The identity of *Testudo punctata* Lacepède, 1788
(Testudines, Trionychidae)

by Robert G. Webb *

Résumé. — Après la redescription de l'holotype de *Testudo punctata* Lacepède, 1788, l'histoire taxonomique de cette espèce est débattue ; pour la première fois *Trionyx coromandelicus* Geoffroy, 1809, est considéré comme un synonyme objectif de celle-ci, étant décrit d'après le même spécimen. De plus il apparaît que cet holotype est très probablement originaire de l'Inde péninsulaire : à la sous-espèce nominale *Lissemys punctata punctata* (Lacepède, 1788) correspond donc la forme habituellement désignée *Lissemys punctata granosa* (Schoepff, 1792), et un nouveau nom est proposé pour la sous-espèce tachetée particulière à la plaine indo-gangétique.

Abstract. — The holotype of *Testudo punctata* Lacepède, 1788, is redescribed, and the nomenclatural and taxonomic history of that name is discussed. Novel conclusions are the synonymy of *Trionyx coromandelicus* Geoffroy, 1809, and *T. punctata* (objective synonyms, based on same specimen), and determination of the geographical provenance of the holotype of *T. punctata* as most probably peninsular India. The nominal subspecies *Lissemys punctata punctata* is regarded as the recognizable taxon in peninsular India and Sri Lanka (currently referred to as *Lissemys punctata granosa*). Strangely, there is no available name for the common, yellow-spotted, Indus-Gangetic *Lissemys*, and a new name is proposed.

Description of *Testudo punctata* Lacepède

Following Smith (1931 : 157), some subsequent authors have credited the name *Testudo punctata* to Bonnaterre (1789 : 30) as the first author to use binomial nomenclature. Although Lacepède referred to his new species only as “La Chagrinée” in the descriptive remarks (1788 : 171), and in the legend of the illustration (Pl. XI), he did apply binomial nomenclature, “*T. punctata*”, on the second of two folded charts entitled “Synopsis methodica Quadrupedem oviparorum”. The name “*T[ortue] chagrinée*” appears on the first folded chart, “Table méthodique des Quadrupèdes ovipares”; all names listed there are in the context of common names. Wermuth (1956 : 409) previously discussed the priority of Lacepède over Bonnaterre, as did Savage (1952 : 204) in his discussion of Lacepède’s *Coluber boiga*. Lacepède’s turtles work (with folded charts) is quarto size and included in Tome 1; his complete work has been printed in two separate volumes, and the “charts” in French and Latin have been disposed of either as French in Tome 1 and Latin in Tome 2 (published 1789), or vice versa, or the charts are absent (Roger Bour, pers. comm.).

Lacepède’s description of “La Chagrinée” (1788 : 171-172) from “des grandes Indes au Cabinet du Roi, par M. Sonnerat”, is based on one specimen; he gave measurements,

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and mentioned eight pairs of costals and six neurals on the carapace and seven plastral callosities. Lacepède did not mention any features of pattern. Lacepède did mention the name “Chagrinée” (and presumably the specific name, punctata) is in allusion to “de petits points” on the callosities of the carapace. The prominence of the bony carapace (callosities and individual costals and neurals) suggests that the holotype at the time of Lacepède’s description was not alive and was a dried specimen (probably for some time). Lacepède’s illustration of the holotype (Pl. XI) has since been copied by Bonnaterre (1789, Pl. 6, Fig. 4), Schneider (1789, Pl. unnumbered), Daudin (1801, Pl. XIX, Fig. 2), and by Shaw (1802, Pl. 14, upper) all of whom also provided some descriptive remarks.

The holotype of Testudo punctata Lacepède is still extant in the Muséum national d’Histoire naturelle, Paris (MNHN). The catalogue entry lists number 7978 from “Indes Orientales” credited to “Sonnerat” as “Type de la Chagrinée de Lacepède”. The holotype is later alluded to by Duméril and Duméril (1851: 23) in the account of Cryptopus granosus: “Indes Orientales, Sonnerat, individu du jeune âge dont il ne reste que la carapace et la tête. Type de la Chagrinée Lacép... et de la T. granulata Daud.” The holotype (MNHN 7978), dried and mounted, is a small Lissemys with the following characteristics: Skin folds cover neck to level just behind eyes; no pattern evident on head-neck or carapace; isolated bony prenuchal; marginal ridge on carapace; bony, sculptured carapace with two neurals between first pair of costals, eight pair of costals, and seven neurals (seventh indistinct); carapace otherwise smooth with bony peripherals posteriorly; no limbs or tail; femoral flaps wrinkled; seven plastral callosities. Maximum measurements (mm): Length (tip of snout to posterior edge of plastron), 104; carapace length, 77 (straight line) or 95 (wrinkled, curvature); carapace width, 76 (straight line) or 96 (curvature); bony carapace length (excluding prenuchal), 67 (straight line) or 76 (curvature); bony carapace width, 50 (straight line) or 56 (curvature); plastron length, ca. 85; plastron width (between lateralmost tips of hyo-hypoplastra), ca. 77. The holotype is illustrated in Fig. 1A and 1B.

Nomenclatural History

Homonyms. — Of minor consequence is the occurrence of two junior primary homonyms, both of which were discussed by Wermuth (1956: 411-412). One of these, Testudo punctata (in Schoepff, 1792 [1792-1801] = Emys orbicularis (Linnaeus, 1758), is credited to Gottwald and declared a nomen nudum by Wermuth (name first appears as synonym and has never been regarded as valid name). The other junior homonym, an otherwise available name, is Testudo punctata Schoepff, 1792 = Clemmys guttata (Schneider, 1792).

Replacement Names. — Three names are considered to be replacement names for Testudo punctata Lacepède, 1788. Wermuth (1956: 415-416) previously discussed the name Testudo granulosa Suckow, 1798, and its relevance to Lacepède’s T. punctata, but he did not consider T. granulosa to be a replacement name. Suckow’s descriptive comments (1798: 48) are based on those of Schneider (1789: 22-23), which in turn are based on the original description of Lacepède. Schneider did not employ any scientific name, but his remarks concerning “Die chagrinirre...” and his accompanying copy of the illustration of the holotype of T. punctata clearly refer to Lacepède’s description.
muth's interpretation was that Suckow was unaware of Lacepède's original description and that Suckow's granulosa is based solely on Schneider's description. Testudo granulosa Suckow, 1798, is here regarded as a replacement name for Testudo punctata Lacepède, 1788.

Harper (1940) discussed the two works of the same name “Histoire naturelle des Reptiles” by Sonnini and Latreille (1801) and Daudin (1801); he noted that the work by the former authors was published in “September or (at the latest) October, 1801” (p. 701), and that of Daudin in “December, 1801” (p. 715). The names Testudo scabra and Testudo granulata employed in these works are obvious replacement names for Testudo punctata Lacepède, 1788. The authorship of T. scabra is herein employed as Latreille in Sonnini and Latreille [Code, 1964, Art. 51 (c)], since it is clear that Latreille is solely responsible for preparation of all the accounts of species of turtles (Harper, 1940: 700; Roger Bour, pers. comm.). The description of T. scabra (1801: 164-165) is clearly based on the holotype of T. punctata; the account is entitled “La Tortue chagrinée, Testudo scabra”, and the species is recorded as “apportée des Indes orientales par Sonnerat". Testudo scabra Latreille in Sonnini and Latreille, 1801, is also unavailable since it is preoccupied by two senior homonyms: 1) Testudo scabra Linnaeus, 1758 [= ? Geoemyda trijuga (Schweigger), 1812, fide Wermuth and Mertens, 1977: 35], and 2) Testudo scabra Lacepède, 1788 [= Rhinoclemmys punctularia (Daudin, 1801), fide Fretey, Hoogmoed, and Lescure, 1977: 66]. Daudin immediately synonymized T. scabra in his account of La Tortue Chagrinée (1801: 81-85), which he called Testudo granulata (p. 81, footnote). Daudin described Lacepède's young specimen, used the same common name, cited the same type-locality, and copied his illustration. Duméril and Bibron (1835: 504) noted that only one specimen was involved with the two names, and Duméril and Duméril (1851: 23) mentioned the holotype of Lacepède's T. punctata to be the type of T. granulata.

Status of Trionyx coromandelicus Geoffroy. — Geoffroy's original description of Trionyx coromandelicus is brief (1809: 16-17). The diagnostic feature is the seven plastral callosities. He also alludes to the isolated bony prenuchal and peripherals, and mentions that the tail extends beyond the edge of the carapace. The following are listed as synonyms:

"Tortue chagrinée. Lacépède.
Testudo granosa. Schoepff.
Tortue chagrinée. Daudin.

Testudo granulata. Shaw."

The account terminates with "Patrie. La côte de Coromandel, Sonnerat, Schoepff." Geoffroy's descriptive comments and especially his illustration of the bony carapace of T. coromandelicus (1809: Pl. 5, Fig. 1) closely resemble the holotype of Testudo punctata Lacepède (compare bony carapaces in Figs 1A and 1C). Geoffroy's illustration also depicts six neurals as mentioned in the original description of T. punctata (six neurals is an unusual variant for Lissemys punctata, usually seven or eight). The medial suturing posterior to the sixth neural is indistinct, but a seventh neural seems to be present (independently corroborated by Roger Bour, pers. comm.). The holotype lacks a tail as pre-
Fig. 1. — A, dorsal, and B, ventral views of holotype of *Testudo punctata* Lacepède (MNHN 7978) ; C, bony carapace of *Trionyx coromandelicus*, copied from Geoffroy (1809 : Pl. 5, fig. 1). Note overall similarity in bony carapaces (A and C).
viously noted by Latreille in Sonnini and Latreille (1801: 165) and Daudin (1801: 82-83). Geoffroy’s mention of a tail seems to be in reference to the posterior part of the plastron that does extend beyond the carapace. Certainly Geoffroy had access to the holotype of *T. punctata* in the MNHN and I believe he simply redescribed it and supplied a new name (as he did for three other previously described species in the same paper, *Trionyx aegyptiacus, Trionyx stellatus,* and *Trionyx georgicus*). There is no entry for *T. coromandelicus* in the MNHN catalogue. I regard *Trionyx coromandelicus* Geoffroy, 1809, as a replacement name for *Testudo punctata* Lacepède, 1788. Geoffroy perhaps employed the locality of “La côte de Coromandel, Sonnerat, Schoepff” (and specific name) since it is mentioned by Schoepff in the original description of *Testudo granosa* (which Geoffroy lists as a synonym) — “... in fontibus, alisque aquis dulcis Coromandeliae, ...” 1801: 131, Latin edit.; “... in Quellen und anderen süßen Wassern auf Coromandel, ...” 1801: 153, German edit. But Geoffroy’s interposition of “Sonnerat” in the above-quoted locality for *T. coromandelicus* denotes some supposition that the holotype of *T. punctata*, collected by Sonnerat, also came from the coast of Coromandel.

**Sonnerat’s Travels**

The penetrating question is the geographical provenance of the holotype of *Testudo punctata* Lacepède. The holotype was received from Pierre Sonnerat, a French traveler-naturalist (born about 1745 in Lyon, died in Paris in 1814), who documented his travels in India in two quarto volumes (1782). I am thoroughly grateful to Roger Bour, who perused these and other volumes and transmitted to me pertinent information relating to localities visited by Sonnerat.

A concise, summarizing itinerary is lacking, but the following localities are mentioned (all in Volume I): Côte de Coromandel — Pondichéry and Karikal (p. 22); Madras, Goudelour, and Négapatalam (p. 23); Sadras, Paliacate (p. 24); Géji (p. 25); and Trévicarré (p. 26). Côte de Malabar — Bombay, Goa, Cochin, and Mahé (p. 34). Surate (p. 39) — this place-name is the coastal “Surat” some 240 kilometers north of Bombay. Sonnerat’s activities seem to have always been in these regions. In Volume II concerning “Objets nouveaux relatifs à l’Histoire naturelle” (p. 137-248) the more interesting mammals, birds, and plants (but no reptiles) are mentioned, and in India are associated with the above-mentioned localities — the only exception is in connection with a bird, “Le petit Merle huppé des Indes” (p. 189) as living “à Malabar, à Coromandel, au Bengale” (Bour, pers. comm.). There is a terminal index where “Sonnerat y a écrit quelques lignes... sur Calcutta, Chandernagor, et le Bengale. Il existe aussi un chapitre Gange (1782, I : 273-277), par ‘on-dit’, relatif à la religion.” (Roger Bour, pers. comm.).

In a new edition of Sonnerat’s travels (two volumes), published in 1806 and including some annotations by Charles Sonnini is a “extrait du rapport fait par Messieurs de Lalande et de Fougeroux de Bondarois” (p. xiii-xx) (Roger Bour, pers. comm.), which provides further information on Sonnerat’s travels. He made three voyages as follows:

1. From 1768 to 1771, with Commerson, principally to Mauritius, Réunion, and Madagascar.
2. From 1771 to 1773, “de l’Inde” to the Philippines, Moluccas, and New Guinea. Details of this voyage were published by Sonnerat (1776) and a reference collection deposited “au Cabinet du Roi.” This volume was consulted by Roger Bour, who, in an effort to pinpoint the “de l’Inde” locality, wrote me that Sonnerat “parti de l’Isle de France [= Mauritius], a gagné les Sèchelles, puis touché seulement Ceylan, avant de se diriger, par Nicobar et Malacca, vers les Philippines, Les Moluques, pour revenir par Timor et Rodrigues, à l’Isle de France.”

3. From 1774 to 1781, “repart pour Ceylan, la côte de Malabar (Mahé, Gathes), le Golfe de Cambay (Surate), la Côte de Coromandel, la Côte de l’Est (Pégu), la presqu’île Malaise, la Chine, repasse à la Côte de Coromandel (Carnate, Tanjaour, Maduré, Pondichéry), puis gagne enfin l’Isle de France, Madagascar, le Cap de Bonne Espérance” and returned with a collection of 300 birds, 50 mammals, etc. including reptiles.

In regard to the type-locality of Testudo punctata, Roger Bour (pers. comm.) informs me that “Indes Orientales” refers to the East Indies or Indonesia, or, in a broader sense, all of southeast Asia. The “Grandes Indes” (Lacepède) correspond to continental India.

It is evident that Sonnerat’s activities in the Indian subregion were centered in Ceylon and the southern part of peninsular India on the east (Coromandel) and west (Malabar) coasts, but extending as far north as Surat on the west coast. All of these localities are encompassed by the geographic range of Lissemys punctata granosa. There is no evidence that the holotype of Testudo punctata originated within the confines of the Indus or Ganges river drainages. There is a possibility that the holotype came from Pegu, Burma, and, if so, represents the taxon now known as L. p. scutata. The data of collection strongly indicate that the holotype of L. p. punctata is from peninsular India. Since Sonnerat visited “Pondichéry, Côte de Coromandel” (subsequent specimens from this locality available, MNHN 9394-95, stuffed-mounted, Leschenault, 1818), this locality is chosen as the restricted type-locality of Testudo punctata Lacepède = Pondicherry, South Arcot (district), Tamil Nadu (state), India. Actually, Pondicherry (or Puduchcheri) is the capital of a politically distinct Union Territory of the same name.

Taxonomic History

There is certainly no direct evidence that the holotype of Testudo punctata is representative of the yellow-spotted, Indo-Gangetic Lissemys. The small holotype of T. punctata lacks yellow-spotting, and pattern is not mentioned in the original description.

Gray (1831 a: 19; 1831 b: 49-50; 1832 [1830-1835] : Pl. 63) was the first author to bestow the name punctata on the yellow-spotted Lissemys, regarding that pattern characteristic of young turtles. Gray correctly employed punctata as the valid name (Schoepff’s Testudo granosa and Geoffroy’s Trionyx coromandelicus as synonyms), and continued to use Emyda punctata in the ensuing years (1844: 46; 1855: 63; 1864: 98; 1869: 215; 1870: 117; 1873 a: 71; 1873 b: 88), except for his use of E. granosa in one paper (1873 c: 306). Association of the name punctata with the yellow-spotted pattern (limited text supplied by Gray) was further entrenched by Bell’s Plate 4 (1838 : Part 5) copied in Sowerby and Lear as Plate LV (1872).
Influential authors, however, associated the yellow-spotted pattern with Schoepff's *Testudo granosa*; it is of interest that Schoepff acknowledges Lacepède's "*T. punctata*" in his synonymy and provides some measurements of the holotype in his comparison with *T. granosa* (1801: 127, 130-131, Latin ed.; 1801: 148, 152, German ed.). Duméril and Bibron (1835: 504), employing *Cryptopus granosus*, offer the explanation that Schoepff was "... le premier auteur qui ait représenté cette espèce d'une manière reconnaissable"; these authors also mention only Lacepède's "La Chagrinée" in their synonymy (p. 501). This latter fact seemingly motivated Boulen ger, in his account of *Emyda granosa* (1889: 269), to assume that Lacepède (not mentioned in synonymy) failed to use binomial nomenclature. Siebenrock (1909: 591), following Annandale (1906: 203), recognized two subspecies (*Emyda granosa* vittata, but referring to the nominal subspecies only as *E. granosa*); he likewise fails to note Lacepède in his synonymy, and associates the yellow-spotted pattern with *E. granosa*. Later Annandale (1912: 172) associated the yellow-spotted pattern with the nominal subspecies. Smith (1931: 157) then provides the authoritative source for the current concept of the taxon by associating the yellow-spotted pattern with the nominal subspecies and reverting to the valid name *punctata* (but he errs in crediting the name to Bonnaterre instead of Lacepède).

Thus Gray's lead of 1831 was perpetuated by Smith in 1931 in his concept of *Lissemys punctata punctata*. The intervening use of *granosa* as the valid name, seemingly instigated in part by Lacepède's cryptic notation of binomial nomenclature, resulted in the incongruous concept of a taxon with yellow-spotted patterns correlated with a type-locality (Coromandel) where turtles having such patterns do not occur. Gray's initial association of Lacepède's *punctata* with the yellow-spotted *Lissemys* is fortuitous and unfounded.

I regard *Lissemys punctata punctata* as the valid name for the recognizable subspecies in peninsular India and Sri Lanka. The synonymy is as follows (homonyms omitted, see foregoing Nomenclatural History):

**Lissemys punctata punctata** (Lacepède)


*Testudo granosa* Schoepff, 1801: 127 (Latin ed.); 1801: 148 (German ed.). Type-locality, "Coromandeliae" (p. 131, Latin ed.); "auf Coromandel" (p. 153, German ed.). Two syntypes, Zool. Mus. Berlin, received by Dr. Bloch from Dr. John, not known to exist.


*Emyda Ceylonensis* Gray, 1855: 64. Type-locality, "Ceylon". Type, British Museum (Natural History) 1947, 3, 4, 17, dry shell (carapace-plastron), Dr. Kelaart.
Only Anderson (1876: 514) regarded the synonymic names *Emyda granosa* and *E. punctata* as not applicable to the yellow-spotted *Lissemys*, for which he proposed the name *Emyda dura*. The name *Emyda dura*, based on a drawing of Buchanan-Hamilton that has never been described or published, has been discussed elsewhere as a nomen nudum (Webb, in press). Since there is no available name for the yellow-spotted, Indo-Gangetic *Lissemys*, I propose the new name:

**Lissemys punctata andersoni** new name

**Holotype.** — Muséum National d’Histoire Naturelle, Paris 1977-1486, Belbari, Terai, southeastern Nepal, elevation 210 m; collected by Alain Dubois at night at the border of a pond in a forested area on 23 May 1973.

![Dorsal and ventral views of holotype of *Lissemys punctata andersoni* (MNHN 1977-1486, Belbari, Nepal).](image)
Description of holotype (Fig. 2). — Adult male (penis partly everted); carapace length, 189 mm; carapace width, 145 mm; carapace height, 63 mm; length of plastron, 179 mm; length of head and neck ca. 113 mm; head width, 40 mm; plastron without markings, showing callosities on all plastral bones (small on entoplastron); carapace and head with pale spots and blotches.

Diagnosis and definition. — A subspecies of Lissemys punctata distinguished from both L. p. punctata and L. p. scutata in having yellow markings on carapace and head.

Distribution. — Indus and Ganges-Brahmaputra river basins in eastern Pakistan, northern India (including Sikkim and southeastern Nepal) and Bangladesh, and in north-coastal Burma. The holotype of Lissemys punctata andersoni represents the first record of occurrence for the taxon in Nepal.

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