

# Types of Podocnemidae in the Muséum National d'Histoire Naturelle,

by ROGER BOUR

Of the eight currently recognized species of the family Podocnemidae five are based on specimens housed in the Laboratoire des Reptiles et Amphibiens of the Muséum national d'Histoire naturelle, Paris (MNHN): three authored by AUGUST FRIEDRICH SCHWEIGGER (1812), one by AUGUSTE DUMÉRIL (1852), and one by ALFRED GRANDIDIER (1867). However, few works have been devoted to the study of these type specimens, the identity of several taxa has remained dubious for several decades, and the nomenclature remains fluctuating even today. The poor circulation of SCHWEIGGER's opus and the fact that it has been written in Latin certainly hinders such researches. In addition to SCHWEIGGER's work, one can refer to the following publications: GRAY (1831), A. M. C. [CONSTANT] DUMÉRIL & BIBRON (1835), DUMÉRIL & BIBRON in A. M. C. DUMÉRIL & A. H. A. [AUGUSTE] DUMÉRIL (1851), WILLIAMS (1954), FRETEY (1977) – all these authors have examined the type material in the MNHN –, and a handwritten catalogue of the collections of the Laboratoire completed ca. 1864 under the authority of A. DUMÉRIL (listing old registration numbers between 671 and 688). WILLIAMS (1954: 280), after having studied the MNHN holdings in 1953 wrote: "I endeavoured to discover the SCHWEIGGER's types (...) but it quickly became evident that these types are now lost or mislabelled".

In the present account I attempt to pinpoint these specimens, stressing that the measurements provided in the tables are only approximate, depending on the way in which they were taken – in particular for the width of the plastral lobes and the head size; the French inch used by SCHWEIGGER amounts 27 mm. Among some novelties, it appears that also SCHWEIGGER himself has mixed two or even three species in his original descriptions, namely *Podocnemis expansa*, *P. cayennensis*, and *P. erythrocephala*.

## 1. Species described by SCHWEIGGER

SCHWEIGGER (1812) described *Emys cayennensis*, *Emys dumeriliana* and *Emys expansa* on the basis of specimens originating partly from French Guiana and partly probably from Brazil (see below). Few details were revealed of their source; on the other hand, SCHWEIGGER supplied a good number of morphological details, as well as measurements, which help to identify today the specimens used for the descriptions. GRAY, who visited the MNHN in 1829 was the first to mention this material after SCHWEIGGER (GRAY 1831). As advised, he used the specific nomenclature of the latter author (within the genus *Hydraspis* BELL); apparently he had examined the MNHN syntype of *Emys dumeriliana*. Nevertheless, it appears that as early as 1835 (DUMÉRIL & BIBRON 1835) most types of the species described by SCHWEIGGER were not formally identified. The authors of *Erpétologie générale* (who used the genus name *Podocnemis* WAGLER, 1830) not only did not recognize these specimens, but they wrongly interpreted the description of *E. dumeriliana* – a source of subsequent confusions, as summarized in Table 1 (p. 28).

To solve this problem, it has first to be clarified that at the time of SCHWEIGGER the collections of South American turtles mainly originated from Brazil (including those specimens stored at the Lisbon Museum) and from the Guianas, thanks to naturalists like J.-B. LEBLOND (1747–1815), F. LEVAILLANT (1753–1824) and L. C. M. [CLAUDE] RICHARD (1754–1821), the latter being se-

	<i>Podocnemis cayennensis</i> (SCHWEIGGER, 1812)	<i>Podocnemis erythrocephala</i> (SPIX, 1824)	<i>Podocnemis expansa</i> (SCHWEIGGER, 1812)	<i>Peltocephalus dumerilianus</i> (SCHWEIGGER, 1812)
SCHWEIGGER (1812)	<i>Emys cayennensis</i> , <i>E. expansa</i> (part)	? <i>Emys expansa</i> (part)	<i>Emys expansa</i> (part)	<i>Emys dumeriliana</i>
GRAY (1831)	<i>Hydraspis cayennensis</i>	<i>Hydraspis expansa</i> “β”	<i>Hydraspis expansa</i>	<i>Hydraspis dumeriliana</i>
DUMÉRIL & BIBRON (1835)	<i>Podocnemis dumeriliana</i>	<i>Podocnemis dumeriliana</i>	<i>Podocnemis expansa</i>	<i>Peltocephalus tracaxa</i>
BOULENGER (1889)	<i>Podocnemis dumeriliana</i>	<i>Podocnemis dumeriliana</i>	<i>Podocnemis expansa</i>	<i>Podocnemis tracaxa</i>
SIEBENROCK (1902), WILLIAMS (1954)	<i>Podocnemis unifilis</i>	<i>Podocnemis cayennensis</i>	<i>Podocnemis expansa</i>	<i>Podocnemis dumeriliana</i>
FRETEY (1977)	<i>Podocnemis unifilis</i> + <i>P. dumeriliana</i>	—	<i>Podocnemis cayennensis</i>	<i>Peltocephalus tracaxus</i>
KING & BURKE (1989)	<i>Podocnemis unifilis</i>	<i>Podocnemis erythrocephala</i>	<i>Podocnemis expansa</i>	<i>Peltocephalus dumerilianus</i>
DAVID (1994)	<i>Podocnemis cayennensis</i>	<i>Podocnemis erythrocephala</i>	<i>Podocnemis expansa</i>	<i>Peltocephalus dumerilianus</i>

Table 1. Nomenclatural variations of four species of podocnemid turtles: some noteworthy references.

veral times mentioned by SCHWEIGGER (1812). Presently, the collections of the MNHN house four podocnemid turtles collected by C. RICHARD: MNHN 7893 (formerly 679) = *Podocnemis cayennensis*, MNHN 8359 (ex 672) = *P. cayennensis*, MNHN 8363 (ex 673) = *P. erythrocephala*, and MNHN 5997 (ex 674) = *P. expansa*. *Podocnemis erythrocephala* is not known from French Guiana, and although labelled “Cayenne” the specimen almost certainly came from Brazil, possibly presented by RICHARD himself who had travelled in that country.

## 2. *Emys dumeriliana* SCHWEIGGER, 1812

The description of *Emys dumeriliana* is based on a single specimen, said to have “Habitat in America meridionali”, and a carapace length of 392 mm. This specimen is not explicitly mentioned as pertaining to the MNHN collections. DUMÉRIL & BIBRON (1835) could not locate it, and they thus founded the genus *Peltocephalus*, with *Emys tracaxa* SPIX, 1824 as the type species (by original designation) on another specimen of obviously the same species (MNHN 8364, ex 671; Cayenne, don. H. DUPONT; Figs. 1–2). Some measurements of these specimens are given in Table 2. FRETEY (1977) recognized the specimen MNHN 7893, collected by RICHARD in Cayenne as the “holotype” of *E. dumeriliana*; it is actually a large *P. cayennensis* (Fig. 3), considered by SCHWEIGGER (1812) as a variety of his *E. expansa*. It is amazing that the identity of this singular species, perfectly diagnosed by SCHWEIGGER as “maxilla superior uncinata, utrinque profunde sinuata; inferior quam maxime hamata, acuta” (upper jaw hooked, deeply notched on each side; the lower one the most possible hooked, pointed) has remained obscure for such a long time. To definitely stabilize the statute of this species,

Taxon	<i>Emys dumeriliana</i>	<i>Peltocephalus tracaxa</i>	<i>Peltocephalus dumerilianus</i>
Source	SCHWEIGGER (1812)	DUMÉRIL & BIBRON (1851)	MNHN 8364
Shell length	392 mm	380 mm (curve)	330/380 mm (curve)
Shell width	277 mm	330 mm (curve)	232/330 mm (curve)
Shell depth	160 mm	135 mm	135 mm
Plastron length	324 mm	294 mm (curve)	270 mm
Plastron width (anterior)	162 mm	150 mm	147 mm
Plastron width (posterior)	119 mm	108 mm	114 mm
Head length	120 mm	100 mm	98 mm
Head width	88 mm	78 mm	77 mm

Table 2. Measurements of two specimens of *Peltocephalus dumerilianus*, the lost holotype of *Emys dumeriliana* SCHWEIGGER and specimen MNHN 8364 described by DUMÉRIL & BIBRON (1835), here designated as the neotype of the species.

MNHN 8364 is here designated as the neotype of *Emys dumeriliana* SCHWEIGGER, 1812, and the type locality “in America meridionali” is restricted to French Guiana.



Fig. 1. *Peltocephalus dumerilianus*, MNHN 8364, neotype of *Emys dumeriliana*. All photographs: R. BOUR.

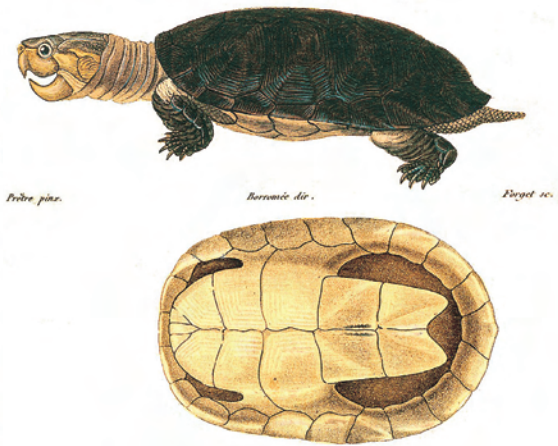


Fig. 2. *Peltocephalus dumerilianus*, plate 18, 2 from DUMÉRIL & BIBRON (1835).



Fig. 3. *Podocnemis cayennensis*, MNHN 7893, paralectotype of *Emys expansa*.



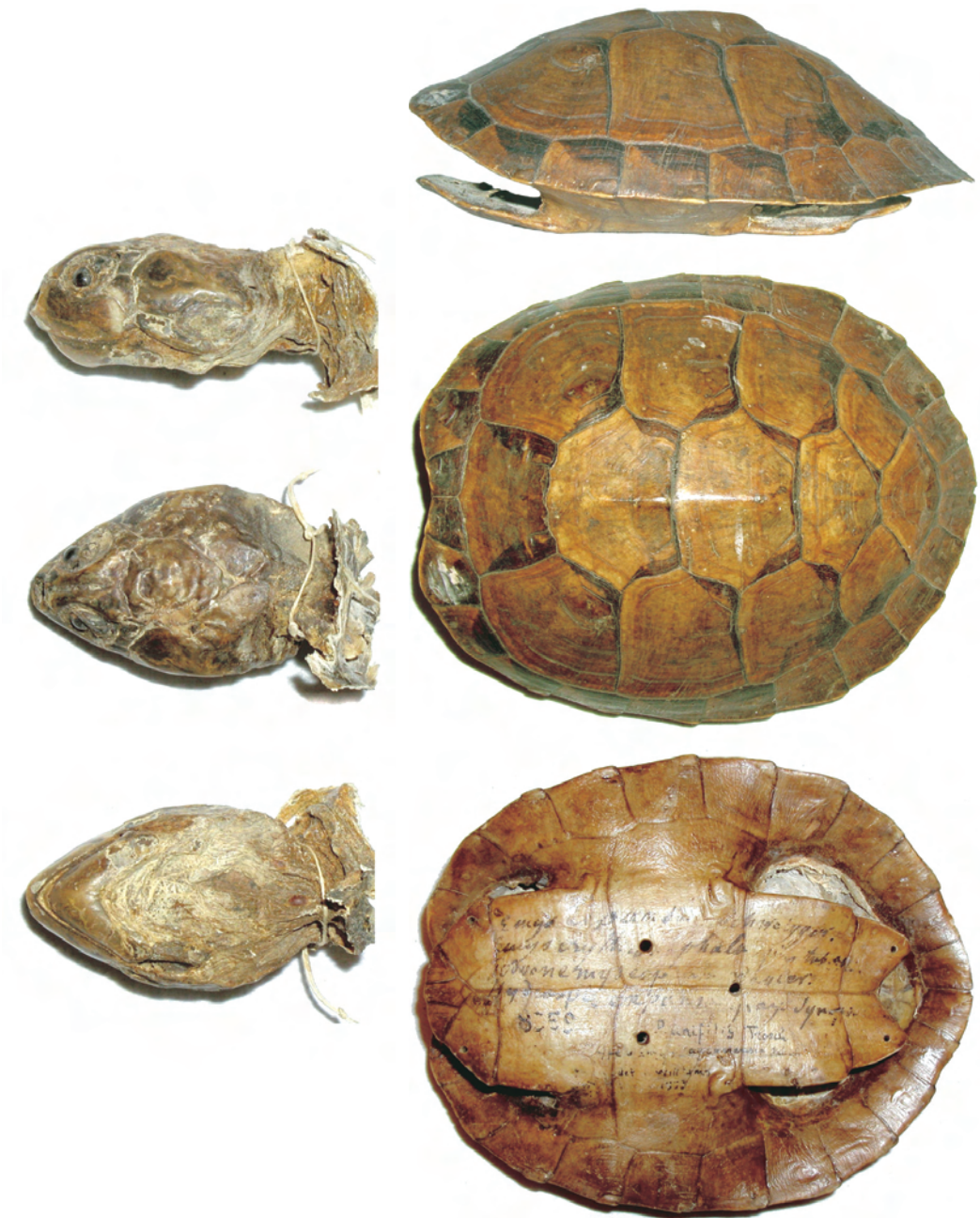


Fig. 4. *Podocnemis cayennensis*, MNHN 8359, lectotype of *Emys cayennensis*.

### 3. *Emys cayennensis* SCHWEIGGER, 1812

The description of *Emys cayennensis* was based on a single specimen, a juvenile in the collections, but SCHWEIGGER (1812) added that he had examined another in the Erlangen Museum (Bavaria), and that he himself had a third individual of this species at his disposal. It is obvious that SCHWEIGGER (1812), then DUMÉRIL & BIBRON (1835), in part confused adults of this species with *Podocnemis expansa*. Moreover, DUMÉRIL & BIBRON (1835) wrongly identified four specimens of the MNHN collections as *P. dumeriliana* (sensu *P. cayennensis*): the juvenile that SCHWEIGGER had used for his description of *E. cayennensis*, and three specimens collected by RICHARD. In their shortened catalogue of 1851 (DUMÉRIL & BIBRON in DUMÉRIL & DUMÉRIL), listing the type specimens (not numbered), that of *E. cayennensis* was not mentioned; on the other hand, one of the specimens collected by RICHARD in Cayenne was indicated as the type of *E. expansa*. The handwritten catalogue of 1864 later included only two turtles collected by RICHARD, both regarded as types of *E. expansa*: MNHN 8359, which is a *P. cayennensis* (Fig. 4) and MNHN 8363 (Fig. 5), which is a *P. erythrocephala*. In addition, this same catalogue mentioned as “type” of *P. dumeriliana* (sensu *P. cayennensis*) a shell (N° 678) collected in Cayenne by S. BANON, presently not located. Finally, FRETEY (1977) erroneously indicated specimen MNHN 4152 (ex 680) as the holotype of *E. cayennensis*: it is a hatchling (shell length = 59 mm) of *P. expansa* (Fig. 6). Table 3 gives some measurements of the only MNHN tur-



Fig. 5. *Podocnemis erythrocephala*,  
MNHN 8363.

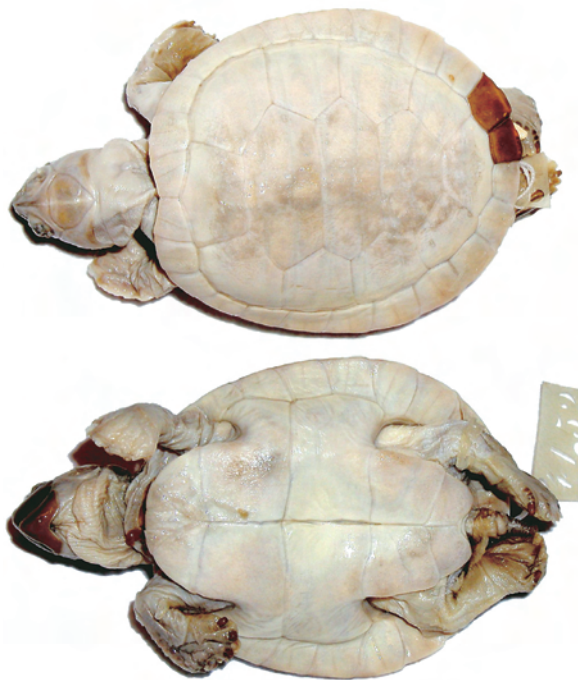


Fig. 6. *Podocnemis expansa*,  
MNHN 4152.

	<i>Emys cayennensis</i>	<i>Podocnemis cayennensis</i>	<i>Podocnemis cayennensis</i>
Source	SCHWEIGGER (1812)	MNHN 8359	MNHN 7893
Shell length	148.5 mm	149 mm	415 mm
Shell width	117 mm (V4 level)	124 mm (maximum)	295 mm
Shell depth	56.5 mm	58 mm	159 mm
Plastron length	135 mm	132 mm	372 mm
Head width	16 mm (?)	25.8 mm	55.7 mm

Table 3. Measurements of the lectotype of *Emys cayennensis* SCHWEIGGER, MNHN 8359, and MNHN 7893 (syntype = paralectotype of *Emys expansa*).

tle described by SCHWEIGGER, which agree with those of MNHN 8359: this specimen is here formally designated as the lectotype of *Emys cayennensis* SCHWEIGGER, 1812. *Podocnemis cayennensis* (SCHWEIGGER, 1812) is a senior subjective synonym of *Podocnemis unifilis* TROSCHEL, 1848; being widely used, although with different significancies, the former binomen must be employed to name the species (but see discussion in PRITCHARD & TREBBAU [1984]). Table 3 also gives measurements of MNHN 7893, a specimen collected by RICHARD in Cayenne, which is a syntype of *Emys expansa* (see above and below).

5. *Emys expansa* SCHWEIGGER, 1812

According to SCHWEIGGER (1812) his diagnosis of *Emys expansa* was based on three specimens, all examined in MNHN. The author provided measurements of two adult individuals: one (a shell alone) from RICHARD’s collection, the other (whole) included in variety “β”, with no collector’s name. DUMÉRIL & BIBRON (1835) had seen only two specimens, which they identified as *P. expansa*, sent by RICHARD from Cayenne; they gave the measurements of one – presently MNHN 7997 (ex 674) –, illustrated (Figs. 7–8) a second one having a shell length of 30–35 cm – identified as such with some doubt, being almost certainly MNHN 8363 (see above), i. e. *Podocnemis erythrocephala*. The latter

Table 4. Measurements of two specimens of *Emys expansa* (from SCHWEIGGER [1812]) and the third syntype (lectotype) described by DUMÉRIL & BIBRON (1835; MNHN 7997). MNHN “β” is actually a *P. cayennensis* (MNHN 7893, cf. Table 3).

	<i>Emys expansa</i>	<i>Emys expansa</i>	<i>Podocnemis expansa</i>	<i>Podocnemis expansa</i>
Source	SCHWEIGGER (1812) (“RICHARD”)	SCHWEIGGER (1812) (MNHN, “β”)	DUMÉRIL & BIBRON (1851)	MNHN 7997
Shell length	392 mm	403 mm	540 mm (curve)	510/545 mm (curve)
Shell width	311 mm	277 mm	497 mm (curve)	418/500 mm (curve)
Shell depth	140 mm	146 mm	170 mm	170 mm
Plastron length	365 mm	360 mm	431 mm (curve)	420 mm
Plastron width (ant.)	149 mm	135 mm	180 mm	193 mm
Plastron width (post.)	88 mm(?)	124 mm	199 mm	210 mm
Head length	–	77 mm	114 mm	112 mm
Head width	–	54 mm	80 mm	77 mm



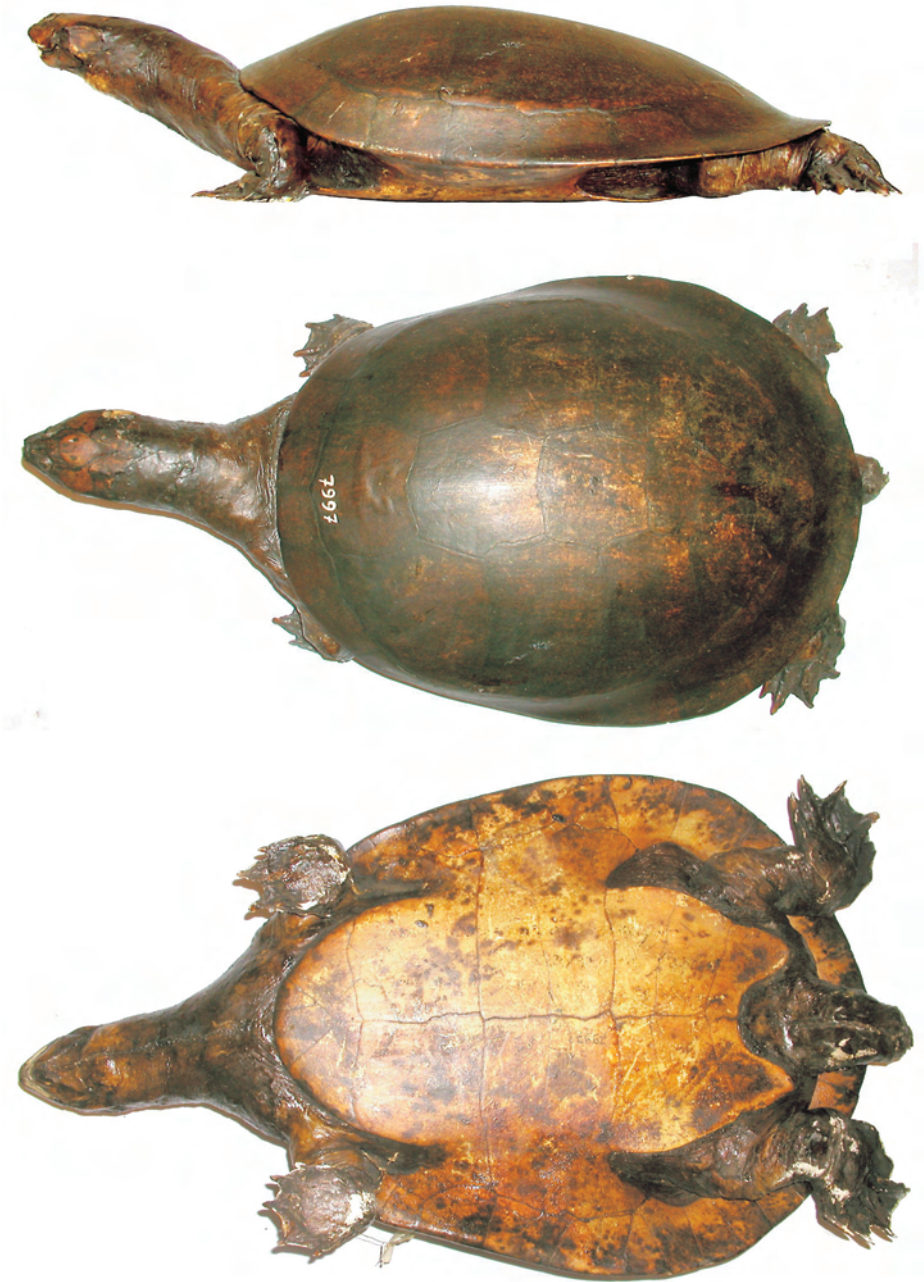


Fig. 7. *Podocnemis expansa*, MNHN 7997, lectotype of *Emys expansa*.



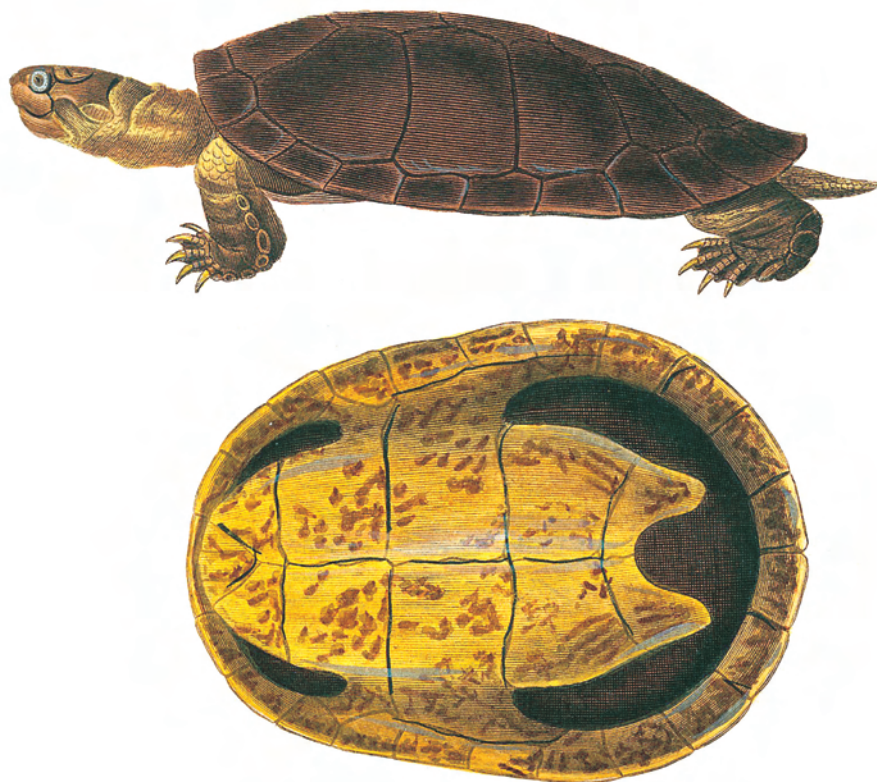


Fig. 8. *Podocnemis expansa*, plate 19, 1 from DUMÉRIL & BIBRON (1835).

was perhaps considered by SCHWEIGGER as belonging to his *E. expansa*, but there is no direct proof for such an identification. In their catalogue of 1851, DUMÉRIL & BIBRON mentioned several specimens of that species, including one collected by C. RICHARD, indicated as the “type” of *E. expansa* (probably MNHN 7997). Table 4 gives some measurements of two of the three syntypes of *E. expansa* according to SCHWEIGGER (1812), and those of the specimen described by DUMÉRIL & BIBRON. Specimen MNHN 7997 is here designated as the lectotype of *Emys expansa* SCHWEIGGER, 1812. The species is not known from Cayenne, but is present in the Oyapock River (MNHN 1980.1462); therefore, the type locality of this species is here emended to “French Guiana”.

#### 6. *Podocnemis lewyana* DUMÉRIL, 1852

AUGUSTE DUMÉRIL described this species after two specimens (formerly N° 687 and 688): one collected in 1851 by LÉWY in Santa-Fé de Bogota (Colombia), MNHN 8985 (Fig. 9, p. 36) – an individual illustrated on two beautiful plates lithographed and painted by VAILLANT (Fig. 10) –, the other collected in 1840 by L. D. BEAUPERTHUIS in Venezuela, MNHN 8360 (Fig. 11). One century



Fig. 9. *Podocnemis lewyana*, MNHN 8985, lectotype.

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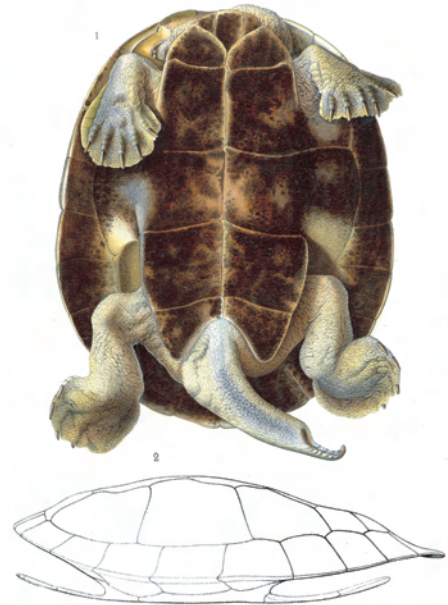
Pl. XVIII Archives du Muséum. T. VI.

Pl. XIX



Walter Ste.

1. *PODOCNÉMIDE DE LEWY, PODOCNEMIS LEWYANA* A. Dum.  
(Vue en dessus)  
2. Tête de P. de Lewy. Vue de Profil.  
3 et 4. Tête de P. de Duméril. Vue de profil et en dessus (Anat. Gif.)



Walter Ste.

Walter Ste.

1. *PODOCNÉMIDE DE LEWY, PODOCNEMIS LEWYANA* A. Dum.  
(Vue en dessous)  
2. Carapace de la P. de Lewy. Vue de profil

Fig. 10. *Podocnemis lewyana*, plates xviii–xix from DUMÉRIL (1852).

	<i>Podocnemis lewyana</i> lectotype	<i>Podocnemis lewyana</i> lectotype	<i>Podocnemis vogli</i> , paralectotype of <i>P. lewyana</i>
Source	A. DUMÉRIL	MNHN 8985	MNHN 8360
Shell length	260 mm	244/260 mm (curve)	172 mm
Shell width	240 mm	192/238 mm (curve)	119 mm
Shell depth	–	77 mm	58.5 mm
Plastron length	–	206 mm	142.5 mm
Head width	–	38 mm	26.8 mm

Table 5. Measurements of the lectotype and the paralectotype of *Podocnemis lewyana* DUMÉRIL.

later, WILLIAMS (1954) discovered that the second turtle was a *Podocnemis vogli* MÜLLER, 1935, and recognized the Colombian specimen as the “holotype”, i.e. the lectotype of *P. lewyana*. The illustrated specimen (lectotype) is preserved (stuffed) in the MNHN collections; unfortunately, it was recently mutilated: decapitated by a colleague wishing to prepare its skull, but being unaware of its type status. Table 5 provides main measurements of this individual, according to A. DUMÉRIL, and taken from specimen MNHN 8905, as well as those of the paralectotype MNHN 8360. As noticed by WILLIAMS, the juvenile illustrated in the original description of *Podocnemis lewyana* is not “*P. dumeriliana*” (i.e. *P. cayennensis*), but *P. expansa*: it is MNHN 4152 – this specimen was otherwise erroneously presented as the holotype of *E. cayennensis* by FRETEY (1977). The collector, B. LÉWY was a chemical engineer working in Colombia, appointed in 1847 as correspondent of the MNHN.

7. *Dumerilia madagascariensis* GRANDIDIER, 1867

ALFRED GRANDIDIER discovered this species in 1866 in western Madagascar, at the same time as *Pyxys planicauda*. He saw several specimens, as the standard locality was given as: “Mouroundava Tsitsibonque flumina in occidentali insulae Madagascar littore” (in the Morondava and Tsiribihina rivers on the western coast of Madagascar Island). However, at the time of the description, only one individual, the holotype (MNHN 9544, formerly 688a and 1867.46; Fig. 12), was deposited in MNHN (the two others were later donated by A. GRANDIDIER: MNHN 1877.199 and 1888.188). As the handwritten catalogue gave only “Morondava” as the specimen’s source, the type locality for *D. madagascariensis* is here restricted to Morondava River. *Dumerilia* being nomenclaturally preoccupied,

	<i>Dumerilia madagascariensis</i>	<i>Erymnochelys madagascariensis</i>	<i>Erymnochelys madagascariensis</i>
Source	A. GRANDIDIER	VAILLANT & G. GRANDIDIER	MNHN 9544
Shell length	350 mm	314/340 mm	320/346 mm (curve)
Shell width	–	224 mm	226 mm
Shell depth	–	126 mm	125 mm
Plastron length	–	280 mm	285 mm
Head width	–	–	55.6 mm

Table 6. Measurements of the holotype of *Dumerilia madagascariensis* GRANDIDIER (MNHN 9544).



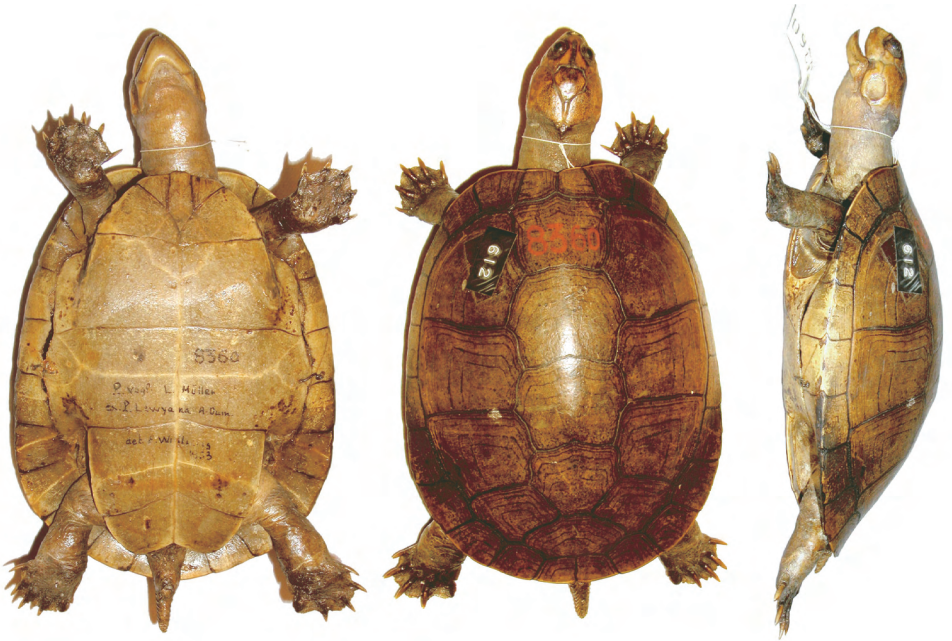
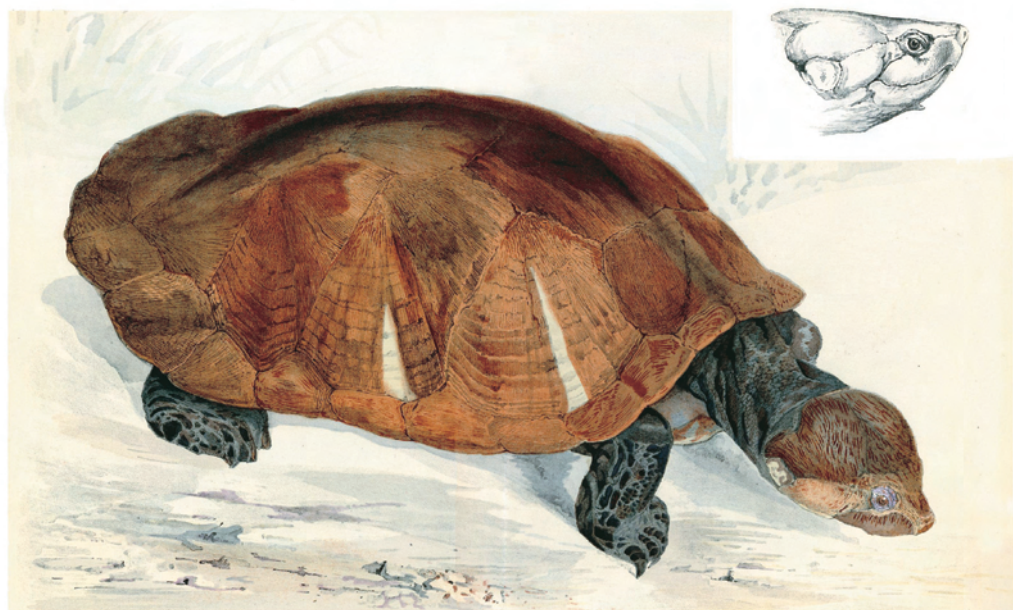


Fig. 11. *Podocnemis vogli*, MNHN 8360, paratype of *Podocnemis lewyana*.



Fig. 12. *Erymnochelys madagascariensis*, MNHN 9544, holotype of *Dumerilia madagascariensis*.





*Erymnochelys madagascariensis*, Grandidier.

L. Lechmanzel lith.



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BAUR (1888) coined *Erymnochelys* as replacement name for the genus. VAILLANT & G. GRANDIDIER (son of ALFRED) published in 1910 two coloured plates (lithographies of drawings by JUILLERAT) depicting an *E. madagascariensis* (Fig. 13) formerly living at the Ménagerie. However, this individual could not be identified among the specimens collected by A. or G. GRANDIDIER and presently stored at MNHN. Table 6 (p. 37) presents measurements of the holotype of the species, according to A. GRANDIDIER's original description, to VAILLANT & G. GRANDIDIER, and taken from MNHN 9544.

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