

Notes on the chelid turtle *Phrynops rufipes* in Colombia

(Reptilia: Testudines: Chelidae)

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With 7 figures

Introduction

The genus *Phrynops* as presently recognized comprises nine species distributed exclusively in South America and Trinidad (PRITCHARD 1979). Few data are available for the majority of the members of the genus and one of them, *Phrynops hogei* MERTENS 1967, was known only from the holotype until its recent rediscovery (MITTERMEIER et al. 1980, RHODIN et al. 1982). Due to the paucity of collected specimens, the red side-necked turtle, *Phrynops rufipes*, remains one of the least known of all chelonians. Published accounts mention only five complete specimens and three shells (PRITCHARD 1979), although a few other specimens do exist in collections (PRITCHARD & RHODIN, in prep.). The species has also recently been listed as rare in the IUCN Red Data book (RHODIN 1982).

Described by SPIX (1824) on the basis of a specimen from the río Solimões (= upper Amazon), Brazil, *Phrynops rufipes* has subsequently been discovered at three sites in the state of Amazonas, Brazil: near Manaus (MÜLLER 1966), at Carauari (río Juruá), and at Iauaretê (río Papurí) (PRITCHARD & RHODIN, in prep.). A probably incorrect Brazilian record also exists for Pôrto Epitacio on the río Paranã (GRÜN WALDT 1980). PRITCHARD (1979) obtained a specimen from "Leticia" (Colombia) but its origin cannot be safely ascertained as Leticia has long served as an export conduit for Peruvian and Brazilian wildlife as well as Colombian fauna. In a report on *P. rufipes* from a single locality in Colombia, MEDEM (1975), provided data on shell measurements, external morphology, coloration, maximum size, sexual dimorphism, ecology, behavior in captivity and distribution within Colombia.

In this paper, based upon a series of nineteen whole and five partial specimens, we provide supplemental data for all of the above-mentioned areas, discuss the first male specimens known from Colombia, report the largest specimens thus far encountered, cite six new Colombian localities including the first record from Amazonas, and describe the first eggs known from this species.

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Materials and methods

Fourteen specimens of *Phrynops rufipes* were obtained as the result of two expeditions into the Comisaría del Vaupés, Colombia. The first trip occurred between March and May, 1979; the second trip, in February, 1982. An additional ten specimens from five localities in Colombia were obtained incidental to our own efforts. Living specimens were maintained at the Dallas Zoo, Dallas, Texas; and at the Estación de Biología Tropical "Roberto Franco", Villavicencio, Meta, Colombia. Methods of collection and captive maintenance are discussed elsewhere in this paper. Upon death, specimens were fixed in 10% formalin and stored permanently in 70% ethyl alcohol.

Measurements follow MEDEM (1976) and include length of carapace, plastron, and interabdominal seam, carapace width, overall depth (at center), and weight. All linear measurements were made to the nearest millimeter with vernier calipers. Specimens were weighed to the nearest gram on an OHAUS triple beam balance scale. Photographs are by WWL.

Specimens examined

Specimens from the following herpetological collections were examined:

- EBTRF Estación de Biología Tropical "Roberto Franco", Villavicencio, Meta, Colombia.
TCWC Texas Cooperative Wildlife Collection, Texas A&M University, College Station, Texas.
WWL/BL William W. Lamar field collection.

Specimens are from the following localities within Colombia:

Comisaría del Vaupés

1. Caño Colorado (= Caño Querari), tributary of the río Pirá-paraná: (70°31'W; 0°2'N): [EBTRF-887 (skull and shell), EBTRF-11 (eggs), EBTRF-891-892, (S. HUGH-JONES private collection)].
2. Caño Golondrina, tributary of Caño Tí (= río Tí-Paraná) (70°27'W; 1°1'N): [EBTRF-"4", EBTRF-965, BL-922, TCWC-60671, EBTRF-"5"].
3. Caño Monserero (= Caño Yapuí), tributary of Caño Tí (70°26'W; 1°4'N): [EBTRF-881-886, WWL-3009, BL-923].

4. Near San Pedro del Tí (on a tributary of Caño Golondrina): [EBTRF-"1", EBTRF-961-962].
5. Internado Sónaña, upper río Pirá-paraná (70°37'W; 0°12'N): [EBTRF-960].
6. Caño Uirará, tributary of the río Papurí (70°3'W; 0°33'N): [EBTRF-"3"].

Comisaría del Amazonas

1. Puerto Guayabo, río Miritiparaná (70°21'W; 1°3'S): [EBTRF-"2", EBTRF-964].
- Note: provisional numbers assigned to living specimens are in quotes.

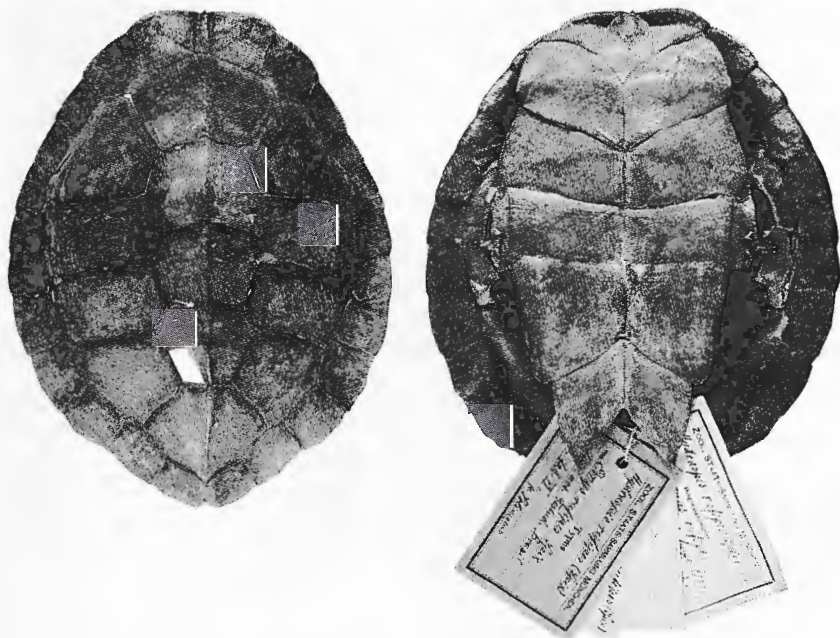


Fig. 1. *Phrynops rufipes*. Carapace, and plastral views of the holotype. Zoologische Staatssammlung München.

Shell measurements and external morphology

Dimensions for twenty-four specimens are reported in Tab. 1. The SPix holotype, a male, had a "body length" of nine "polls" (= 243 mm), there being some doubt previously as to whether this represented the length of the carapace or of the entire specimen (MEDEM 1975). BOULENGER (1889) stated that the shell length was 25 cm. GRZIMEK (1971) also listed 25 cm as maximum length for *P. rufipes*. WERMUTH & MERTENS (1961) provided an illustration of the holotype and listed the carapace length as "22 cm". RHODIN (pers. comm.) has recently examined the holotype (München 3006/0) and the carapace length

proves to be 198 mm (Fig. 1). The example collected by MÜLLER is a male with a carapace length of 215 mm (MERTENS 1967).

The present series includes six specimens which exceed 215 mm in carapace length and of these one is larger than 250 mm. The latter is a female (EBTRF-965) with a carapace 256 mm in length. Another female (EBTRF-887) with a carapace length of 240 mm was gravid when collected. It is probable that maximum size for female *Phrynopis rufipes* does not exceed 300 mm.

MEDEM (1975), basing observations upon the females in his series and the male collected by MÜLLER, stated that the tail of a male *Phrynopis rufipes* is notably longer and thicker than that of a female. Examination of the present series tends to corroborate this. Moreover, male specimens differ from comparably sized females in plastron and interabdominal seam lengths, with females yielding larger dimensions. This suite of characters is not readily apparent in small to medium specimens. In fact the smallest externally identifiable male measures 142 mm in carapace length.

Conversely, the largest male clearly shows all of the above-mentioned characters, a well-defined plastral concavity, and is noticeably narrow across the abdominal, femoral, and anal laminae. Of the six largest specimens in the present series, all are females. Although males only constitute ~21% of the material examined, it seems likely that females grow to a larger size [$\bar{X} \text{♂ CL} = 160.0 \pm 27.1 \text{ mm}$ (128-199), $n = 5$; $\bar{X} \text{♀ CL} = 181.6 \pm 45.6 \text{ mm}$ (115-256), $n = 16$]. This has proven true for at least four other species of the genus *Phrynopis* (MEDEM 1975).

Other variations in external morphology are generally accommodated by MEDEM's (1975) discussion. Although intergular irregularities have been found in two specimens of *Phrynopis rufipes*, none appear in the present series. The forefoot normally bears five claws while the hindfoot has four. There are five digits present on the hindfoot but the posteriormost is reduced in size and non-emergent. This fifth digit supports a dermal crest which would appear to aid in swimming. For details regarding cranial morphology, see Fig. 2 (A-D).

Coloration

Previously published color descriptions (MEDEM 1975, PRITCHARD 1979) are adequate for typical juvenile and young adult specimens of *P. rufipes*. It should be noted, however, that considerable individual variation exists with regard to the black markings on top of the head. The following description of an older adult demonstrates that the possibility of ontogenetic color change cannot be discounted.

An adult female (EBTRF-887) upon capture showed the characteristic red skin color only on the underside of the head and cheeks and in the region around the cloaca. Even this was noticeably weak and of a grayish hue. The top of the head was black and no black lateral stripe could be discerned. The tail and lower portions of the legs were very dark gray, verging on black. The remaining upper parts were grayish-white, with an abrupt color change between upper and lower legs. The effect was as if the lower portions of the limbs had been dipped into dark fluid (S. HUGH-JONES, in litt.).

Three other large females (EBTRF-965, EBTRF-“1”, EBTRF-“2”) have also lost the characteristic red color over much of the dorsal and lateral regions of the head, instead being a dark gray in color. The black lateral stripe from snout to tympanum is virtually obliterated in these specimens, and what red remains (cheeks, neck, and limbs) is reduced to a pinkish color. All other specimens have a striking red color over much of the head and soft parts (Fig. 3).

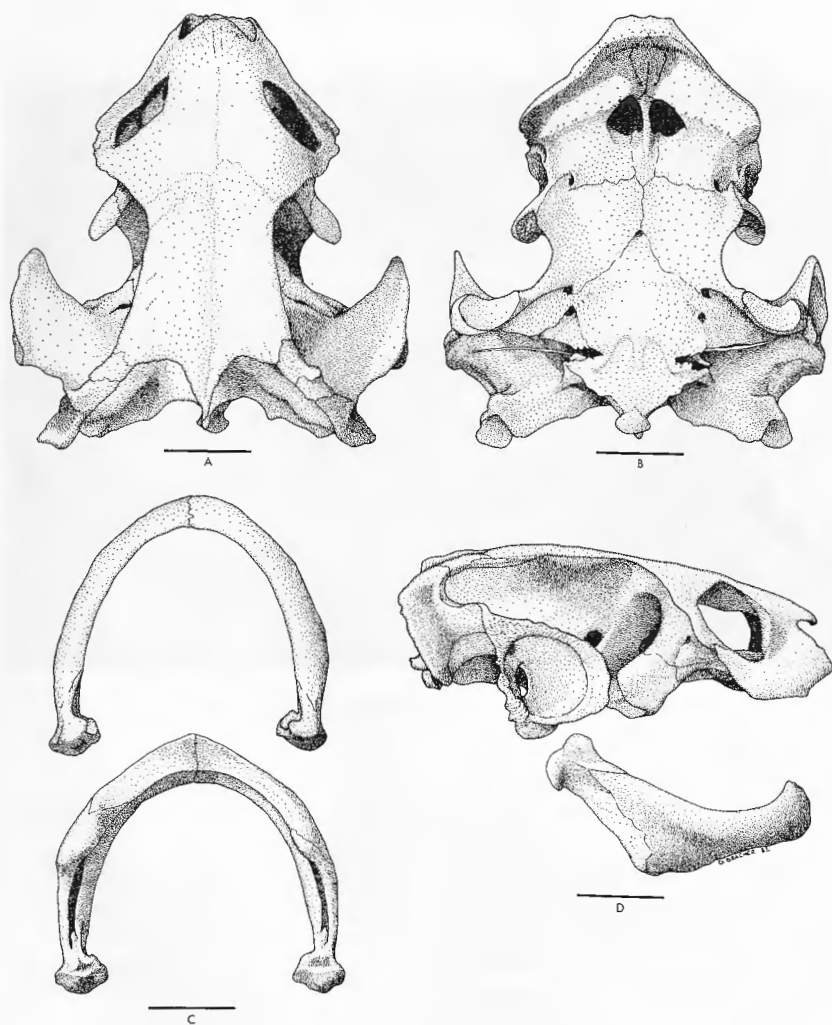


Fig. 2. Skull and mandible of *Phrynops rufipes* (♀, EBTRF-887). — A) Dorsal; B) ventral; D) lateral views; C) mandible. Bar = 1 cm.

Observations of *Phrynops rufipes* both at the time of capture and during captivity have shown a distinct chromatic change involving the intensity of red pigment in the skin. The specimen illustrated (Fig. 3) was photographed when freshly captured. Eighteen months after its capture the same specimen showed a markedly diminished intensity of color, tending to appear duller red. This has been true with all other specimens maintained in captivity. It seems likely that this change reflects a dietary alteration but the roles played by stress and physiologic disorders (see later, this paper) could also be significant.



Fig. 3. The red side-necked turtle, *Phrynops rufipes* (♂, TCWC-60671).

Ecological aspects

GRZIMEK (et al., 1971) lists *Phrynops rufipes* and *Phrynops geoffroanus* as occupying the same type of habitat: fairly large, often rapidly flowing waters. Observations in Colombia do not tend to support this. MEDEM (1975) describes the habitat of *P. rufipes* as consisting of small creeks and tributaries of larger rivers with specimens being located in both "black" and "white" waters (SIOLI 1967) coursing through humid tropical rainforest. Two of the collecting sites for the present series bear discussion, as they serve to illustrate the habitat of the red side-necked turtle.



Fig. 4.
Habitat of *Phrynops
rufipes*. Caño Monse-
rero, Vaupés, Colom-
bia.

Caño Monserero is a closed-canopy clear-water creek (Stoli 1975) which flows into lower Caño Tí from the east, passing in its entirety through undisturbed primary forest (Fig. 4). The current is relatively strong and the water is always somewhat opaque due to turbidity. There are no rocks at all in the area but leaf-litter covers the substrate to a considerable depth. Beneath this the soil is composed almost entirely of clay and is very adherent. The fish fauna included various small characids as well as a variety of pimelodid and doradid catfish. The only sizeable species observed were *Crenicichla* sp. (Cichlidae), *Leporinus* sp. (Anostomidae), and the catfish *Pseudoplatystoma fasciatum* (Pimelodidae). According to the Indians there are no *Serrasalmus* (Characidae) in this creek although there are at least three species in Caño Tí. An abundance of fresh-water shrimp (*Macrobrachium?*) was noted. Streamside associates were discussed in an earlier paper (Dixon & Lamar 1981). Water temperature (April) was 24°C. Elevation of the surrounding area is 235 m.

Caño Golondrina is a closed-canopy black-water creek which has its origin at an enormous cascade which descends from a Guiana massif remnant known as Winonautãã (= Wind Mountain) to the Karapana Indians. Caño Golondrina drains the southeastern corner of this mountain and flows into the middle reaches of Caño Tí from the west, passing through undisturbed primary forest. The current is somewhat slower (except after rains) than Caño Monserero, and the water is reddish-brown in color, lacking visible suspended matter. The substrate consists of white sand and leaf litter but the extreme upper reaches are quite rocky. The fish fauna included numerous rivulins and small ageniosid catfish. Water temperature (April) was 22.5°C. Caño Golondrina is notably shallower and lower-banked than Caño Monserero.

Other species of turtles were observed in Vaupés, but not in the same habitat as *P. rufipes*. Two sympatric congeners were encountered: *Phrynops gibbus* and *P. geoffroanus tuberosus*¹. The former is slightly smaller than *P. rufipes* (MITTERMEIER et al. 1978) and was located along Caño Tí at night in stagnant clear forest ponds with deep leafy substrates. However, it is known to inhabit streams elsewhere in its range (MITTERMEIER et al. 1978) and presumably occupies them in Vaupés as well, particularly during drier periods when the forest ponds are non-existent. The larger *Phrynops geoffroanus tuberosus* was only seen along the borders of Caño Tí, frequently climbing to considerable heights in the trees of adjacent flooded forest, or basking in small groups on logs in secluded back-water areas.

Caño Tí itself may be classed as a small open-canopy black-water river which flows into the río Vaupés from the south. While *P. rufipes* could conceivably be found in this and larger rivers, it is unlikely that its presence there would be due to anything other than the effect of swift floodwaters. Available collecting data for other specimens in the present series corroborates the notion that *Phrynops rufipes* is essentially an inhabitant of small closed-canopy creeks.

The red side-necked turtle is a primarily carnivorous omnivore. Stomach contents have consisted of freshwater crabs, small shrimp, fish, and the seeds of two varieties of palm: Assai (= "mihi", *Euterpe oleracea*) and Paxiuba (= besuwu, *Iriartea exorrhiza*). Upon dissection one specimen (EBTRF-887) contained all of the preceding items partitioned into three "chambers" of the stomach. The upper portion contained fish and crustacean remains while the lower two portions were filled with palm seeds (virtually all were *Euterpe*) and unidentifiable digested material. The surface of the seeds was heavily abraded, suggesting a possible gastrolithic function. Moreover, no seeds were found in the intestines (S. HUGH-JONES, in litt.).

These turtles will feed opportunistically upon hooked fish and five specimens were once located devouring a *Hoplias malabaricus* (Erythrinidae) in just such a situation (S. HUGH-JONES, in litt.). *Phrynops rufipes* has been captured by Indians using hooks baited with wasp larvae or earthworms. A technique

¹ The Colombian race of this turtle has traditionally been referred to as *Phrynops geoffroanus tuberosus*; however, its specific status is in need of further clarification as it differs considerably from the nominate form.

which will attract specimens involves submerging a burlap bag filled with chopped fish, and placing baited lines in the vicinity.

In captivity *Phrynops rufipes* has accepted raw fish or a diet consisting of varying combinations of the following: commercial dog chow, pelleted turkey food, beef heart, horsemeat, whiting, oyster flour, and a vitamin-mineral supplement. Two specimens (WWL-3009; TCWC-60671) showed a particular fondness for neonate mice and adult mouse entrails (Dallas Zoo staff, pers. comm.). The seeds of *Euterpe oleracea* (Palmaceae) were eagerly accepted, yet one specimen (EBTRF-885) died shortly after gorging upon them. Captive observations show *P. rufipes* to be a scavenger, foraging along the bottom for anything small enough to be swallowed.

Aside from humans, the ocelot (*Felis pardalis*) is the only predator which the Karapanas definitely know to feed upon *Phrynops rufipes*. Other likely enemies include felids, mustelids, large fish, and the large aquatic snakes *Eunectes murinus* and *Hydrodynastes bicinctus*. A captive red side-necked turtle (EBTRF-962) was attacked, killed, and partially devoured by a crested caracara (*Polyborus plancus*) and an unidentified captive hawk. One specimen (EBTRF-887) upon capture was found to contain five (nematode?) parasites in the lower stomach as well as leeches clinging to the soft parts around the bases of the limbs (S. HUGH-JONES, in litt.).

Both captive and wild-living specimens of *P. rufipes* have been observed to frequently suffer from a chronic bacterial infection which causes lesions beneath the scutes on the carapace, plastron, and on parts of the head and body. Appearing very rapidly following any sort of mild abrasion or perforation of the shell, these lesions produce caseous pus and eventually result in the degeneration of bony material and a proliferation of fibrous connective tissue. Thus far, all but one (EBTRF-"2") of the captives which have become infected have died as a result. Postmortem laboratory analysis on one specimen (TCWC-60671) indicates *Proteus morgani* to be the pathogen in question.

The red side-necked turtle is known to the Karapanas as "uwi-oui" and its meat and eggs are eaten by them. It is also consumed by the Tuyukas along the río Papurí (W. F. PYBURN, pers. comm.). However, the Barasana in the Caño Colorado region are not fond of it (it is eaten only occasionally) and further state that consumption of its eggs will result in an urtication (S. HUGH-JONES, in litt.). Interestingly, *Phrynops geoffroanus (tuberosus)* has important religious symbolic associations for the Desana of Vaupés and as such its consumption is forbidden. Violation of this taboo is said to cause fevers, vomiting, and a violent skin rash (REICHEL-DOLMATOFF 1971). One of the *P. rufipes* specimens examined is a shell which had been converted by the Barasana into a musical instrument. The Karapana are known to do this as well.

Occurrence and behavior

The red side-necked turtle is a timid species, apparently spending much of its time hidden beneath submerged underbrush and leaf litter. It is highly aquatic and rarely seen during the daytime. In captivity the same secretive

behavior was noted, although the two specimens at the Dallas Zoo were seen to bask (mid-morning and mid-afternoon) beneath a 150 watt incandescent lamp with head and feet extended. Specimens maintained at Villavicencio also basked but avoided the stronger rays of the sun and were quick to enter the water when disturbed (MEDEM 1975).

Recent observations at Villavicencio have shown captive *P. rufipes* to be primarily active at night, frequently leaving the water and hiding among dried vegetation in the enclosure (sometimes for a day or more). On rare occasions captives have been seen to leave the water in mid-morning or mid-afternoon. MÜLLER (1966) mentioned having seen the tracks of the specimen he collected; perhaps it had been basking. The majority of the present series of *P. rufipes* was collected at night and one informant reported having seen them foraging on the bottom of pools after dark (V. VALENCIA, pers. comm.). Interestingly, the Karapanas claim to have seen them in groups of as many as six, more or less together, walking on the forest floor at night! Time of year was not indicated.

Nothing is known about territoriality, population density, and social interactions of the red side-necked turtle although some effort is being made in the Manaus region of Brazil (W. MAGNUSON, pers. comm.). Specimens maintained together in Villavicencio evinced no aggressive behavior. However, a male specimen (WWL-3009) attacked a smaller male (TCWC-60671) when the two were placed into the same aquarium. The latter suffered lesions on the head and neck.

Seasonal abundance is difficult to establish due to the secretive nature of *Phrynops rufipes*. They are more easily encountered during periods of low water when fishing activities are likely to bring Indians into contact with them, but collection data (Tab. 1) show that the red side-necked turtle has been located during high water as well. MÜLLER (1966) collected his specimen at the outset of the rainy season (January in the Manaus region) and SPIX (1831) also found the holotype during a period of high water.

Fish for food are gathered by the Indians via various methods in the Caño Tí region. These efforts are primarily concentrated upon the rivers themselves, but two methods are utilized in the forest creeks and can result in *Phrynops rufipes* captures. Set lines are placed during all seasons and consist of baited hooks tied singly on short lengths of twine and affixed to the bottom of a slender pole. This pole is placed vertically into the substrate in moderately deep water at twilight, and is baited with worms. These not infrequently produce *P. rufipes* and indicate at least some sort of activity period either during the night or in early morning. Possibly, the turtle is aroused from inactivity by the smell of the bait.

Another method of fishing is the use of poison. This is accomplished via two varieties of plant toxins and done strictly by day at low-water during the dry season. One variety, known as "Barbasco", is produced by macerating roots and stems of a woody vine (*Phyllanthus* sp.) and immersing the conglomeration into an isolated pool or a dammed-off section of a creek (Fig. 5). The effect of this poison upon the turtles merits closer scrutiny in that some sources claim the *Phrynops* are obtained only because they arrive to feed upon the stunned fish while others refer to the turtles themselves as being affected by the poison.

Tab. 1. Dimensions of twenty-three specimens of *Phrynops rufipes*.

<i>P. rufipes</i>	Sex	Carapace Length (mm)	Plastron Length (mm)	Interabdominal Seam		Depth (mm)	Weight (g)	Collection Date	Collector
				Length (mm)	Width (mm)				
EBTRF-"1"	♀	225	201	178	162	67	850	26. II. 1982	A. RIVERA
EBTRF-"2"	♂	183	166	147	134	60	535	11. VIII. 1980	C. YUCUNA
EBTRF-"3"	♂	199	170	148	140	53	583	7. VIII. 1982	F. MEJÍA
EBTRF-"4"	♂	146	131	117	112	56	294	13. X. 1982	V. VALENCIA
EBTRF-881	♂	165	148	131	124	53	323	III. 1979	E. DULKA
EBTRF-882	♂	134	121	108	104	49	223	III. 1979	E. DULKA
EBTRF-883	♂	119	104	91	98	45	179	III. 1979	E. DULKA
EBTRF-884	♂	200	176	156	146	65	524	III. 1979	E. DULKA
EBTRF-885	♂	166	150	132	123	53	333	III. 1979	E. DULKA
EBTRF-886	♂	148	136	120	116	53	307	III. 1979	E. DULKA
EBTRF-887	♂	240	214	188	176	87	c. 2000+	14. VIII. 1979	S. & C. HUGH-JONES
EBTRF-891	♂	236	208	178	180	79	—	IX. 1979	S. & C. HUGH-JONES
EBTRF-892	♀	226	—	—	166	—	—	XI. 1979	S. & C. HUGH-JONES
EBTRF-960	Juv.	63	49	44	51	19	21	23. VIII. 1981	B. DÍAZ
EBTRF-961	Juv.	69	55	50	57	24	29	28. II. 1982	A. RIVERA
EBTRF-962	♀	155	141	126	119	59	350	26. II. 1982	A. RIVERA
EBTRF-964	Juv.	64	50	45	56	22	34	13. VII. 1982	P. TANIMUCA
EBTRF-965	♀	256	226	203	193	86	1600	27. II. 1982	A. RIVERA
No-±	♂	227	206	182	162	77	—	X. 1979	S. & C. HUGH-JONES
BL-922	♂	115	100	89	93	41	—	5. V. 1979	W. LAMAR
BL-923	♂	150	130	120	119	50	—	10. IV. 1979	W. LAMAR
WWL-3009	♂	142	127	112	115	52	—	20. V. 1979	W. LAMAR
TCWC-60671	♂	128	114	103	103	47	—	5. V. 1979	W. LAMAR
EBTRF-"5"	♀	146	135	120	115	55	310	10. XI. 1982	A. RIVERA



Fig. 5. Use of piscicide "Barbasco" by Karapana Indians. Nazareth, Caño Tí, Vaupés, Colombia.

Information gathered and personal observations indicate that the red side-necked turtle is not rare within its habitat in the Vaupés region of Colombia. Due to its secretive and probably nocturnal habits, it is seldom observed. Decreasing numbers of traditional "game" animals (monkeys, birds, etc.) have resulted in a shift in dietary preference among the Indians. They now consume animals which were previously only rarely deemed acceptable (including the chelid turtles *Platemys*, *Phrynops* and *Chelus*). This may have already had an impact upon *Phrynops rufipes* populations. Native informants have mentioned several waterways where the red side-necked turtle has allegedly disappeared within the past 2-3 years. *Phrynops rufipes* is listed as Insufficiently Known in the IUCN Red Data Book (RHODIN 1982), primarily because not enough data exists to say whether the species is Rare or Threatened. Threats to its survival in the Vaupés region of Colombia would constitute a significant threat to the species as a whole.

Reproduction

Interviews with local inhabitants produced varied comments about reproduction. Oviposition was said to occur from early June until late August (Tukano informant) and from December to February (Karapana informant).

Tab. 2. Eggs (EBTRF-11) from *Phrynops rufipes* (EBTRF-887).

Dimensions	Weight
41×37 mm	32.5 g
41×37 mm	33.0 g
42×38 mm	34.5 g
42×37 mm	32.5 g

On 14 August a female 240 mm in carapace length (EBTRF-887) was collected and found to contain four large eggs (EBTRF-11) with hard white shells (Tab. 2). There were also four enlarged follicles which were yellow with no shell, and a large number of small follicles (S. HUGH-JONES, in litt.). According to the Barasana Indians of Caño Colorado, the red side-necked turtle lays its eggs at the beginning of each dry season (August—September, December—February). This is in accordance with the state of the eggs found in EBTRF-887.

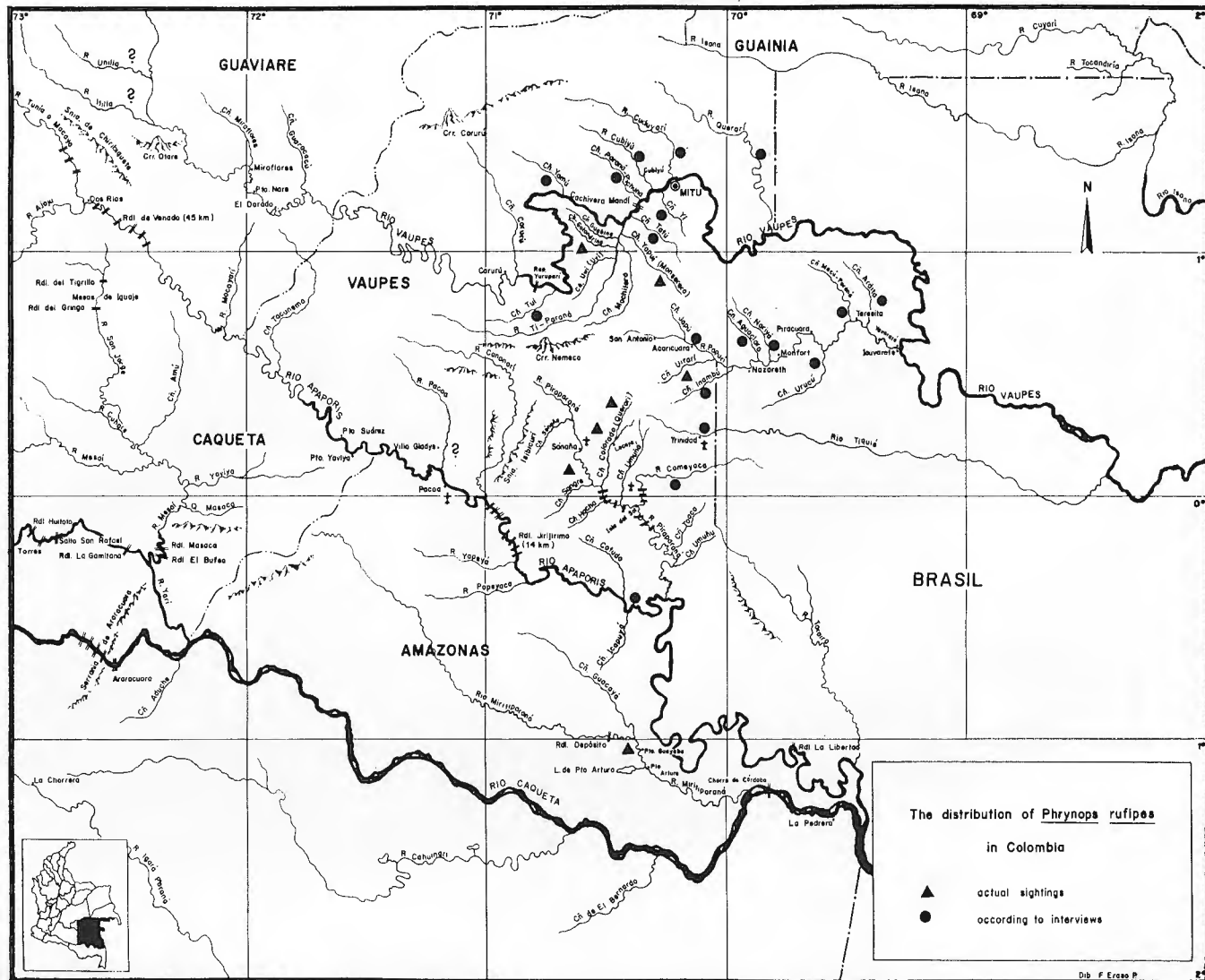
At present it is difficult to pinpoint the commencement and duration of seasons in the Vaupés region. Generally the dry season runs from December until March or mid-April, with rains and high water the rest of the year. An unpredictable "veranillo" or short dry spell can occur and when it does it is usually some time during July—September. Seasonal distinctions are further complicated by the fact that rain is frequent all year in the upper Amazon basin. In 1982 Caño Golondrina had high water in February!

Informants stated that *P. rufipes* lays "up to six eggs" (Barasana), "3-12 eggs" (Tukano), "six or more eggs" (Karapana). All agreed that the eggs are deposited in sand beaches adjacent to the creeks and with exposure to the sun. According to PASICO BARASANA, the female remains near the nest, entering the water upon a person's approach. The same informant stated that the young feed upon shrimp. The smallest specimen thus far observed (EBTRF-960) measured 63 mm (carapace) upon capture in August and probably represents a yearling.

Distribution

At present the red side-necked turtle has been found only in the Vaupés and Amazonas regions of Colombia and in the adjacent Brazilian state of Amazonas. Thus, *Phrynops rufipes* appears to be exclusively an inhabitant of the hylaea (Amazonian Biogeographic Province). All localities have been from tributaries of the upper half of the río Amazonas, primarily confined to the Vaupés/Negro and Caquetá/Japurá river systems. A record also exists for the río Juruá and this constitutes the only southern tributary of the Amazon for which *P. rufipes* has been recorded (PRITCHARD & RHODIN, in prep.).

There are unverified reports of *P. rufipes* as far up the Vaupés as Caño Itilla and Caño Unilla (Fig. 6). There are also rumors of its possible existence along the río Pacoa in the upper Apaporis. It is thus not unreasonable to postulate its occurrence in southern Venezuela along the Cauaburí or other tributaries of the upper río Negro. Moreover, the species could conceivably exist in eastern Perú



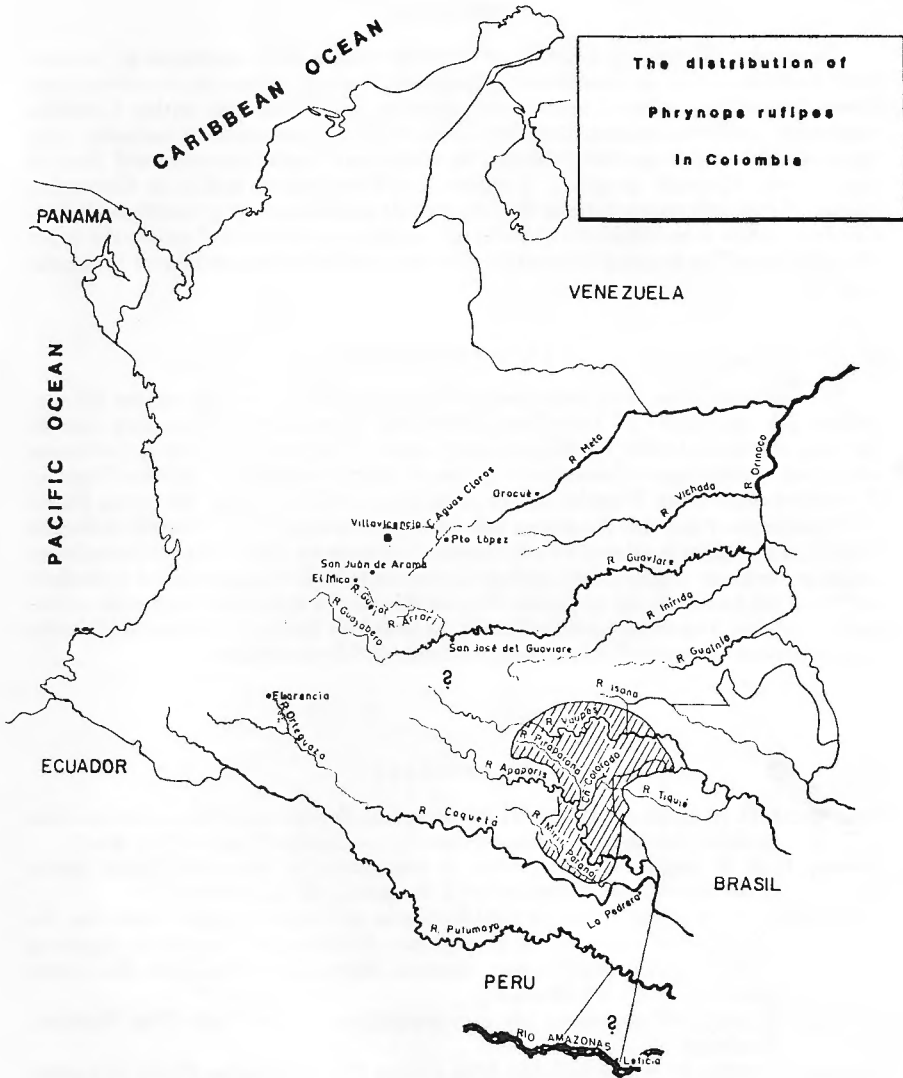


Fig. 7. The range of *Phrynosoma rufipes* in Colombia.

along the extreme upper Juruá. The seven collecting sites in Colombia along with reliable sight records and known range for that country are mapped in Figures 6 and 7.

Fig. 6. Collecting sites and reports of *Phrynosoma rufipes* in Colombia.

Summary

The number of reported specimens of *Phrynops rufipes* (8) is augmented by twenty-four. Additional data on dimensions, external morphology, coloration, maximum size, sexual dimorphism, ecology, behavior in captivity, and distribution within Colombia supplement published reports. Recently collected Colombian material includes: male specimens, the largest specimens known, the first record from Amazonas, and the first eggs known. Although secretive, *P. rufipes* is not uncommon within its Colombian habitat. Native informants indicate that the red side-necked turtle is primarily nocturnal. *Phrynops rufipes* is an inhabitant of the hylaea and has not been found outside the upper Amazon basin. The range of this turtle could conceivably include peripheral Venezuela and Perú.

Zusammenfassung

Die Zahl der bisher bekanntgewordenen Exemplare von *Phrynops rufipes* (8) vergrößert sich um weitere 24 Exemplare. Zusätzliche Daten über Maße, äußere Gestalt, Färbung, maximale Größe, Geschlechtsdimorphismus, Ökologie, Verhalten in Gefangenschaft und Verbreitung in Kolumbien ergänzen die schon vorliegenden Berichte. Neues in Kolumbien gesammeltes Material enthält männliche Tiere, die größten bekannten Exemplare, den ersten Fund vom Amazonas und das erste bekannte Gelege. Obwohl verborgen lebend, ist *P. rufipes* in seinem kolumbianischen Lebensraum nicht selten. Informationen ansässiger Indianer ergeben, daß die Rote Krötenkopfschildkröte vorwiegend nachtaktiv ist. Sie ist ein Bewohner des tropischen Regenwaldes und wurde bisher noch nicht außerhalb des oberen Amazonasbeckens gefunden. Es ist jedoch denkbar, daß diese Schildkröte auch in den angrenzenden Gebieten von Venezuela und Peru vorkommt.

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