

STUDIES ON THE FAUNA OF CURAÇAO, ARUBA,
BONAIRE AND THE VENEZUELAN ISLANDS: No. 6.

MAMMALS OF THE GENERA
ODOCOILEUS AND SYLVILAGUS

by

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Whilst visiting the Leeward Group, little time could be spared to the collecting of mammals; from *Odocoileus* and *Sylvilagus* however, a rather representative series could be obtained. Regarding this, I must offer my grateful thanks and appreciation to the people who so ably and kindly assisted in securing the specimens. I am especially obliged to Mr. van der Linde Schotborgh for presenting me with a living Curaçaoan deer and to Mr. de Wit for organizing our three shooting-parties, ending with the aquisition of the type of *Odocoileus gymnotis curasavicus*.

Señorita Fanny Maneyro made me a present of a two days old fawn, on the occasion of a short visit to her uncles estate on the Peninsula de Araya. Little "Chacopato" was bottle-fed in my room in Porlamar, with the devoted assistance of Maximiliana, the hotel-owners step-daughter. This apartment he soon shared with an adult deer from Margarita, which however died a few months later. During this time the hotel-owner, Clément Sibú, who was very fond of animals, overlooked many annoying things, which another would never have let pass. After my departure to Curaçao, "Chacopato" stayed in "Hotel Central", where he was later joined by his two prospective wives "Guanta" and "Carúpana", until our departure for the Netherlands. After being kindly entertained on board of the „Van Rensselaer", they started family-life in the grounds of my parents country-house near The Hague.

The smaller specimens, after being described, were injected and entirely preserved with alcohol or formaline; the larger ones were in part treated with alcohol, formaline or salt, or transferred into dry museum-specimens. The greater part of the material has been presented to the "Rijksmuseum van Natuurlijke Historie, Leiden" (L); smaller series have been distributed to the "Zoölogisch Museum, Utrecht" (U) and the "Zoölogisch Museum, Amsterdam" (A).

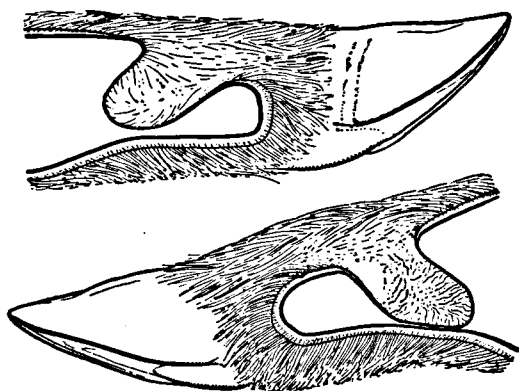


Fig. 11. Length-section of left forefoot (above) and left hindfoot (below) of a 5 months old male *Odocoileus gymnotis gymnotis*; showing the well developed pedal-glands. (Odoc. 30; fresh, nat. size).

The present paper may be considered as a kind of supplement to the survey of the mammals of the Leeward Group, in this series, number 2. Although I fully admire and appreciate the colour standards which are given by scientists — above all Robert Ridgway's "Color Standards and Color Nomenclature", 1912 — for practical reasons I have put together colour descriptions in a more simple and translatable way.

ODOCOILEUS Rafinesque, 1832

Genotype: *Odocoileus spelaeus* Rafinesque, 1832 (*Dama virginiana* Zimmermann, 1777).

Zimmermann, in his "Specimen Zoologiae Geographicae" of 1777 (p. 532, 678, map), used the name *Dama virginiana* for the Virginian deer in correct nomenclatorial form. Zimmermann's terminology however, is arranged with such disregard for the rules of binomial nomenclature (e.g. in this case, he deliberately classed the *Dama virginiana* as the seventh species of his genus *Cervus*), that his new generic terms should not be considered valid. If we admit that his use of *Dama* fulfills the nomenclatorial requirements of the case — which would preclude the use of *Dama* for the fallow-deer of the Mediterranean countries and Persia — the below treated species must be named *Dama gymnotis* (Wiegmann).

Dama vs. *Odocoileus*, 1902. — Pro: Allen, J. A., Bull. Amer. Mus. Nat. Hist. 16, p. 13; id., ibid., p. 159. Contra: Miller, G. S.-Jr., Proc. Biol. Soc. Washington 15, p. 39; Osgood, ibid., p. 87; Sclater, Ann. Mag. Nat. Hist. (7) 9, p. 289; Thomas, O., Proc. Biol. Soc. Washington, 15, p. 198.

Alaska to Perú, Bolivia and North Brasil.

Key to the South American species — cf. Hummelinck, 1940, p. 60.

Key to the subspecies of *Odocoileus gymnotis* — cf. Hummelinck, 1940, p. 61.

Rising from our incomplete and often confusing knowledge of South American deer, the accepted species and subspecies are delimited in a rather arbitrary way. In this paper, the subspecies *gymnotis* is assumed to be confined to North Venezuela.

Odocoileus gymnotis gymnotis (Wiegmann, 1833) Osgood, 1910

Cervus gymnotis Wiegmann, 1833 (Bürde), non viso; Wiegmann, 1933 (Isis), col. 965 ["Gegend des Orenoco" type-locality]; Wagner, 1844, p. 381; Schinz, 1845, p. 380; Reichenbach, 1845, p. 33; Sundevall, 1846, p. 182; Sundevall, 1848, p. 59; Pucheran, 1852, p. 345 [Cumaná]; Gray, 1852, p. 429; Lichtenstein, 1857 ["südlichen Provinzen Neu-Spaniens" cf. type-locality]; Giebel, 1859, p. 341.

Cariacus gymnotis (Wiegmann) Sclater, 1870, p. 116; Brooke, 1878, p. 921; Matschie, 1895, p. 130.

Blastoceros gymnotis (Wiegmann) Fitzinger, 1879, p. 342 [in errore].

Gymnotis wiegmanni Fitzinger, 1879, p. 344.

Mazama americana gymnotis (Wiegmann) Lydekker, 1898, p. 265; Lydekker, 1901, p. 351.

Odocoileus gymnotis (Wiegmann) Osgood, 1910, p. 24 [La Guaira]; Osgood, 1912, p. 42 [Empalado Savannas, East of Maracaibo]; Osgood, 1914, p. 138; Lönnberg, 1922, p. 13; van der Horst, 1924, p. 6; Koller, 1934, p. 179; Hummelinck, 1940 (Arch.), p. 133 [Venezuela].

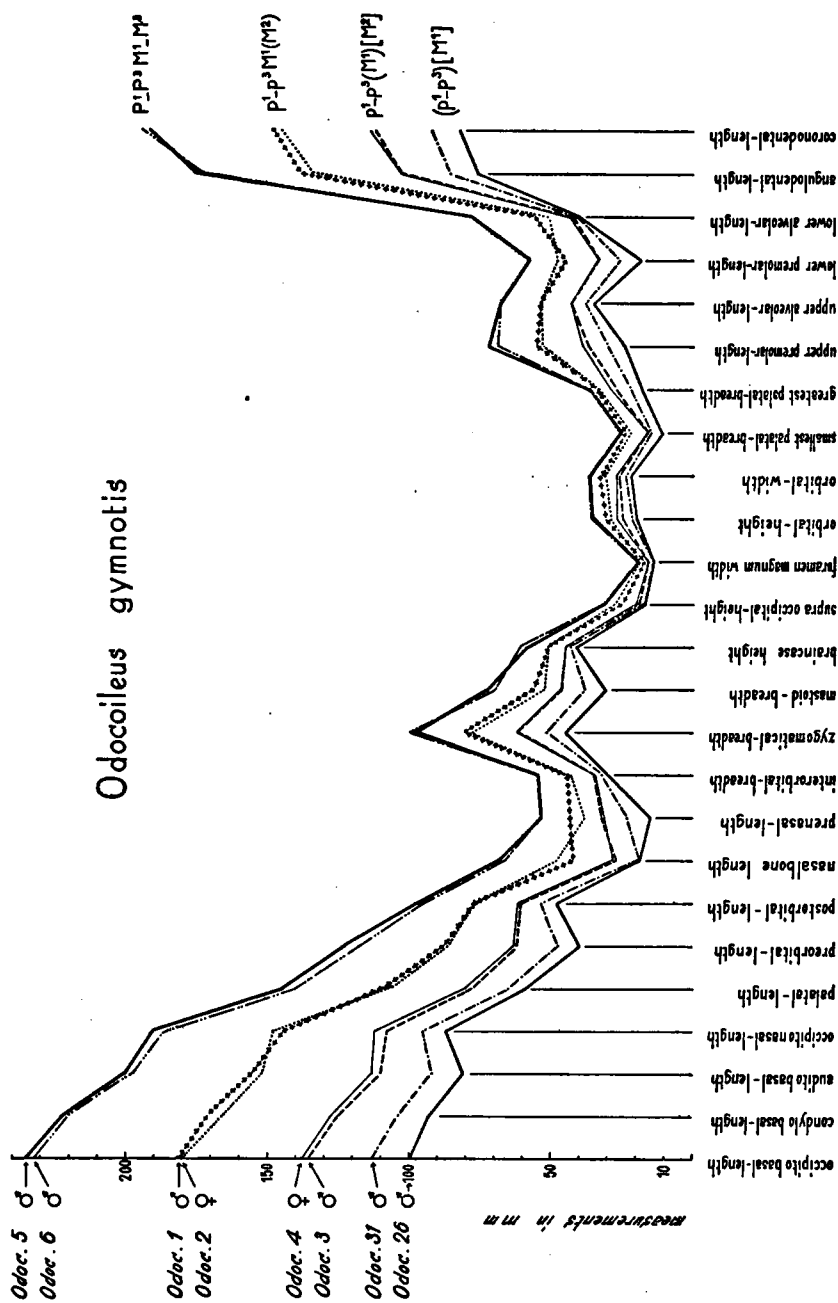


Fig. 12. Skull-measurements in *Odocoileus gymnotis*, corresponding with the 1., 2., 4., 5., 15., 18., 21., 16., 14., 22., 23., 24., 26., 27., 28., 19., 10., 12., 8., 9., 36., 37., 35., and 33th measurement, given in the second paper of this series, table 6. — Odoc. 5–6 adult, 2 year old or more; Odoc. 1–2 rather young, 6–9 months; Odoc. 3–4 young, 1–1½ months; Odoc. 31 just born, 1½ day, Odoc. 26 died during birth.

Odocoileus virginianus gymnotis (Wiegmann) Lydekker, 1915, p. 173; Pocock, 1923, p. 199.

Odocoileus gymnotis gymnotis, Cabrera, 1918, p. 307; Pittier et Tate, 1932, p. 257; Hummelinck, 1940, p. 61 [Sucre].

Characters. Outside of ears sparsely haired, often nearly naked in centre, the skin usually rather darkly coloured; upperpart of body generally greyish brownish-yellow; no blackish spot in upper postorbital region, no distinct black spot above anterior eye-corner; frequently a short, more or less vague, blackish neckstreak.

Skull-measurements: Fig. 12.

Body-measurements: Table 11.

Feet-characters: Table 12, fig. 11, tab. 7c.

Measurements of antlers: Table 13.

Growth and periodicity: Fig. 13 and 14.

Colour-design (from *Odoc.* 23-25, Oct. 1939; characters in common with *Od. gymn. curassavicus* omitted), roughly characterized: Upperparts rather dark yellowish-brown, finely punctuated with black; lower sides paler and losing blackish punctuation; conspicuous white areas on innerside of hindlegs, abdomen and underside of tail, innerside of forelegs, throat, smaller areas on innerside and base of ears, chin and rhinarium-border; blackish areas on rostrum, top of head and between ears, on underlip, below nostrils, on margin of ears and often on neck mediany. — Upperpart of body yellowish-brown, slightly greyish, hairs broadly banded with yellowish-brown far above the middle, black above, dark-grey below and becoming colourless towards base (18–25 mm long in centre of back). Sides of neck rather pale greyish yellowish-brown. Upper part of neck more brownish or yellowish, with a slight or rather distinct concentration of black towards occiput in median part. Around the eye a rather light zone, often quite distinct, pale greyish yellowish-brown, rather vaguely bounded in interorbital region and fading towards other sides. Top of forehead rather dark yellowish-brown, finely punctuated with black, or blackish; hairs usually banded with yellowish-brown or brownish-yellow far above the middle, black above, blackish below and becoming paler towards base (8–15 mm long, sub-erect in males); distal part of head more yellowish, between ears with a usually conspicuous concentration of black, about $\frac{3}{4}$ –1½ cm broad, narrowing to a rather vague blackish line which fades towards centre-part of neck; proximal part often somewhat lighter, separated from the eye-zone by a blackish zone, not separated from short hairs of nasal region by a pair of distinct blackish spots. Outside of ear dark grey or even blackish, often somewhat punctuated with brown or yellow, scarcely covered by rather short, thin, often banded hairs (to 5 mm long), often naked at first sight in central part; skin rather darkly coloured, sometimes shining. Frontside of legs greyish yellowish-brown, often more greyish (male), often greyish on digits; posterior part of thigh with long, brown hairs (to 80 mm long). Tail yellowish-brown above, distal part often darker and more greyish, white below (hairs to 90 mm). Tarsal tuft yellowish-brown, nearly equals colour of surrounding.

Rather common in northern Sucre and other parts of northern Venezuela.

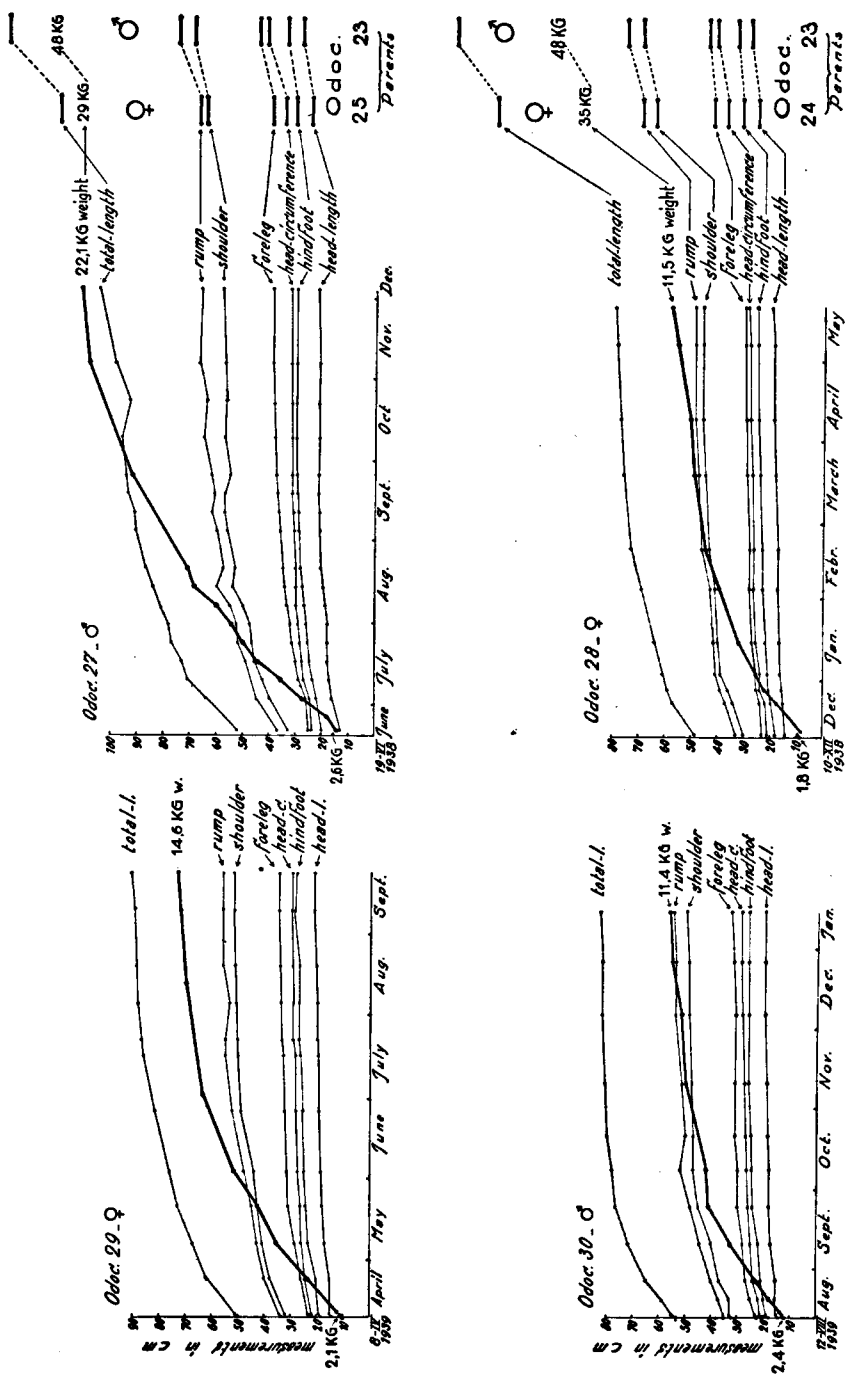


Fig. 13. Measurements in four young *Odocoileus gymnotis gymnotis*, chiefly corresponding with those given in table 11, from living specimens. ~ The animals were born in The Netherlands, from parents which were imported from the Venezuelan mainland.

SUCRE, Península de Araya, Chacopata, VI. 1936 (Odocoileus 21 L.—22 L, antlers); Chacopata, born abt. 23.VI.1936, brought to Porlamar 27.VI.1936, to the Netherlands IV.1937 (Odoc. 23A "Chacopato", Fanny Maneyro don., male, died 28.XI.1940, skin, skull, skeleton, tongue, heart, liver, genitals); Sucre, born abt. VII.1936, brought to the Netherlands IV.1937 (24 "Guanta", female); Sucre, born abt. VII.1936, brought to the Netherlands IV.1937 (25 "Carúpana", female). 's Gravenhage; born from Chacopato and Guanta: 29.III.1938 (26 U, neon., dead male, entire), 10.XII.1938 (28 U "Niña", female, killed 28.VII. 1940, skull, headskin, feet), 13.VIII. 1939 (30 A "Muchacho", male, killed 14.I.1940, skin, skull, skeleton, tongue, heart, lungs, intestines), 6.IV.1940 (male); born from Chacopato and Carúpana: 19.VI.1938 (27 "Chiquito", male), 8.IV.1939 (29 U "Pequeña", female, killed 28.VII.1940, skull, headskin, feet), 10.II.1940 (31A, male, died 12.II.1940, skin, skull, etc.).

One buck and three does of about three years old, from the Península de Araya, were running about the hamlet of Chacopata as communal pets; their appearance being rather different and identical to the specimens from Margarita.

General data, observed in North Venezuela (v) and in The Hague, from specimens which were brought from the State of Sucre(n).

The first 2—3 months of their life, the young have a conspicuous white-spotted coat, the upperparts are rather equally vivid yellowish-brown, often with a slight reddish tinge. After the first moult the pelage, in most respects, is quite the same as those of the adults. Resulting from the design of the hair, the brown or brownish-yellow colour is more obvious in the fresh-moulted pelage. Vague remnants of the white spots may be observed in adult state in mediodorsal region. — Impregnation may occur at the age of 1 year(n); the gestation being about $7\frac{1}{2}$ months(n). Whelping occurs in February(n), March (n), April (n), June (v, n), July (v), August (v) and December (n); a renewed impregnation might be possible in abt. 10 days (n); number of young as a rule 1, rarely 2 (v). The first rubbing of the antlers happens at abt. 13 months (n) or 10 months (n, abn.); their growth takes abt. 3 months yearly at quite regular intervals (n); they are shed in February (n), March (n), July (n, abn.) and December (v).

Odocoileus gymnotis margaritae Osgood, 1910

Odocoileus margaritae Osgood, 1910, p. 24 [Margarita type-locality]; Pittier et Tate, 1932, p. 257.

Odocoileus gymnotis margaritae Osgood, Cabrera, 1918, p. 307; Hummelinck, 1940, p. 64 [Margarita]; Hummelinck, 1940 (Zoogeogr.), p. 110.

Characters — cf. Hummelinck, 1940, p. 64; tab. 7b.

Skull-measurements — cf. Hummelinck, 1940, table 6; tab. 6b—7a.

Body-measurements: Table 11.

Measurements of antlers: Table 13, tab. 6b—7a.

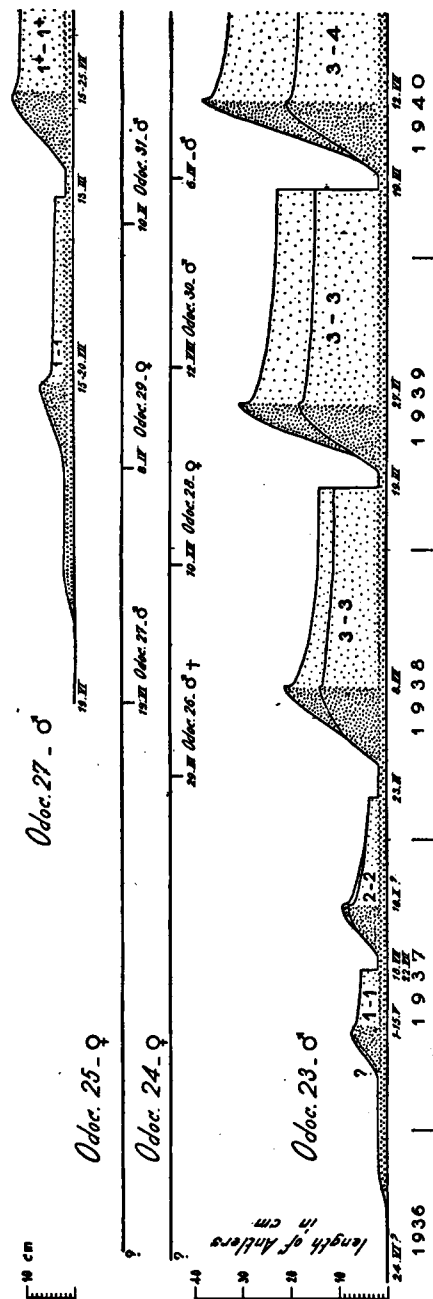


Fig. 14. Antler-growth and child-birth in *Odocoileus gymnotis gymnotis*. — "Chacopato" (Odoc. 23) and his two wives "Guanta" (Odoc. 24) and "Carúpana" (Odoc. 25) were born in Venezuela, State of Sucre, and brought to The Netherlands in April 1937. "Chiquito" (Odoc. 27) was born in The Hague.

Colour-design (from Odoc. 14 and 18–20; characters in common with *Od. gymn. curassavicus* omitted), roughly characterized: Upperparts yellowish-brown or greyish-brown, finely punctuated with black; lower sides paler and losing blackish punctuation; conspicuous white or whitish areas on innerside of hindlegs, abdomen and underside of tail, innerside of forelegs, throat, smaller areas on innerside and base of ears, chin and rhinarium-border; blackish areas on top of head and between ears, on neck, on underlip, below nostrils and on margin of ears. — Upperpart of body yellowish-brown or greyish-brown; hairs broadly banded with brownish-yellow above the middle, blackish and often brownish above, greyish-brown below and becoming colourless towards base. Sides of neck pale yellowish-grey, often with brown. Upper part of neck more brownish, with a rather distinct concentration of black in median part. Around the eye a vague lighter zone, rather sharply bounded in interorbital region but fading towards other sides. Top of forehead black or blackish with somewhat brownish or yellowish; hairs often banded with yellow or brown far above the middle; distal part of head more yellowish-brown, between ears with a rather conspicuous concentration of black, in connection with a distinct, $1\frac{1}{2}$ –2 cm broad, vaguely bounded, blackish line which fades in interscapular region; proximal part not separated from short hairs of nasal region by a pair of distinct blackish spots. Outside of ear dark greyish or even blackish, often somewhat punctuated with brown or yellow, scarcely covered by rather short, thin, often banded hairs, often naked at first sight in central part; skin rather darkly coloured, often shining. Posterior part of thigh with long, brown hairs (to 65 mm long). Tail brown or yellowish-brown above, most distal part commonly darkest and often blackish, white below (hairs to 70 mm).

Occurring on Margarita in rather limited numbers, probably more common in Macanao and along the southern slopes of the Cerros de Copey.

MARGARITA, Vicinity of Puerto Manzanillo, born abt. May 1935, died in Porlamar at the fall of 1936 (Odocoileus 14U, female, skull); Boca del Pozo, Macanao, V. 1936 (Odoc. 15 priv. coll., male, skull); Laguna Dulce, Macanao, V. 1936 (16L–17U, males, skulls); East Margarita, V. 1936 (18L–20L, females, skins).

Odocoileus gymnotis curassavicus Hummelinck, 1940

Cervus capreolus, Simons, 1868, p. 155 [Curaçao].

Odocoileus margaritae Osgood, van der Horst, 1924, p. 6 [Curaçao].

Odocoileus gymnotis (Wiegmann); Hummelinck, 1938, p. 209 [Curaçao].

Odocoileus gymnotis curassavicus Hummelinck, 1940, p. 65 [Curaçao];

Hummelinck, 1940 (Zooogeogr.), 110.

Characters — cf. Hummelinck, 1940, p. 65 (Diagnosis), tab. 9a.

Skull-measurements — cf. Hummelinck, 1940, table 6, tab. 9b–10; van der Horst, 1924, fig. p. 5; fig. 12.

Body-measurements: Table 11.

Feet-characters: Table 12.

Measurements of antlers: Table 13.

TABLE 11.
Body-measurements in *Odocoileus gymnotis*
(in mm; left and right averaged; dead specimens)

Locality	Goa-jira	Curaçao					Mar-garita	Sucre	(born in the Netherlands)					
Number	1	2	3	4	5		14	23	26	28	29	30	31	
Sex	m.	f.	m.	f.	m.		f.	m.	m.	f.	f.	m.	m.	
Weight, in kg (after illness)	—	(9)	—	—	40?			(43)	1½	(14)	(14)	11½	1¾	
Condylobasal-length of skull	171	166	124½	127½	222		197	231	93	189	191	155	103	
Zygomatic-breadth of skull	79	78	62	62	98		85	110	45	86	85	74½	50	
tip of nose — axil of tail (total-length)	—	835	—	640?	1180		900?	1150	480	950	990	815	460	
length of tail-vertebrae, from axil	—	125	—	105	180		125	130	60	110	120	105	55	
tip of nose — supraoccipital process (head-length)	205	213	165	167	262		210	282	140	228	230	202	135	
tip of nose — anterior corner of eye	100	100	68	69	140		125	143	43	112	113	90	53	
length of ear, from crown	110	110	90	95	140		120	140	55	—	130	98	70	
length of ear, from notch	100	—	83	90	—		105	135	51	—	110	95	70	
width of ear, averaging inner and outer	75	85	63	67	92		90	105	36	—	87	78	56	
greatest breadth of rhinarium between nostrils	23	26	17	17	36		30	40	16	30	30	25	17	
circumference of head behind orbits (head-circumference)	288	283	220	225	390?		320	405	185?	320	330	290	203	
apex of forefoot — shoulder (head-circumference)	560	560	—	475	690		610?	740	300	580	620	500	320	
apex of hoof — proximal end of radius (foreleg)	—	352	—	300	465		—	465	195	372	400	335	225	
apex of hindfoot — rump (rump)	—	630	—	500	805		700?	845	310	680	710	600	370	
apex of hoof — proximal end of tarsus (hindfoot)	300	270	230	240	350		7290	360	155	295	305	265	178	

Colour-design (from Odoc. 2 and 5, and three skins), roughly characterized: Upperparts pale yellowish-grey, often slightly brown, finely punctuated with black; lower sides paler and losing blackish punctuation; conspicuous white areas on innerside of hindlegs, abdomen and underside of tail, innerside of forelegs, throat, smaller areas on innerside and base of ears, chin and rhinarium-border; blackish areas on underlip, below nostrils, on occiput, and on margin of ears. — Upperpart of body rather pale yellowish-grey or greyish-yellow, often slightly brown, finely punctuated with dark-grey or black; hairs broadly banded with yellow far above the middle, blackish and often slightly brownish above, dark-grey below and becoming colourless towards base (16–20 mm long in centre of back). Lower sides paler, losing fine punctuated appearance. Sides of neck pale greyish, often slightly yellow or brown, lower part nearly unpunctuated. Upper part of neck more brownish or yellowish, with a slight or very slight concentration of black towards occiput in median part. Upper part of throat as far as the chin whitish. Sides of head generally pale yellowish-grey; cheeks finely punctuated. Around the eye a, often rather vague, light zone, broadest on upper posterior part, often interrupted by a somewhat darker area below and behind the eye, greyish or greyish-yellow, often slightly brown, rather sharply bounded in interorbital region but fading towards other sides; behind uppermost part of light zone usually a very small blackish spot, about $\frac{1}{2} \times \frac{3}{4}$ cm. Iris brown. Top of forehead dark yellowish-grey, often slightly blackish, finely punctuated; hairs usually banded with yellow far above the middle, blackish above, dark-grey below and becoming nearly colourless towards base (10–17 mm long, suberect); distal part of head somewhat more yellow, between ears with a rather conspicuous concentration of black, $\frac{3}{4}$ – $1\frac{1}{2}$ cm broad, narrowing to a more or less vague dark line which fades towards centre part of neck; proximal part somewhat lighter, generally separated laterally from short hairs of nasal region by a pair of distinct blackish, oval spots, $2\text{--}2\frac{1}{2} \times \frac{1}{2}\text{--}\frac{3}{4}$ cm, in antorbital region, sometimes these spots are not sharply bounded from the often very dark nasal region. Rostrum with a vague greyish-yellow or brownish-yellow stripe from dark-grey or even blackish region behind rhinarium to yellowish angle of mouth. Rhinarium often very narrowly bordered above by whitish-grey, with more white below; a blackish area below nostrils. Chin whitish or white, bordered on each side by a more or less triangular blackish spot, with some yellowish-brown between. Outside of ear greyish, usually finely punctuated with black and yellow, covered by rather short (up to 5 mm long), thin, often yellowish-banded hairs, often rather naked at first sight in central part, more densely haired towards margin and base; skin rather lightly coloured, dull; anterior part and margin darker, often blackish; a vague whitish patch at base, especially on posterior margin. Inside of ear rather scarcely covered with soft, whitish hairs, longer towards base. Breast brownish-yellow, or more greyish, continued for a short distance on middle of abdomen, median slightly darker. Abdomen and innerside of hindlimbs to hog white or whitish, inguinal region more scarcely haired and often yellowish; innerside of forelimbs to elbow-joint white or whitish, this white being unconnected with that of abdomen. Frontside of legs yellowish-grey or greyish-yellow, often slightly brown, distinctly paler at lateral and backside, often greyish on digits; posterior part of thigh with long, brown hairs (to 60–75 mm long). Tail greyish yellowish-brown or more yellowish above, distal part commonly darkest and more greyish, white below (hairs to 55–60 mm).

TABLE 12.

Feet-characters in *Odocoileus gymnotis*
(in mm; left and right averaged)

Locality	Goa-jira	Curaçao				Sucré				(born in the Netherlands)			
		m.	f.	m.	m.	m.	f.	m.	f.	m.	f.	m.	m.
Number	1		3	4	5	23	26	28	29	30	31		
Sex	m.		m.	f.	m.	m.	m.	f.	f.	m.	m.		
Condylobasal-length of skull	171	124½	127½	222	231	93	11½	29	30	23	15½		
mediodorsal length of inner forefoot-nail	26½	22	21	30	43	11½	12	28½	30	23	15		
mediodorsal length of outer forefoot-nail	26½	22½	20½	28	38½	12	11½	19½	20½	17½	13		
breadth of inner forefoot-hoof	22	16	16	26½	25	11½	12	19½	20	18	14		
breadth of outer forefoot-hoof	22	15½	15½	26½	26	7	11	12	12	10	7½		
thickness of inner forefoot-hoof	14½	9½	8¾	16	15	8	11½	12½	10½	8			
thickness of outer forefoot-hoof	14				16	4	10	10	10½	4½			
depth of pedal-gland in forefoot	9	6½	8	—	18	4	3	8½	8½	9	4		
width of pedal-gland in forefoot	6	4½	6	—	10	3	9	9½	10	4			
aperture of pedal-gland in forefoot	5½	4½	6	—	10	3	124	132	110	80			
length of cannonbone	124	101	107	150	154	72½	14½	31	30½	28	17½		
length of inner metacarpal-rudiments	24	18	22½	—	41	20½	37	32	38	21½			
length of outer metacarpal-rudiments	28½	20½	24	—	52	1¾	3½	3½	3½	3½	2½		
breadth of distal part of inner metacarpal-rudiments	3	2½	2¾	—	4	2	3¾	4	4	2½			
breadth of distal part of outer metacarpal-rudiments	3½	2¾	3	—	4	12½	36	34½	27	17			
mediodorsal length of inner hindfoot-nail	24½	22½	22	32	45½	13	13	35	33½	25½	17		
mediodorsal length of outer hindfoot-nail	28½	22½	21	32½	44	11½	19	20	18	13¼			
breadth of inner hindfoot-hoof	21	14½	15½	26	26	12	21	20	17½	13¼			
breadth of outer hindfoot-hoof	21½	15	15	26½	26	12	11½	12	10½	7¾			
thickness of inner hindfoot-hoof	12¼	8¾	9¼	14	15	7	13½	12	10½	7¾			
thickness of outer hindfoot-hoof	13¼	9	9	14	15½	9	13½	12	10½	7¾			
depth of pedal-gland in hindfoot	13	10	12	—	22	6	14½	15	14	9			
width of pedal-gland in hindfoot	7½	6½	6½	—	10	4½	10	9	8½	5			
aperture of pedal-gland in hindfoot	6	5½	6½	—	9	4	9	8½	7½	4			

Occurring in western Curaçao in very limited numbers only; probably more common in the northern part of the Península de la Goajira and South of Rio Hacha (cf. Hummelinck, 1940, p. 66; 1940 (Zoogeogr.), p. 111).

CURAÇAO — cf. Hummelinck, 1940, p. 65 — Odoc. 2L, 5L, 6L, 7U, 8L—11L, 11aA, 12L, 13L. ?CURAÇAO — 3L, 4U. GOAJIRA — 1U.

The Goajira-specimen (Odoc. 1) and the two juveniles from ?Curaçao (Odoc. 3—4), which might be imported from northeastern Colombia, have no antorbital spot and no trace of neckstreak; they are, therefore, only provisionally reckoned to this subspecies.

SYLVILAGUS Gray, 1867

Founded upon section "D" of Baird, 1859, Mammals of North America, p. 575.

Southern United States to northern Argentina.

Key to the North Venezuelan, Northern Colombian and Curaçaoan species and subspecies — cf. Hummelinck, 1940, p. 66.

The relation between these species and the many other named forms of South-American *Sylvilagus* is still very vague.

Sylvilagus seems to be exclusively nocturnal, resting during the daytime in a form; they do not burrow.

As a rule the mother drops two young, rarely one or three.

The pursuit of the "rabbits" is a highly esteemed sport, which means they are constantly threatened by stones, guns and arrows. Nowadays they are never very numerous.

Sylvilagus nigronuchalis nigronuchalis (Hartert, 1894) Osgood, 1910

Lepus cuniculus, Simons, 1868, p. 156 [Curaçao].

Lepus nigronuchalis Hartert, 1894, p. 40 [Aruba, type-locality, Curaçao?];

Thomas, 1897, p. 553; Hartert, 1902, p. 284, 287.

Sylvilagus nigronuchalis (Hartert) Osgood, 1910, p. 28 [Curaçao, Aruba]; Osgood, 1912, p. 57.

Sylvilagus nigronuchalis nigronuchalis, Pittier et Tate, 1932, p. 258; Tate, 1933, p. 7; Hummelinck, 1940, p. 67 [Curaçao, Aruba]; Hummelinck, 1940 (Zoogeogr.), p. 110.

Sylvilagus nigronuchalis, van der Horst, 1924, p. 5 [Curaçao]; Willebæk, 1934, p. 106.

Characters. Nape deep black. Forefoot 37—39 mm, hindfoot 78—85 mm; ear-length from notch $52\frac{1}{2}$ —56 mm, equals 1.45 ear-width, equals 0.85 condylo-basal-length of skull. Condylo-basal length 61—64½ mm, equals 1.9 zygomatic-breadth, equals 2.0 length of nasalbone; skull as a rule broadest at posterior outside of zygomatic arches; interorbital-breadth behind posterior supraorbital processes $13\frac{1}{2}$ —15¼ mm; alveolar-length of upper molariform series $13\frac{1}{4}$ —14½

TABLE 13. Measurements of Antlers in *Odocoileus gymnotis* (in mm; left - right)

Locality	Curaçao								Margarita			Araya
Number	7	8	9	10	11	11a	12	13	15	16	17	21
length of pedicel, inner curve	12-12	16-16	16-16	12-12	12-12	15-15	15-15	9-11	16-16	15-13	11-11	11-11
diameter of pedicel, on narrowest part, averaged . .	27-27	23-22	27-27	22-22	23-23	23-23	25-24	22-22	38-31	25-25	21-20	23-22
length of main-beam, from base of burr, outside-curve	2340-295	210-200	320-?	230-240	240-250	225-230	370-365	230-230	335-360	280-280	260-260	165-155
base of burr to axil of basal-snag, in straight line . .	50-48	54-53	62-62	39-39	48-49	36-37	56-59	49-53	53-38	54-58	41-43	43-42
greatest diameter of burr . .	39-39	34-31	45-42	33-33	35-36	35-36	42-41	37-37	79-62	43-40	36-35	41-37
smallest diameter of burr . .	35-34	29-28	35-35	27-29	30-31	27-28	36-37	30-30	50-46	32-34	32-31	32-32
greatest diameter of beam on narrowest part between burr and basal-snag . . .	27-27	25-26	30-28	23-24	24-25	24-25	31-30	27-28	73-53	30-28	24-24	27-26
smallest diameter of beam, as before	22-20	17-16	20-19	17-18	17-17	17-18	24-25	17-17	35-32	24-20	19-19	17-16
length of basal-snag, on inner curve from axil . .	103-115	47-35	?-63	52-51	79-79	46-72	95-90	65-66	119-95	56-57	35-32	26-26
base of burr to axil of first back-time, on shortest curve	170-175	×	×	153-159	150-150	155-165	165-165	145-162	150-205	130-145	133-133	86-83
greatest diam. of beam on narrowest part betw. basal-snag and first backtime	26-23	×	×	20-20	21-22	21-23	26-29	21-19	40-41	21-20	19-21	21-20
smallest diameter of beam, as before	21-21	×	×	17-19	18-17	17-18	24-27	15-14	37-32	18-19	17-16	16-16
length of first back-time, on inner-curve from axil . .	92-82	×	×	60-65	75-80	70-745	110-140	80-35	120-130	95-75	82-85	65-54
axil of first back-time to top main-beam, shortest curve	7150-122	×	×	45-50	85-90	50-50	200-195	80-55	182-195	135-120	110-125	75-68
height, from middle of line connecting highest points to nasoparietal-level . .	150	80	7150	90	135	110	195	150	230	160	150	80
greatest spread, perpendicular to centre-line of skull	315	265	320	300	280	320	340	220	265	270	275	190
greatest spread, parallel to centre-line of skull . . .	210	130	160	170	185	165	210	140	275	155	140	145
number of points protruding at least 2 cm	3-3	2-2	2-2	3-3	3-3	3-3	5-4	3-3	16-9	3-3	3-3	3-3
horn-material, in cc	130-110	55-50	90-?	65-70	80-85	70-70	150-160	75-65	400-300	90-80	65-60	45-45

mm, of lower molariform series $13\frac{3}{4}$ — $14\frac{1}{4}$ mm; distance between upper P₁-alveole and I₁-alveole 20 — $21\frac{1}{4}$ mm, between lower P₁-alveole and tip of mandible 15 — 16 mm; distance between outer edges of upper P₁-alveoles $16\frac{1}{2}$ — $17\frac{3}{4}$ mm; combined breadth of both lower I at top $5\frac{1}{4}$ — $5\frac{1}{2}$ mm.

Skull-measurements: Table 14. — Interparietal bone distinct (entire, Sylv. 34 and 36, or with vertical suture, 21—26, 31 and 35?), indistinct (entire, 33?, or with vertical suture, 27 and 32), or fused (29).

Body-measurements: Table 15.

Colour-design, roughly characterized: Upperparts pale yellowish, rather strongly varied with black; lower sides paler and losing blackish admixture; conspicuous white areas on upperpart of throat, round the eye, at rhinarium-border, on breast, innerside of forelegs, abdomen, inner and foreside of hindlegs and underside of tail; conspicuous black area on nape, smaller areas near eyes and on ear-tops. — Upperpart of body yellowish or pale-yellow, usually slightly brown, rather strongly or strongly varied with black in dorsal region; hairs broadly banded with yellow above the middle, blackish and often slightly brownish above, greyish below and becoming colourless towards base (18—28 mm long). Lower sides paler, with less black, more greyish. Nape-patch downey, as a rule intense black mediany, forming a very distinct line, near occiput about 15 mm broad, broadening distally until 25—35 mm and fading in interscapular region; remaining parts of nape-patch very pale greyish-yellow or brownish yellowish-grey. Frontal region of head pale yellowish with brown, finely varied with black, rather often with small concentrations of black at lateral borders; hairs banded with very light yellow above the middle, blackish above, dark-grey or blackish below and becoming colourless towards base (7—10 mm long); losing fine punctuated appearance towards nose. Crown more yellowish-grey with finer punctuations; occipital-region, between ears, blackish. Nostrils often very narrowly bordered above by whitish-grey, usually with more white below, forming a rather small white spot at corner. Lateral part of upper and underlip yellowish-white or white, running into the white of upperpart of throat and lowest part of jaw. Chin whitish, more greyish and usually distinctly darker mediany. Sides of nose and cheeks light brownish yellowish-grey, more strongly coloured and varied with black on the latter, with more or less irregular black concentrations at back, upper and lower-sides; vibrissae blackish (to 60 mm long). Around the eye a distinct pale-yellowish, greyish-white or white zone, broadest on upper posterior part, narrowest and often vague or interrupted below anterior part of eye, mostly forming a rather distinct white area both behind and in front of the eye. Eyelashes black, upper one strongly marked and forming a black spot; eyebrows black (to 40 mm long); rather often a slight concentration of black near eyebrow which, sometimes, forms a rather distinct, small, elongated mark. Below and behind whitish eye-zone as far as the ear-base, irregular concentrations of black, usually forming a distinct or rather distinct black spot behind the eye, often with a blackish concentration below anterior eye-corner and at underside of posterior part of cheek. Outside of ear with short, thin hairs, whitish-grey at base posteriorly, more brownish anteriorly, passing gradually to blackish on the anterior upper part and sometimes on the posterior upper margin, usually with a very narrow edging of white. Inside of ear scarcely covered with soft, pale-grey or yellowish-grey hairs, the anterior lower margin with longer, whitish hairs. Base of

TABLE 14.
Skull-measurements in adult *Sylvilagus*
(in mm; distances in straight lines)

Locality	Goajira	Araya	Testigos	Margarita	Curaçao	Aruba
Number	1-5	6	7-8, 10-11	13-16	22-24, 26-27, 1 s.n.	29, 31-35, 37-39
Sex	2 ff. 3 mm.	1 m.	4 ff.	3 ff. 1 m.	4 ff. 2 ??	3 ff., 4 mm., 2 ??
tip of premaxilla — external occipital protuberance	70 — 72½-75	77½	70½-73 — 75½	73½-76½-79	67 — 68½-72	66½-68 — 69½
tip of premaxilla — back of occipital condyle	61½-65 — 67	70	64½-66½-69½	65½-68 — 70½	60 — 61½-64½	60 — 61 — 62½
tip of premaxilla — ventral edge of foramen magnum	55 — 58½-60½	63	58 — 61 — 63	58½-61½-63½	54½-56 — 58	55 — 55½-57
tip of premaxilla — anterior wall of tympanic bulla	50½-53 — 55½	57	52 — 55 — 57½	53½-56½-58½	49 — 50 — 52	48½-50 — 51½
tip of premaxilla — anterior border of choana	30½-31½-32½	34	32 — 34 — 35	31 — 33 — 35	27½-28½-30	27½-28½-30
narrowest part of bony palate	5¼-6½-7	8	6¾-7 — 7½	7 — 7¼-8¼	4¾-5½-6½	5¼-6 — 6¾
alveolar-length of upper molariform series	13 — 13½-14½	14	14½-15 — 15½	14 — 14½-15	12 — 12¾-14	12½-13½-14½
anterior edge P¹-alveole — posterior edge I¹-alveole	20½-22 — 23	23½	23 — 24 — 24½	22 — 23 — 24	19 — 20 — 21	18¾-20 — 21¼
between outer-edges of P¹-alveoles	17¼-17¾-18	19¾	19¾-20¼-21½	18½-19 — 20	16 — 16½-17½	16 — 16¾-17¾
between outer-edges of M¹-alveoles	18½-20 — 21	22½	22 — 22½-23½	20½-21½-23	18¾-19½-20¾	18¼-19¼-20
greatest width of choana between molars	5¼-7 — 7¾	7¼	7 — 7¼-7½	6½-7 — 7½	6 — 6½-7	5¼-6 — 6½
external occipital protuberance — anterior tip of nasal bone	71 — 74 — 77½	79½	70½-74 — 76½	75 — 77 — 79	68½-70 — 73½	67½-68½-70
external occipital protuberance — posterior tip of nasal bone	46 — 47½-50	48	43½-44½-45	46 — 47 — 48	43½-44½-47½	42 — 43½-45½

posterior — anterior tip of nasal bone, parallel to skull-axis	36	28½—32 —34	34 —35½—37	34½—35½—38	30 —31 —31½	29 —30 —31
greatest combined width of nasal bones	16	14½—16½—18	15¾—16 —16½	15 —16 —18½	14 —15 —15¼	13¾—14¾—15½
tip of premaxilla — anterior border of orbit	33	30 —31½—32½	32 —33½—35	32 —33¼—35	28 —29 —30	27½—28½—30
width of orbit, parallel to skull-axis	22½	20½—21½—22	20 —20½—21	22 —22½—23	21 —21 —21½	20 —21¼—22¼
height of orbit, perpendicular to skull-axis	18½	16½—17¼—18½	17½—18 —18¼	17¼—18 —19	17½—18 —18¾	17¾—18 —18½
between orbits across middle of supraorbital processes	20½	18 —19 —21	18¾—19½—20	17¾—19 —21	18¼—19¼—19¾	17½—19 —31½
between orbits behind posterior supraorbital processes	15	11 —12½—14¼	14¾—15 —15½	13½—14¾—15½	13½—13¾—14	12½—13½—15¼
between posterior outside of zygomatic arches	36¼	32 —33½—34½	35½—36 —36½	34½—35½—37½	32 —33½—34½	32½—33¼—34½
between anterior outside of zygomatic arches	36	32 —33¾—35½	35¾—36¼—36½	35 —35¾—37	31½—32¼—33½	32 —32½—34
breadth of skull at root of frontal premaxillary process	15	12½—13½—15	13 —15 —15½	13½—14½—15	12 —12¾—13½	12¼—13 —14
breadth of skull at mandibular fossae	24½	22 —23½—25½	23 —23½—24	23½—24 —25	22½—23½—24½	22½—23 —24
height of skull across parietal bone and basisphenoid	23	22 —23 —24	22 —22¼—22½	21 —22½—23	22 —22¾—23½	21 —22 —22½
between paraoccipital processes	22	19 —20 —21	19 —20¼—21	20 —20¾—21½	18 —19 —20	18 —18¾—20
top of frontal bone — basal-level	33	30 —31½—33	29½—30½—31	31 —31½—32	29 —30 —30½	28 —29½—30
tip of mandible — distal tip of condyloid process	57	51 —54 —55½	54 —56 —57½	55½—57 —59	50 —51½—53	49 —51 —53
tip of mandible — top of dentary condyle	52	47 —50 —51½	50½—51½—52	51 —52½—54	46 —48 —49	44½—48 —49½
tip of mandible — pterygoid tuberosity	55½	47½—51½—53½	53 —54½—55½	53 —55 —57	47½—49½—53	46½—49 —50½
alveolar-length of lower molariform series	15½	13¾—14¼—15	15 —16 —16¼	14 —14¾—15¾	13 —13½—14	13½—14¼—14¾
anterior edge of P1-alveole — tip of mandible	17	14½—15¾—16½	17 —17½—18	17½—18 —19	14½—15 —16	14 —15 —16
combined breadth of both mandibular I at top	6	5½—5¾—6	6¼—6¾—7	5¾—6 —6	5 —5 —5¼	5¼—5½—5½
top of dentary condyle — basal-level	34	30½—32 —33½	31 —32 —32½	30 —32½—34½	29 —30 —30½	29 —30½—32

ear with a vague light-greyish area latero-posteriorly. Lower part of throat greyish-yellow or greyish brown-yellow. Breast, abdomen and inguinal region white or whitish. Upper part of forelimbs pale brownish-yellow or yellowish-brown anteriorly, lower part greyish-yellow or greyish, usually greyish or whitish on feet; innerside generally somewhat lighter, white above. Hindlimbs greyish-yellow, usually slightly brownish postero-externally, passing to pale yellowish-grey on the postero-internal part; whitish or greyish on top of phalanges; antero-internal region white. Soles dingy yellowish-brown or more greyish. Upperside of tail light yellowish brown-grey, punctuated very finely by black-tipped hairs; underside white or yellowish-white.

In the field occasionally very pale or very dark specimens could be observed; in some parts of Curaçao even reddish specimens are to be found.

Rather commonly found in Curaçao and Aruba, rare in well-populated districts. Very probably not occurring in Bonaire.

CURAÇAO — cf. Hummelinck, 1940, p. 67 — Sylv. 21L—23L, 24A, 25L, 26U, 27U. ARUBA — 28L—31L, 32U—33U, 34L—35L, 36U, 37A—38A, 39A.

According to the description of Osgood, 1912, p. 57, *Sylvilagus nigro-nuchalis continentis* may be practically identical with the insular form.

Sylvilagus cumanicus cumanicus

(O. Thomas, 1897) O. Thomas, 1900

Lepus cumanicus Thomas, 1897, p. 552 [Cumaná, type-locality]; Allen, J. A., 1899, p. 197.

Sylvilagus cumanicus (O. Thomas) Thomas, 1900, p. 356; Osgood, 1910, p. 28 [Maracay]; Allen, J. A., 1911, p. 249 [Tocuyo]; Thomas, 1914, p. 413; Allen, J. A., 1916, p. 84; Tate, 1933, p. 7.

Sylvilagus cumanicus cumanicus, Hummelinck, 1940, p. 67 [Araya].

Sylvilagus valenciae Thomas, 1914, p. 413 [El Trompillo near the Lago de Valencia, type-locality; Maracay, cf. Osgood, 1910]; Pittier et Tate, 1932, p. 258; Tate, 1933, p. 7.

Characters: Nape light yellowish-brown. Forefoot 40 mm, hindfoot 85 mm; ear-length from notch 63 mm, equals 1.35 ear-width, equals 0.9 condylo-basal-length of skull. Condylobasal-length 70 mm, equals 1.9 zygomatic-breadth, equals 1.95 length of nasal bone; skull broadest at posterior outside of zygomatic arches; interorbital-breadth behind posterior supraorbital processes 15 mm; alveolar-length of upper molariform series 14 mm, of lower molariform series 15½ mm; distance between upper P¹-alveole and I¹-alveole 23½ mm, between lower P¹-alveole and tip of mandible 17 mm; distance between outer edges of upper P¹-alveoles 19¾ mm; combined breadth of both lower I at top 6 mm.

Skull-measurements: Table 14. — Interparietal bone distinct (entire, Sylv. 6).

Body-measurements: Table 15.

Colour-design, roughly characterized: Upperparts pale brownish-yellow, strongly varied with black; lower sides paler and losing blackish admixture; conspicuous white areas on upperpart of throat, above and round the eye, at rhinarium-border, on breast and abdomen; black areas near eyes and on ear-tops. — Upperpart of body light brownish-yellow, sometimes very slightly reddish, strongly varied with black; hairs broadly banded with yellow above the middle, blackish and often brownish above, greyish below and becoming colourless towards base (20–24 mm long). Lower sides paler, with less black, more greyish-yellow. Nape-patch downey, light yellowish-brown, not darker medianly. Frontal region of head yellowish-brown, finely varied with black, sometimes with very slight concentrations of black at lateral borders; hairs banded with light brownish-yellow near the middle, blackish above, dark-grey or blackish below and becoming colourless near base (10–12 mm long); losing fine punctuated appearance towards nose. Crown more brownish-yellow with finer punctuations; occipital-region, between ears, yellowish-brown. Nostrils very narrowly bordered above by whitish-grey, with more white below, forming a rather small white spot at corner. Lateral part of upper and underlip white or whitish, running into the white of upperpart of throat and lowest part of jaw. Chin greyish or whitish, slightly darker medianly. Sides of nose and cheeks light brownish yellowish-grey, somewhat more strongly coloured and varied with black on the latter, with more or less irregular and vague black concentrations at back, upper and lower-sides; vibrissae blackish (to 75 mm long). Around the eye a distinct whitish or greyish zone, broadest on upper posterior part, narrowest below anterior part of eye, forming a rather distinct white area both behind and in front of the eye. Eyelashes black, upper one strongly marked; eyebrows black (to 35 mm long); a very slight concentration of black near eyebrow. Below and behind whitish eye-zone as far as the ear-base, slight irregular concentrations of black, forming a rather indistinct blackish spot behind the eye, with a vague blackish concentration below anterior eye-corner. Outside of ear with short, thin hairs, light yellowish or brownish-grey at base posteriorly, passing gradually to blackish on the anterior upper part. Inside of ear scarcely covered with soft, pale yellowish-grey hairs, the anterior lower margin with longer, whitish hairs. Base of ear with a vague light-greyish area latero-posteriorly. Lower part of throat pale yellowish-grey or dingy greyish-yellow. Breast, abdomen and inguinal region white or whitish. Upper part of forelimbs pale brownish-yellow anteriorly, lower part more greyish, yellowish-white or light grey on feet; innerside paler, whitish above. Hindlimbs brownish-yellow postero-externally, passing to yellowish-grey on the postero-internal part; whitish or greyish on top of phalanges; antero-internal region white. Soles dingy yellow-brown or more greyish. Upperside of tail dull yellowish-brown; underside dingy pale yellowish-grey.

Rather common on the Península de Araya and in other parts of Sucre, in Carabobo, Falcón and ?Aragua.

ARAYA, Manglillo, Chacopata, 26.VI.1936 (Sylv. 6A).

According to the description of Thomas, *Sylvilagus valenciae* might be considered identical with *S. cumanicus*, possibly even with the typical subspecies.

TABLE 15.

Body - measurements in adult *Sylvilagus*
(in mm; dead specimens; *f.m.* = field-measurement)

Locality	Goajira	Araya	Testigos	Margarita	Curaçao	Aruba
Number	1-5	6	7-8, 10-11	13-16	22-27, 1 s.n.	29, 31-35, 37-38
Sex	2 ff. 3 mm.	1 m.	4 ff.	3 ff. 1 m.	4 ff. 3 ?	3 ff., 4 mm., 1 ?
Condylobasal-length of skull	61½-65 -67	70	64½-66½-69½	65½-68 -70½	60 -61½-64½	60 -61 -62½
Zygomatrical breadth of skull	32 -33½-35½	36	35½-36 -36½	35 -35½-37½	32 -33½-34½	32½-33 -34½
tip of nose — tip of tail-vertebrae <i>f.m.</i>	? 410-440 ?	460	395-405-420	? 430-450 ?	? 420 ?	? 420 ?
tip of nose — tuberosity of ischium	360-420 ?	—	390-395-410	? 430-450 ?	? 360 ?	? 350-370 ?
length of tail-vertebrae from axil <i>f.m.</i>	? 24-26 ?	18	28-31-32	? 34-38 ?	? 25-30 ?	? 15-25 ?
tip of nose — tip of ear, greatest distance	155-160-170	165	160-165-175	140-150-160	140-145-155	135-145-150
ear-length, from crown <i>f.m.</i>	? 70 ?	75	65-70-70	? 70 ?	? 70 ?	? 70 ?
ear-length, from crown	60-64-66	72	60-64-66	56-60-66	55-60-65	55-62-68
ear-length, from notch	54-55-57	63	52-53-54	52-54-57	50-52-56	52-53-55
ear-width, stretched	40-41-42	47	36-38-39	38-39-40	35-36-38	35-36-38
ear-width, not stretched <i>f.m.</i>	31-32-33	35	27-30-32	29-30-31	? 28 ?	? 28 ?
fore-limb, from olecranon to top of claws	100-103-110	—	95-105-110	105-110-110	? 88-94 ?	? 88-94 ?
fore-foot, from carpus to top of claws	40-43-45	40	40-44-46	43-45-45	35-38-39	35-37-39
hind-limb, from tuberosity of tibia to top of claws	145-150-160	—	140-150-155	? 155 ?	? 132-140 ?	? 132-140 ?
hind-foot, from tuber calcanei to top of claws	82-85-88	85	80-85-85	85-85-90	75-78½-85	75-78-80

Sylvilagus cumanicus superciliaris
(J. A. Allen, 1899) J. A. Allen, 1904

Lepus superciliaris Allen, J. A., 1899, p. 196 [Bonda near Santa Marta, type-locality].

Sylvilagus superciliaris (J. A. Allen) Allen, J. A., 1904, p. 445; Osgood, 1910, p. 28; Allen, J. A., 1911, p. 249; Tate, 1933, p. 7.

Sylvilagus cumanicus superciliaris (J. A. Allen), Hummelinck, 1940, p. 67 [La Goajira].

Characters: Nape brownish-yellow. Forefoot 43—45 mm, hindfoot 85—88 mm; ear-length from notch 55—57 mm, equals 1.35 ear-width, equals 0.85 condylobasal-length of skull. Condylobasal-length 65—67 mm, equals 1.9 zygomatic-breadth, equals 2.0 length of nasalbone; skull usually broadest at anterior outside of zygomatical-arches; interorbital-breadth behind posterior supraorbital processes $12\frac{1}{2}$ — $14\frac{1}{4}$ mm; alveolar-length of upper molariform series $13\frac{1}{2}$ — $14\frac{1}{2}$ mm, of lower molariform series $14\frac{1}{4}$ —15 mm; distance between upper P¹-alveole and I¹-alveole 22—23 mm, between lower P¹-alveole and tip of mandible $15\frac{3}{4}$ — $16\frac{1}{2}$ mm; distance between outer edges of upper P¹-alveoles $17\frac{3}{4}$ —18 mm; combined breadth of both lower I at top $5\frac{3}{4}$ —6 mm.

Skull-measurements: Table 14. — Interparietal bone distinct (entire, Sylv. 2 and 4, or with vertical suture, 3 and 5) or fused (1).

Body-measurements: Table 15.

Colour-design, roughly characterized: Upperparts pale yellowish, strongly varied with black; lower sides rather paler and losing blackish admixture; conspicuous white areas on upperpart of throat, round the eye, on breast and abdomen, underside of tail and at rhinarium-border; black areas near eyes and on ear-tops. — Upperpart of body pale yellowish, slightly brown, strongly varied with black (hairs 18—24 mm long). Lower sides rather paler, with less black, more brown. Nape-patch downey, light brownish-yellow, often slightly darker medianly and forming an indistinct line which fades in interscapular region. Frontal region of head brownish-yellow, finely varied with blackish, often with slight concentrations of black at lateral borders; hairs banded with very light yellow (10—12 mm long). Crown more yellowish-grey with finer punctuations. Nostrils often narrowly bordered above by whitish-grey, with more white below, forming a small white spot at corner. (Vibrissae up to 75 mm long.) Around the eye a distinct greyish-white zone, broadest on upper posterior part, often very narrow or interrupted below anterior part of eye, mostly forming a distinct whitish area both behind and in front of the eye. (Eyebrows up to 40 mm long.) Generally a slight concentration of black near eyebrow, sometimes forming a small elongated spot or even an indistinct blackish stripe. Below and behind whitish eye-zone as far as the ear-base, slight irregular concentrations of black, usually forming a distinct blackish spot behind the eye, with a vague blackish concentration below anterior eye-corner. Outside of ear with short, thin hairs, whitish-grey at base posteriorly, passing gradually to blackish on the anterior upper part and on posterior upper margin, with a very narrow edging of white. Lower part of throat strongly yellowish-brown or brownish-yellow. Upper part of forelimbs pale yellowish-brown anteriorly, lower part more greyish, sometimes whitish or greyish on feet. Hindlimbs

yellowish-brown postero-externally, passing to yellowish-grey on the postero-internal part. Upperside of tail dull yellowish-brown, very finely punctuated by black-tipped hairs; underside whitish or white.

Rather often found in the Península de la Goajira and in the district of Santa Marta.

GOAJIRA, El Cardón, 27.I.1937 (Sylv. 1L); Rio Hacha, 20.I.1937 (2L—5L).

Sylvilagus cumanicus margaritae
(Miller, 1898) O. Thomas, 1900

Lepus brasiliensis, Robinson, 1896, p. 651 [Margarita].

Lepus margaritae Miller, 1898, p. 97 [Margarita, type-locality, cf. Robinson, 1896]; Robinson et Lyon, 1902, p. 162; Allen, G. M., 1902, p. 95 [Margarita].

Sylvilagus margaritae (Miller) Thomas, 1900, p. 357; Osgood, 1910, p. 29 [Margarita]; Thomas, 1920, p. 32; Pittier et Tate, 1932, p. 258; Tate, 1933, p. 7.

Sylvilagus cumanicus margaritae (Miller), Hummelinck, 1940, p. 68 [Margarita]; Hummelinck, 1940 (Zoogeogr.), p. 110.

Characters: Nape pale yellowish-brown. Forefoot 45—45 mm, hindfoot 85—90 mm; ear-length from notch 54—57 mm, equals 1.4 ear-width, equals 0.8 condylobasal-length of skull. Condylobasal-length 68—70½ mm, equals 1.9 zygomatic-breadth, equals 1.9 length of nasalbone; skull usually broadest at anterior outside of zygomatic arches; interorbital-breadth behind posterior supraorbital processes 14¾—15½ mm; alveolar-length of upper molariform series 14½—15 mm, of lower molariform series 14¾—15¾ mm; distance between upper P¹-alveole and I¹-alveole 23—24 mm, between lower P¹-alveole and tip of mandible 18—19 mm; distance between outer edges of upper P¹-alveoles 19—20 mm; combined breadth of both lower I at top 6—6 mm.

Skull-measurements: Table 14. — Interparietal bone distinct (entire, Sylv. 12—16).

Body-measurements: Table 15.

Colour-design, roughly characterized: Upperparts pale yellowish, rather strongly varied with black; lower sides rather paler and losing blackish admixture; conspicuous white areas on upperpart of throat, round the eye, on breast and abdomen and at rhinarium-border; black areas near eyes and on ear-tops. — Upperpart of body pale yellowish, slightly brown, usually rather strongly varied with black (hairs 20—28 mm long). Lower sides rather paler, with less black, less brown. Nape-patch downey, pale yellowish-brown, rather often greyish, often slightly darker medianly and forming an indistinct line which fades in interscapular region. Frontal region of head brownish-yellow, finely varied with blackish, often with slight concentrations of black at lateral borders; hairs banded with light yellow (9—16 mm long). Crown somewhat more yellowish-grey with finer punctuations. Nostrils sometimes narrowly bordered above by whitish-grey, with more white below, forming a white spot at

corner. (Vibrissae up to 65 mm long.) Around the eye a distinct whitish zone, broadest on upper posterior part, often very narrow or nearly interrupted below anterior part of eye, forming a whitish area both behind and in front of the eye. (Eyebrows up to 35 mm long.) Often a slight concentration of black near eyebrow. Below and behind whitish eye-zone as far as the ear-base, sometimes slight irregular concentrations of black, usually forming a rather distinct blackish spot behind the eye. Outside of ear with short, thin hairs, light yellowish-grey at base posteriorly, passing gradually to black on the anterior upper part and to blackish on posterior upper margin. Lower part of throat dingy pale brownish-grey or yellowish-grey. Upper part of forelimbs brownish-yellow anteriorly, lower part more greyish. Hindlimbs yellowish-brown postero-externally, passing to greyish-yellow on the postero-internal part. Upperside of tail dull light yellowish brown-grey, very finely punctuated by black-tipped hairs; underside dingy, often somewhat yellowish, whitish-grey.

Colour-design in young specimens principally the same; upperparts however, yellowish-grey, very finely varied with black; white areas more purely white; soles dingy greyish; upperside of tail dull greyish, underside light brown-greyish.

Rather often occurring in the eastern part of Margarita, more common in Macanao, the western part. According to the surprising record of Capt. Robinson they were, about 1895, so plentiful, that they were „split and dried like codfish and brought by the boat load to La Guaira for sale.”

MARGARITA, Los Robles, 5.VI.1936 (Sylv. 12L—13L); San Antonio, 27.V.1936 (14L); Laguna Dulce, Macanao, 20.V.1936 (15U—16U); Por-lamar, 2.VI.1936 (17L, 18A—19A, 20L).

Sylvilagus cumanicus avius Osgood, 1910

Sylvilagus avius Osgood, 1910, p. 29 [Testigo Grande, type-locality];

Pittier et Tate, 1932, p. 259; Tate, 1933, p. 7.

Sylvilagus cumanicus avius Osgood, Hummelinck, 1940, p. 68 [Isla de Conejo, Testigos-islands]; Hummelinck, 1940 (Zoogeogr.), p. 110.

Characters: Nape pale yellowish-brown. Forefoot 44—46 mm, hindfoot 85—85 mm; ear-length from notch 53—54 mm, equals 1.4 ear-width, equals 0.8 condylobasal-length of skull. Condylobasal-length $66\frac{1}{2}$ — $69\frac{1}{2}$ mm, equals 1.85 zygomatical-breadth, equals 1.9 length of nasalbone; skull usually broadest at anterior outside of zygomatical arches; interorbital-breadth behind posterior supraorbital processes 15— $15\frac{1}{2}$ mm; alveolar-length of upper molariform series 15— $15\frac{1}{2}$ mm, of lower molariform series 16— $16\frac{1}{4}$ mm; distance between upper P¹-alveole and I¹-alveole 24— $24\frac{1}{2}$ mm, between lower P¹-alveole and tip of mandible $17\frac{1}{2}$ —18 mm; distance between outer edges of upper P¹-alveoles $20\frac{1}{4}$ — $21\frac{1}{2}$ mm; combined breadth of both lower I at top $6\frac{3}{4}$ —7 mm.

Skull-measurements: Table 4. — Interparietal bone distinct (entire, Sylv. 8 and 10, or with vertical suture, 11).

Body-measurements: Table 5.

Colour-design, roughly characterized: Upperparts pale yellowish-grey, rather strongly varied with black; lower sides paler and losing blackish admixture; conspicuous white areas on upperpart of throat, round the eye, on breast and abdomen and at rhinarium-border; black areas near eyes and on ear-tops. — Upperpart of body pale brownish yellowish-grey, rather strongly varied with black (hairs 16—22 mm long). Lower sides paler, with less black, less brown. Nape-patch downey, pale yellowish-brown, often slightly darker medianly and forming a very indistinct line which fades in interscapular region. Frontal region of head brownish-yellow, finely varied with blackish, often with slight concentrations of black at lateral borders; hairs banded with light yellow (6—10 mm long). Crown somewhat more yellowish-grey with finer punctuations. Nostrils often bordered by white below, usually forming a small white spot at corner. (Vibrissae up to 50 mm long.) Around the eye a rather distinct greyish-white zone, broadest on upper posterior part, often very narrow or nearly interrupted below anterior part of eye, forming a whitish area both behind and in front of the eye. (Eyebrows up to 40 mm long.) Often a slight concentration of black near eyebrow. Below and behind whitish eye-zone as far as the ear-base, often irregular concentrations of black, usually forming a blackish spot behind the eye. Outside of ear with short, thin hairs, light yellowish-grey at base posteriorly, passing gradually to blackish on the anterior upper part and, often, on posterior upper margin. Lower part of throat dingy pale brownish-yellow. Upper part of forelimbs brownish-yellow anteriorly, lower part more greyish. Hindlimbs yellowish-brown postero-externally, passing to greyish-yellow on the postero-internal part. Upperside of tail dull yellowish brown-grey, very finely punctuated by black-tipped hairs; underside dingy pale yellowish-grey.

Common on the small, uninhabited Isla de Conejo, Islas de los Testigos. Not found on Tamarindo (Testigo Grande), the type-locality of this insular form; according to local inquiries no "rabbits" occur on this island.

TESTIGOS, Isla de Conejo, 17.VI.1936 (Sylv. 7L—9L, 10A—11A).

Only differing from *Sylv. cum. margaritae* in having a broader skull with heavier dentition.

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