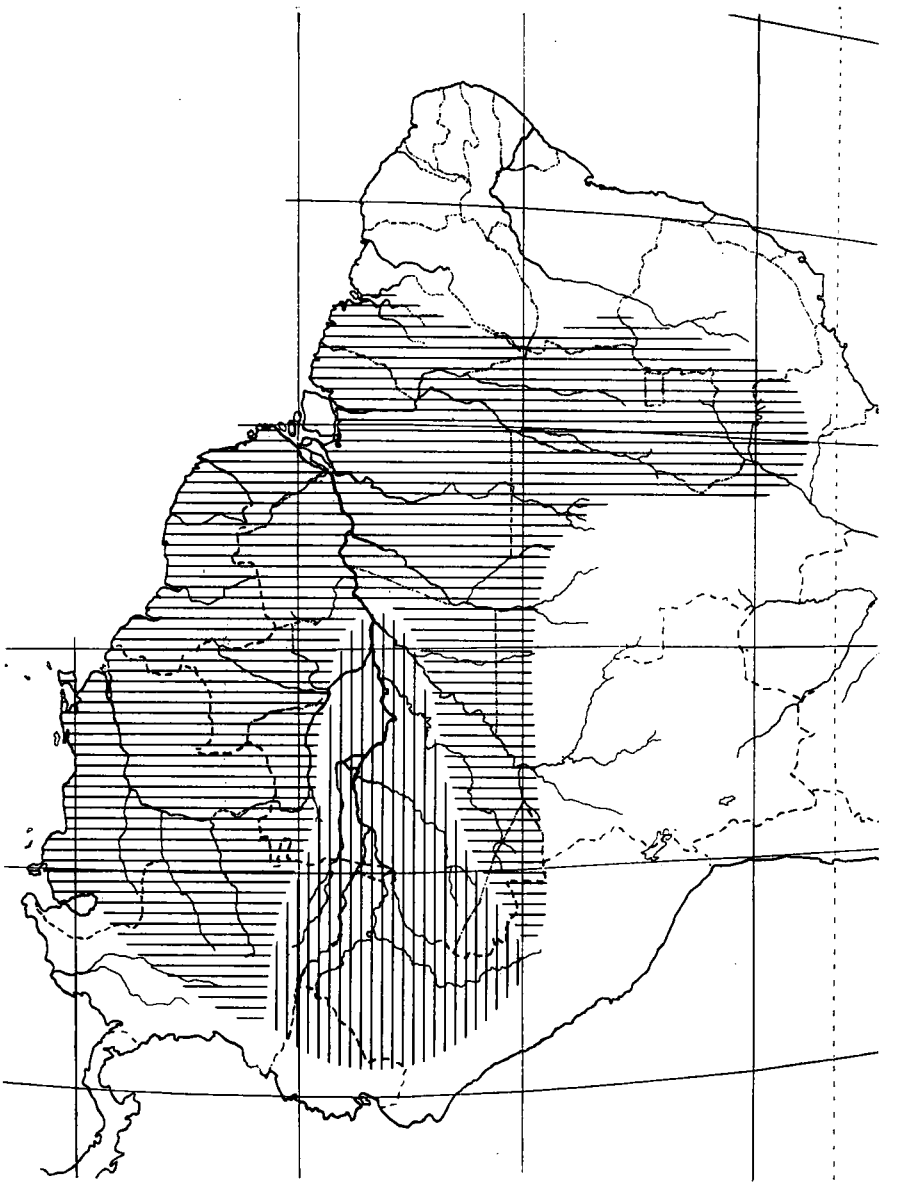
Map 28. Maximum body length, males, for segments of the total range.



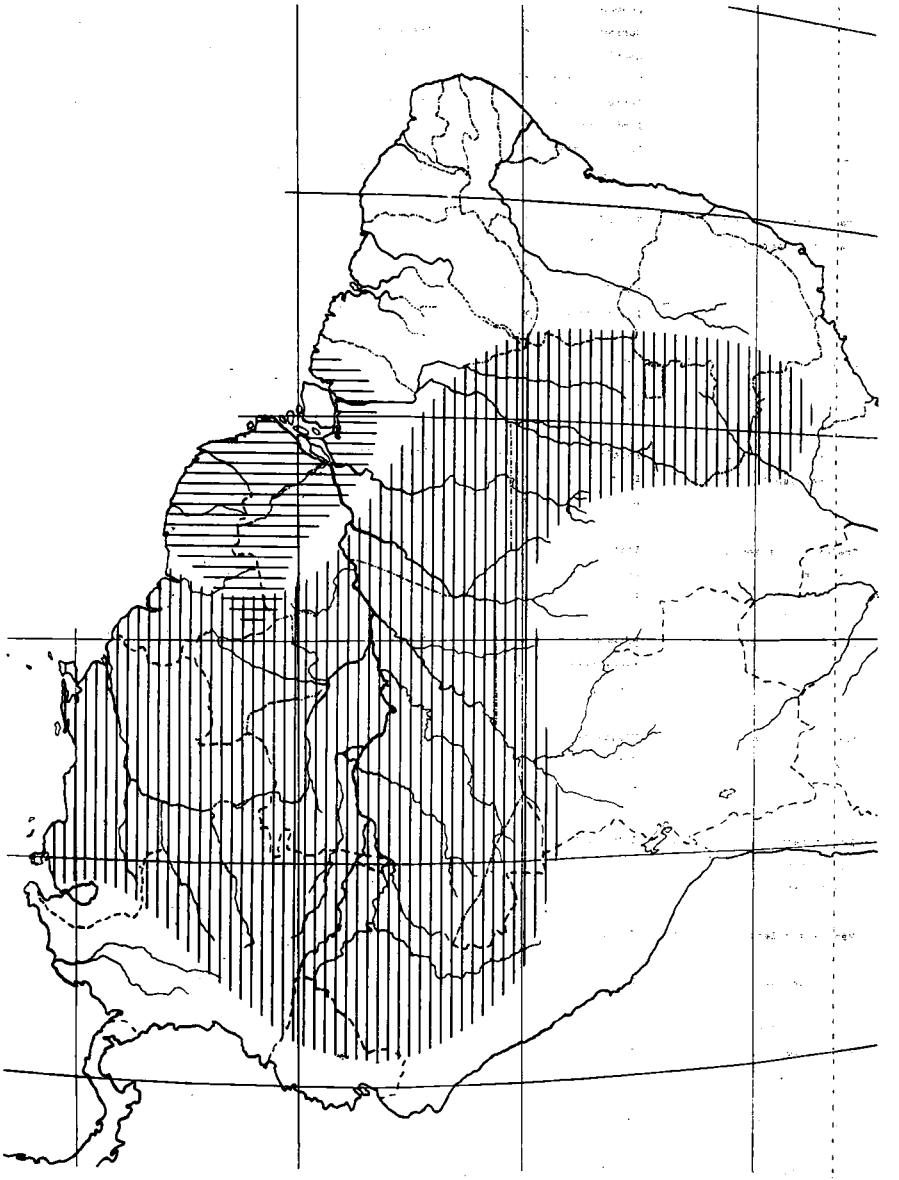
Map 29. Maximum body length, females, major samples.



Map 30. Maximum body length, females, for segments of the total range.



Map 31. Maximum body length, males and females; summary of geographic differentiation.



Map 32. Relative size of arm scales; summary of geografic differentiation.

TABLE 130

Character associations significant at the 5% level,
in order of decreasing frequency in the major samples

Head x tibia	Falcón		♀
	Trinidad		♀
	Essequibo	♂	♀
	Dunoon	♂	♀
	Nassau	♂	♀
	Amapá	♂	
	Villavicencio	♂	
	Santa Cecilia		♀
	Limón Cocha	♂	♀
	Pampa Hermosa	♂	
	Tapirapés	♂	♀
Scales between semicircles x scales across snout	Trinidad	♂	
	Essequibo	♂	♀
	Dunoon	♂	♀
	Amapá		♀
	Limón Cocha	♂	
Tail length x head length	Nassau	♂	
	Santa Cecilia	♂	♀
	Limón Cocha		♀
Scales across snout x head length	Falcón		♀
	Essequibo	♂	♀
	Amapá	♂	
Scales across snout x loreals	Essequibo	♂	
	Nassau	♂	
	Pampa Hermosa	♂	
Fourth toe lamellae x tail length	Dunoon	♂	
	Limón Cocha		♀
	Tapirapés	♂	
Length of tibia x tail length	Villavicencio		♀
	Santa Cecilia		♀
	Limón Cocha		♀
Scales between semicircles and interparietal x length of tibia	Limón Cocha	♂	
Ventrals x length of tibia	Tapirapés		♀
Scales between semicircles x loreals Fourth toe lamellae	Essequibo	♂	
Fourth toe lamellae x loreals	Limón Cocha	♂	
Loreals x ventrals	Tapirapés		♀
Scales between semicircles and interparietal x scales across snout	Villavicencio	♂	
Scales between semicircles x scales between semicircles and interparietal	Falcón		♀
	Santa Cecilia	♂	♀
Scales across snout x tail length	Dunoon		♀
	Tapirapés	♂	
Fourth toe lamellae x head length	Falcón		♀
	Amapá	♂	
Ventrals x head length	Dunoon		♀
	Tapirapés		♀
Fourth toe lamellae x length of tibia	Falcón	♂	
	Amapá	♂	
Scales between semicircles x fourth toe lamellae	Trinidad		♀
	Villavicencio	♂	
Scales between semicircles x tail length	Santa Cecilia	♂	
	Santa Cecilia	♂	
Scales between semicircles and interparietal x tail length	Trinidad	♂	
Scales between semicircles and interparietal x head length	Tapirapés		♀
Loreals x length of tibia	Trinidad		♀
Scales across snout x length of tibia	Falcón		♀
Scales between semicircles x length of tibia	Santa Cecilia	♂	
Scales across snout x fourth toe lamellae	Villavicencio	♂	
Scales across snout x ventrals	Tapirapés	♂	
Scales between semicircles x ventrals	Tapirapés	♂	
Scales between semicircles and interparietal x fourth toe lamellae	Villavicencio	♂	
Scales between semicircles and interparietal x ventrals	Falcón	♂	
Fourth toe lamellae x ventrals	Dunoon		♀

TABLE 131

Character associations per major sample per sex

	♂	♀	
Falcón	2	5	7
Trinidad	2	3	5
Essequibo	5	3	8
Dunoon	3	5	8
Nassau	3	1	4
Amapá	4	1	5
Villavicencio	5	1	6
Santa Cecilia	4	4	8
Limón Cocha	4	4	8
Pampa Hermosa	2	1	3
Tapirapés	5	5	10
	39	33	72

TABLE 132

Frequency distribution of character associations

Number of samples	f	nf
1	18	18
2	5	10
3	3	9
4	3	12
5	-	-
6	-	-
7	1	7
.	.	.
.	.	.
.	.	.
16	1	16
	32	72

TABLE 133

Occurrence of significant correlations among "meaningful" and "nonsense" character pairs

	+	-	
Nonsense	25	459	484
Meaningful	47	261	308
	72	720	792

x^2 24.445

TABLE 134

Fourth toe lamellae,
comparison between dewlap types, Villavicencio region

Males	VIL	*LDV*	Sco	Sjg	*Rgu*	Plp	*Apl*
15		1					1
16	7	-		1		1	
17	9	2	1		1	1	
18	5	1	2		1		
19	-						
20	1						
	22	4	3	1	2	2	1

Females							
14	1						
15	1						
16	6	5			1		1
17	6	4	1			1	
18	2	1					
19	1	-					
20		1					
	17	11	1	-	1	1	1

Tricolor dewlaps

VIL VILLAVICENCIO
Sco South Colombia
Sjg S. José del Guaviare
Plp Puerto Lopez

Light dewlaps

LDV Villavicencio
Rgu Rio Güejar
Apl Aplay

TABLE 135

Scales across snout,

comparison between dewlap types, Villavicencio region

Males	VIL	*LDV*	Sco	Sjg	*Rgu*	Plp	*Apl*
7						1	
8					1		1
9	6	1	1		1		
10	8	3	1				
11	3		-	1			
12	5		1				
	22	4	3	1	2	1	1
Females							
9	3	1			1		
10	2	5					
11	2	3				1	1
12	6	2					
13	3						
14	1						
	17	11	-	-	1	1	1

Tricolor dewlaps

VIL VILLAVICENCIO
Sco South Colombia
Sjg S. José del Guaviare
Plp Puerto Lopez

Light dewlaps

LDV Villavicencio
Rgu Rio Güejar
Apl Aplay

TABLE 136

Ventrals

comparison between dewlap types, Villavicencio region

Males	VIL	*LDV*	Sco	Sjg	*Rgu*	Plp	*Apl*
43	2	1					
44	2	1			1		1
45	2	-	1				
46	2	-	-				
47	4	-	-				
48	1	1	-				
49	4	1	-			1	
50	1		1			1	
51			-				
52			1				
53				1			
	18	4	3	1	1	2	1

Females							
38		1					1
39		1					
40	1	2					
41	1	-					
42	2	1					
43	3	2					
44	3	2					
45	2	2				1	
46	1						
47	1						
48	1		1				
	15	11	1	-	-	1	1

Tricolor dewlaps

VIL VILLAVICENCIO

Sco Soutn Colombia

Sjg S. José del Guaviare

Plp Puerto Lopez

Light dewlaps

LDV Villavicencio

Rgu Rio Güejar

Apl Aplay

TABLE 137

Loreals,

comparison between dewlap types, Villavicencio region

Males	VIL	*LDV*	Sco	Sjg	*Rgu*	Plp	*Apl*
5	5	1				1	1
6	8	1	1	1	2	1	
7	7	2	2				
8	2						
	22	4	3	1	2	2	1
Females							
5	1	1				1	
6	6	2	1		1		
7	7	4					1
8	3	4					
	17	11	1	-	1	1	1

Tricolor dewlaps

VIL VILLAVICENCIO
Sco South Colombia
Sjg S. José del Guaviare
Plp Puerto Lopez

Light dewlaps

LDV Villavicencio
Rgu Rio Güejar
Apl Aplay

TABLE 138

Scales between supraorbital semicircles, comparison between dewlap types, Villavicencio region

Males	VIL	*LDV*	Sco	Sjg	*Rgu*	Plp	*Apl*
0		1	1				
1	8	1	1		2	1	1
2	13	2	1	1		1	
3	1						
	22	4	3	1	2	2	1
Females							
0			1				
1	1	2					
2	16	9			1	1	1
	17	11	1	-	1	1	1

Tricolor dewlaps

VIL VILLAVICENCIO
Sco South Colombia
Sjg S. José del Guaviare
Plp Puerto Lopez

Light dewlaps

LDV Villavicencio
Rgu Rio Güejar
Apl Aplay

TABLE 139

Scales between interparietal and supraorbital semicircles, comparison between dewlap types, Villavicencio region

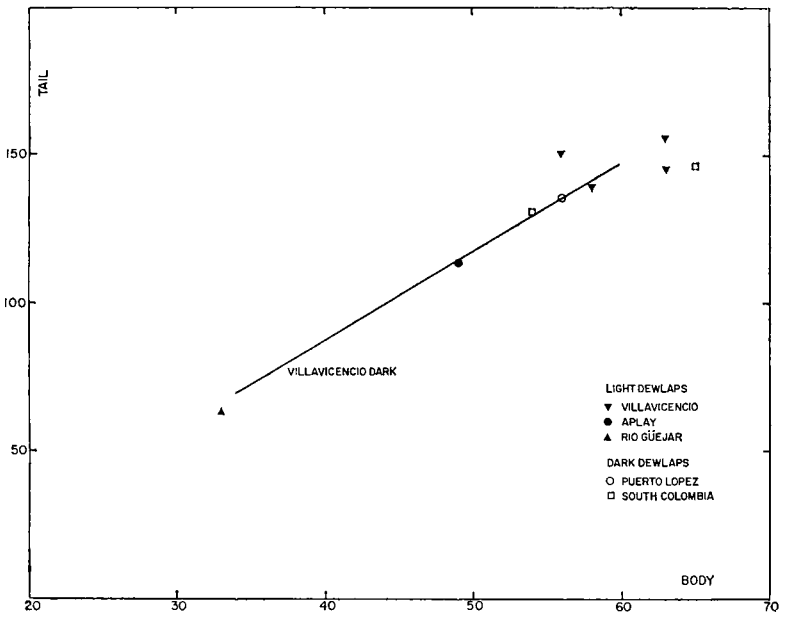
Males	VIL	*LDV*	Sco	Sjg	*Rgu*	Plp	*Apl*
1	2			1	1		1
2	10	2	1		1	2	
3	10	2	1				
4			1				
	22	4	3	1	2	2	1
Females							
2	11	3	1		1	1	
3	5	8					1
4	-						
5	1						
	17	11	1	-	1	1	1

Tricolor dewlaps

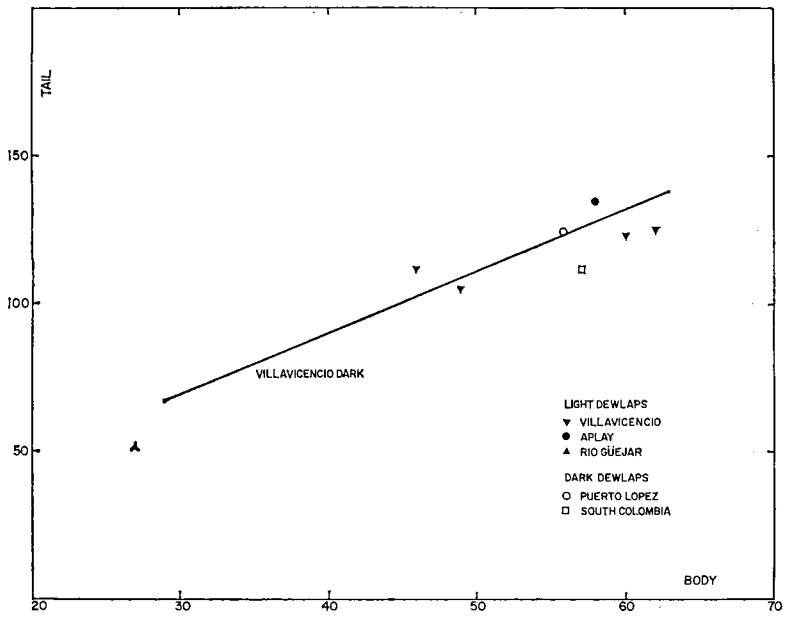
VIL VILLAVICENCIO
Sco South Colombia
Sjg S. José del Guaviare
Plp Puerto Lopez

Light dewlaps

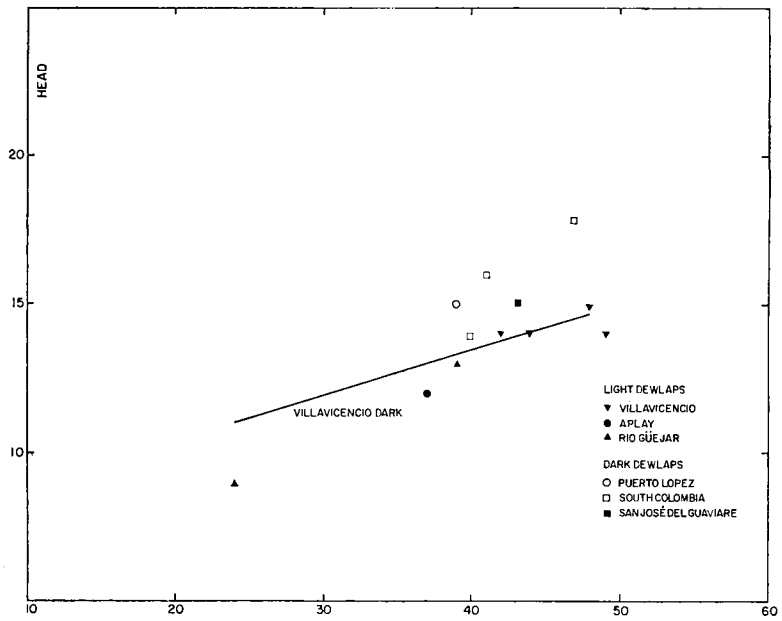
LDV Villavicencio
Rgu Rio Güejar
Apl Aplay



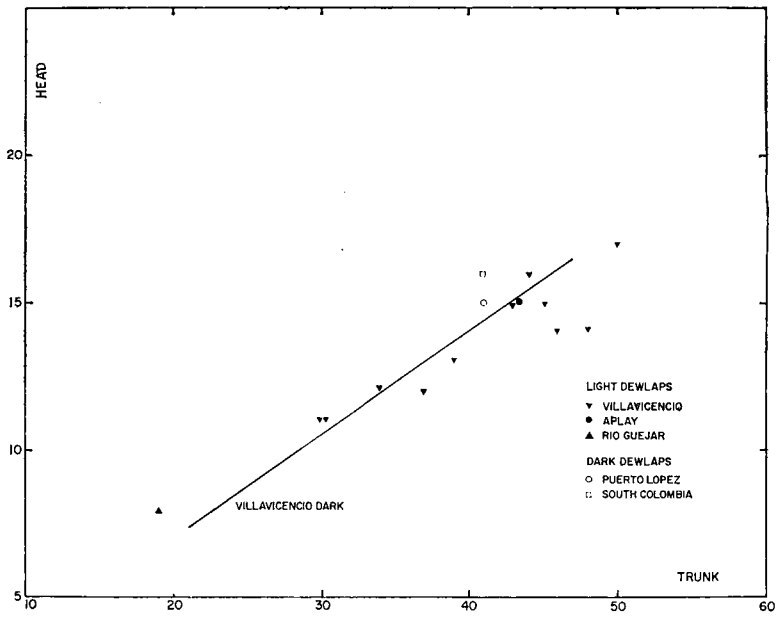
Graph 70. Villavicencio, light and dark dewlaps, males, tail length on body length.



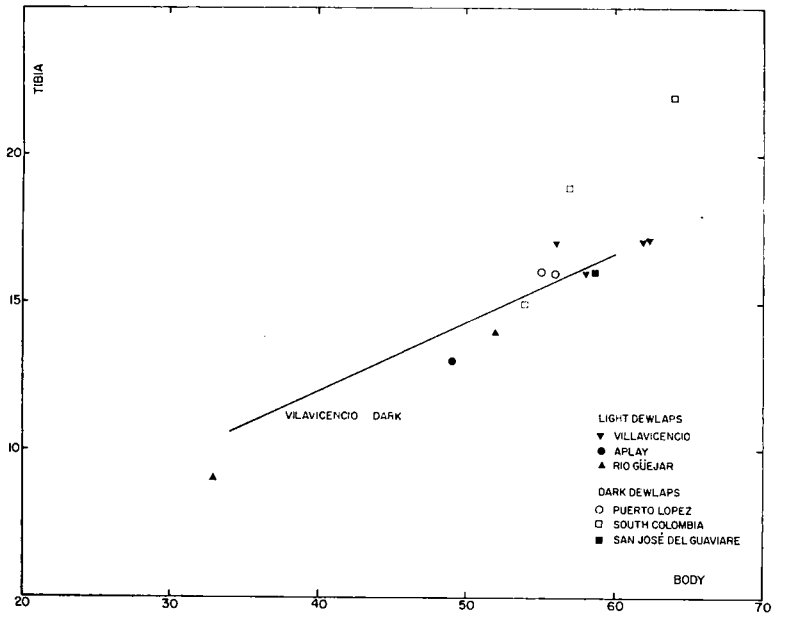
Graph 71. Villavicencio, light and dark dewlaps, females, tail length on body length.



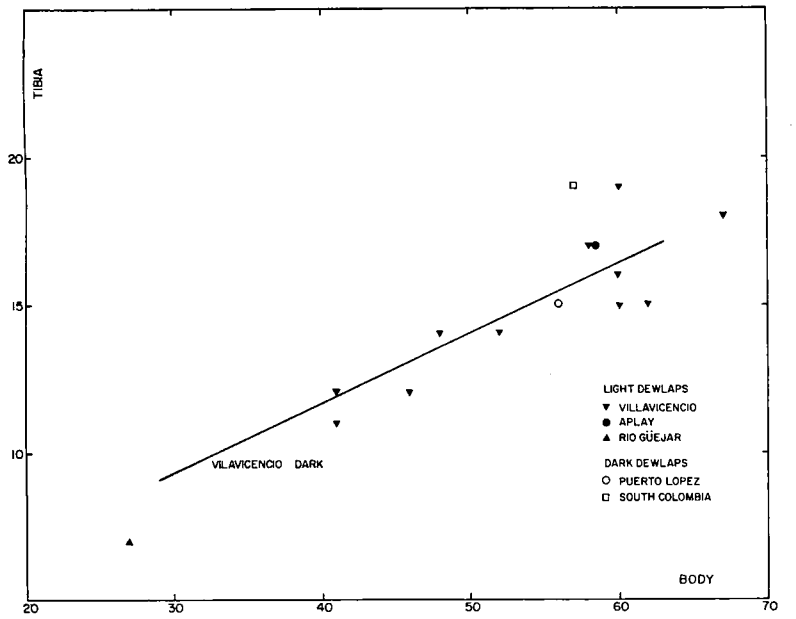
Graph 72. Villavicencio, light and dark dewlaps, males, head length on trunk length.



Graph 73. Villavicencio, light and dark dewlaps, females, head length on trunk length.



Graph 74. Villavicencio, light and dark dewlaps, males, length of tibia on body length.



Graph 75. Villavicencio, light and dark dewlaps, females, length of tibia on body length.

TABLE 140

Loreals, comparison between *bombiceps* and relevant *chrysolepis* samples

Males	BCS	SCE	LCO	Mar	Sum	Mis	Bob	Mia	Iqi	Jav	Cch
5	3	1	1								
6	4	5	11	1		1				1	2
7	2	10	11	4	3	1	1	1	1	3	10
8		1	7	3	1			1			2
9			1								
	9	17	31	8	4	2	1	2	1	4	14
Females											
4	1										
5	3										
6	3	7	8				2	1	1		4
7	4	6	14	3	3		1	-		2	6
8		6	5	2		1	1	-		2	4
9			5					1			1
	11	19	32	5	3	1	4	2	1	4	15

BCS *BOMBICEPS*
SCE SANTA CECILIA
LCO LIMÓN COCHA

Mar Marañon
Sum Sumaco
Mis Rio Misahualli
Bob Bobonaza

Mia Miazal
Iqi Iquitos
Jav Rio Javarí
Cch combined *chrysolepis*

TABLE 141

Scales across snout, comparison between *bombiceps* and relevant *chrysolepis* samples

Males	BCS	SCE	LCO	Mar	Sum	Mis	Bob	Mia	Iqi	Jav	Cch
8	2	2	1								1
9	4	6	6		1	1					1
10	1	4	8	2	2	-					3
11	-	4	3	3	1	1					3
12	1		6	2			1	1	1		2
13			4	1				1		3	3
14			2								
15			1								
	8	16	31	8	4	2	1	2	1	4	14
Females											
8	1				1						1
9	1	1	4	1	-		1		1		2
10	5	2	9	1	-		-				-
11	3	6	8	1	2		1	1		1	5
12	1	5	5	1			1	1		1	3
13		3	4			1	1			-	4
14			2							2	
	11	17	32	4	3	1	4	2	1	4	15

BCS *BOMBICEPS* Mar Marañon Mia Miazal

SCE SANTA CECILIA Sum Sumaco Iqi Iquitos

LCO LIMÓN COCHA Mis Rio Misahualli Jav Rio Javarí

Bob Bobonaza Cch combined *chrysolepis*

TABLE 142

Scales between semicircles, comparison between *bombiceps* and relevant *chrysolepis* samples

Males	BCS	SCE	LCO	Mar	Sum	Mis	Bob	Mia	Iqi	Jav	Cch
0	1										
1	5		1			1	1				2
2	3	11	19	6	4	1		2		1	8
3		5	11	2					1	2	3
4										1	1
	9	16	31	8	4	2	1	2	1	4	14
Females											
1			1						1		
2	4	13	23	4	3		3	1		1	8
3	7	6	8			1	1			1	3
4										2	2
	11	19	32	4	3	1	4	1	1	4	14

BCS *BOMBICEPS*
SCE SANTA CECILIA
LCO LIMÓN COCHA

Mar Marañon
Sum Sumaco
Mis Rio Misahualli
Bob Bobonaza

Mia Miazal
Iqi Iquitos
Jav Rio Javarí
Cch combined *chrysolepis*

TABLE 143

Scales between semicircles and interparietal, comparison between *bombiceps* and relevant *chrysolepis* samples

Males	BCS	SCE	LCO	Mar	Sum	Mis	Bob	Mia	Iqi	Jav	Cch
1	1										
2	6	2					1		1	2	4
3	2	-	7	1	2	1				-	3
4		10	14	4	2	1		2		2	7
5		3	9	1				1			1
6		1	1	2							
	9	16	31	8	4	2	1	3	1	4	15
Females											
1					1						1
2	7		2		-				1		1
3	4	9	10		1	1	1			1	4
4		7	12	4	1		2	2		2	7
5		3	8	1			1			1	2
	11	19	32	5	3	1	4	2	1	4	15

BCS *BOMBICEPS* Mar Marañon Mia Miazal

SCE SANTA CECILIA Sum Sumaco Iqi Iquitos

LCO LIMÓN COCHA Mis Rio Misahualli Jav Rio Javarí

Bob Bobonaza Cch combined *chrysolepis*

ABLE 144

Fourth toe lamellae, comparison between *bombiceps* and relevant *chrysolepis* samples

Males	BCS	SCE	LCO	Mar	Sum	Mis	Bob	Mia	Iqi	Jav	Cch
15	4	1								1	1
16	1	1	1			1			1	2	4
17	1	9	6	2	3	-				2	5
18	2	5	9	5	-	1	1	2			4
19	1	-	11	1	1						1
20		-	4								
21		1									
	9	17	31	8	4	2	1	2	1	5	15
Females											
14	3										
15	5	1							1	1	2
16	1	3	3	1	1		1			2	4
17	2	9	9	1	-	1	1				2
18		6	11	2	2		2	2			6
19			7	-							
20				1							
	11	19	30	5	3	1	4	2	1	3	14

BCS *BOMBICEPS* Mar Marañon Mia Miazal

SCE SANTA CECILIA Sum Sumaco Iqi Iquitos

LCO LIMÓN COCHA Bob Bobonaza Cch combined *chrysolepis*

TABLE 145

Ventrals, males, comparison between *bombiceps* and relevant *chrysolepis* samples

Scales	BCS	SCE	LCO	Mar	Sum	Mis	Bob	mia	Iqi	Jav	Cch
49			1	1							1
50			1	1			1				
51		3	1	1				1	1	1	3
52		1	1	-				1		-	1
53		2	1	2	1	1				1	3
54		3	1	-	1	1				4	3
55	1	-	3	1	-					2	2
56	-	-	-	1	-						-
57	-	3	1	1	-						1
58	-	1	2	-	1						
59	-	1	1	1							
60	2	-	1								
61	1	1	1								
62	-	1	1								
63	1										
64	-										
65	-										
66	1										
	6	16	16	8	3	2	1	2	1	5	14

BCS *BOMBICEPS*
SCE SANTA CECILIA
LCO LIMÓN COCHA

Mar Marañon
Sum Sumaco
Mis Rio Misahualli
Bob Bobonaza

Mia Miazal
Iqi Iquitos
Jav Rio Javarí
Cch combined *chrysolepis*

TABLE 146

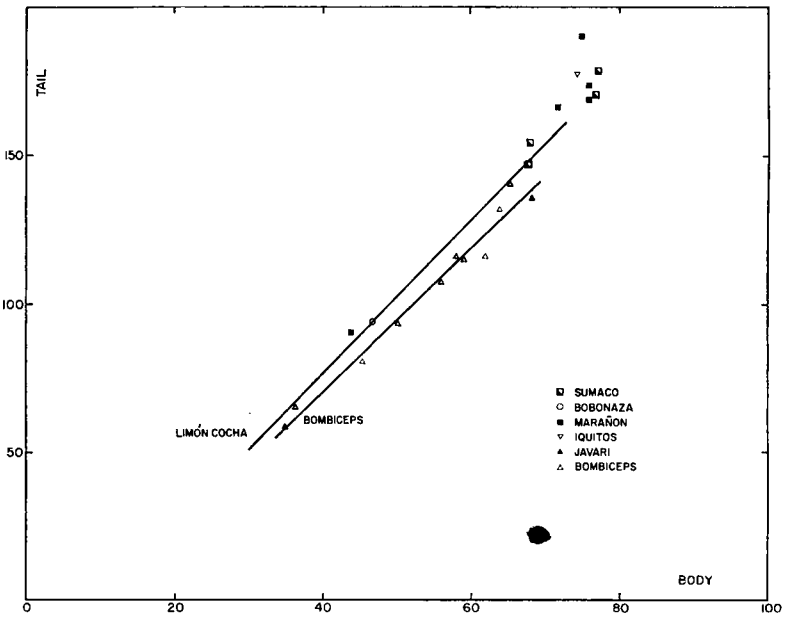
Ventrals, females, comparison between *bombiceps* and relevant *chrysolepis* samples

Scales	BCS	SCE	LCO	Mar	Sum	Mis	Bob	Mia	Iqi	Jav	Cch
47			1								
48			-		2	1	1			1	4
49		1	2	1	-	-	-			-	-
50		2	1	2	-	-	-			-	-
51		-	2	1	-	2	2			-	2
52		3	2	-						-	-
53	1	1	1	-					1	-	1
54	1	1	1	1	-					1	1
55	1	1	1		-					-	-
56	1	1	-		1					1	2
57	2	1	3							-	-
58	1	1	1					1		-	1
59	-	1						1		-	1
60	-	1								1	1
61	-										
62	1										
	8	14	15	5	3	3	3	1	1	4	13

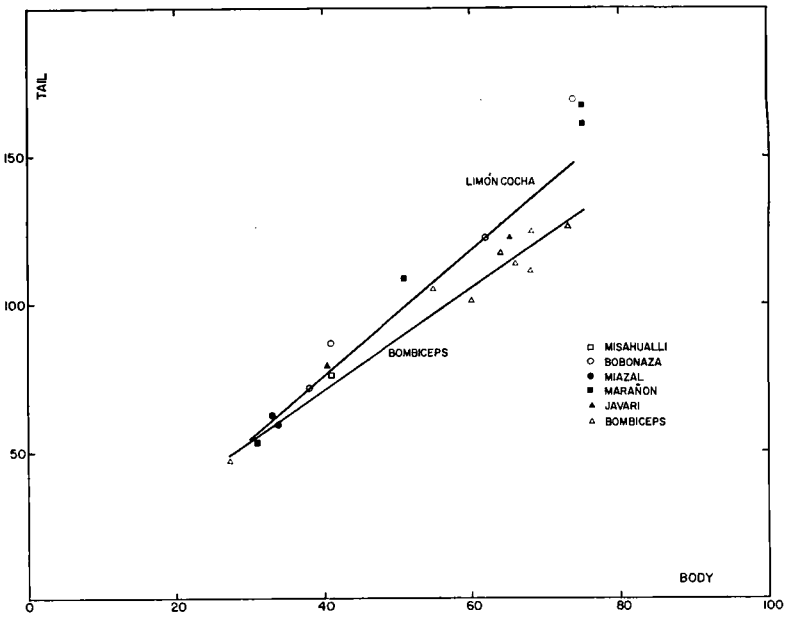
BCS *BOMBICEPS*
SCE SANTA CECILIA
LCO LIMÓN COCHA

Mar Marañon
Sum Sumaco
Mis Rio Misahualli
Bob Bobonaza

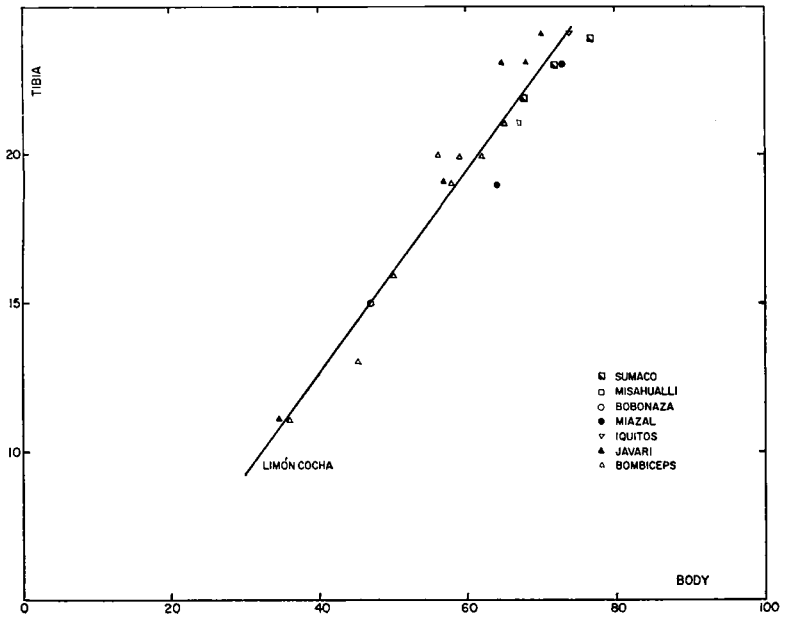
Mia Miazal
Iqi Iquitos
Jav Rio Javarí
Cch combined *chrysolepis*



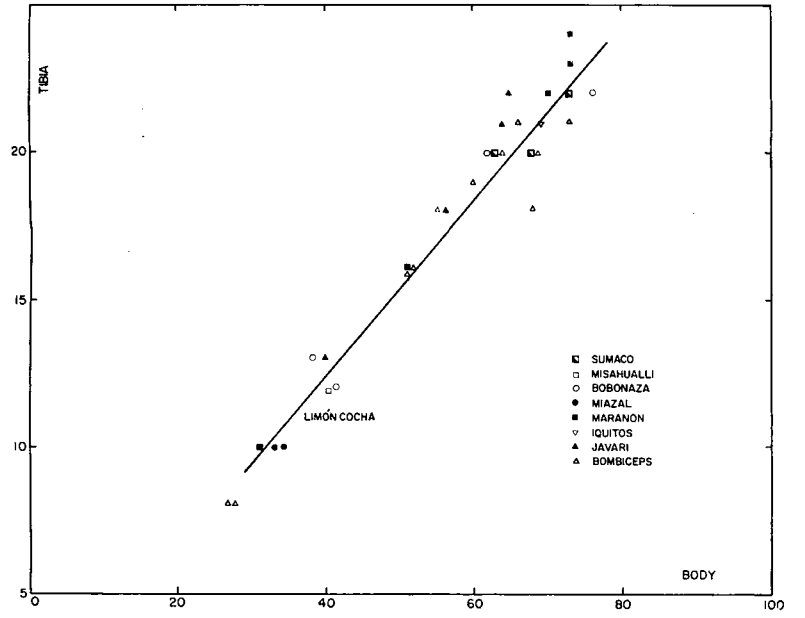
Graph 76. *Anolis chrysolepis* and *A. bombiceps,* males, tail length on body length.



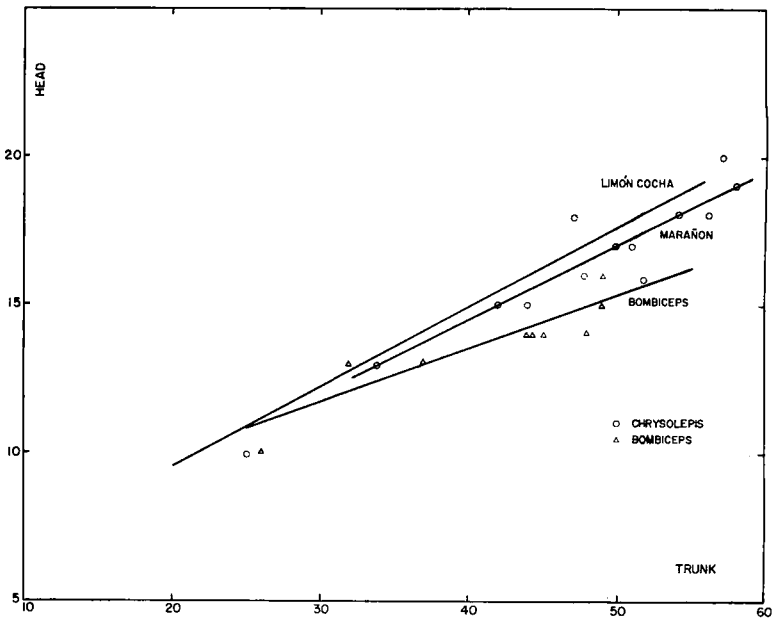
Graph 77. *Anolis chrysolepis* and *A. bombiceps,* females, tail length on body length.



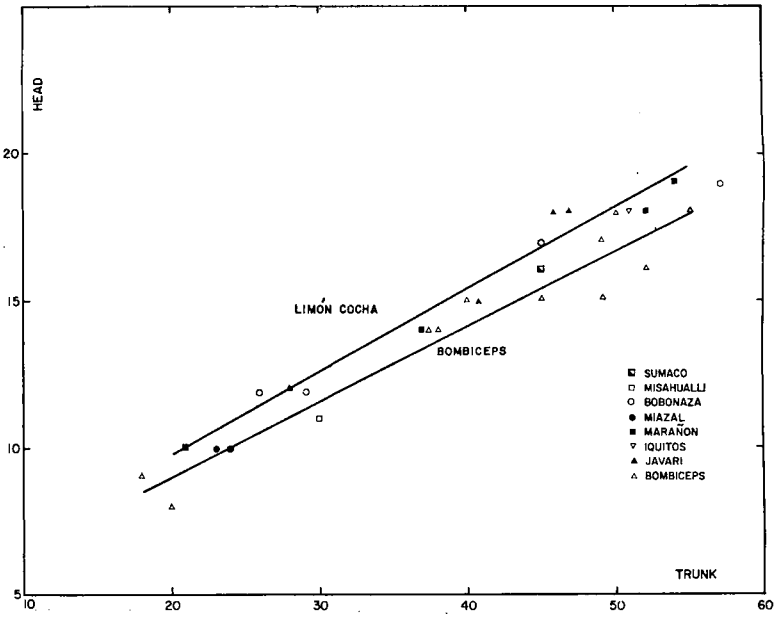
Graph 78. *Anolis chrysolepis* and *A. bombiceps*, males, length of tibia on body length.



Graph 79. *Anolis chrysolepis* and *A. bombiceps*, females, length of tibia on body length.



Graph 80. *Anolis chrysolepis* and *A. bombiceps,* males, head length on trunk length.



Graph 81. *Anolis chrysolepis* and *A. bombiceps,* females, head length on trunk length.