

THE INDO-PACIFIC REDBROWN LOGGERHEAD TURTLE,
Caretta caretta gigas DERANIYAGALA, AND THE
LEATHERY TURTLE, *Dermochelys coriacea*
(LINNE) IN TASMANIAN WATERS

By

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(WITH 1 PLATE)

ABSTRACT

In their *Synopsis of the Vertebrate Animals of Tasmania*, 1924, Lord & Scott notice a leathery turtle, *Dermochelys coriacea* (Linné, 1876) obtained in 1889: this appears to be the only formal account of any chelonian from our waters. Twelve additional records are now given. One of these is a second example of the luth, from the same locality as the 1889 individual. Of the eleven others, three are based on actual material, and are determined as the Indo-Pacific redbrown loggerhead, *Caretta caretta gigas* Deraniyagala, 1933; the remainder, based on hearsay, being thought to be attributable also to this species. Localities from which reports or specimens were received range from Stanley, round the West Coast (chief source), to Bruny Island.

Apart from a single individual of the leathery turtle or luth, *Dermochelys coriacea* (Linné, 1766)—a sporadic, almost cosmopolitan form, apparently common nowhere, but liable to be encountered upon occasion almost anywhere outside the arctic and antarctic regions—that came ashore on the south-east coast in the latter part of last century, no chelonian has hitherto been known from our waters. There are here presented records of the appearance within the last five years of no fewer than ten turtles, of which three are known to be, and the remainder probably are, the Indo-Pacific redbrown loggerhead, *Caretta caretta gigas* Deraniyagala, 1933: a second occurrence of the luth about 1945 is also noted.

The finding of the loggerhead in Tasmania represents something more than merely another entry in this State's faunal list, interesting though the addition of such a large and well-known animal certainly is. In the light of recent developments in the systematics of marine turtles in general and of contemporary investigations into speciation and raiation in loggerheads, particularly in respect of range as a function of thermophily, and the correlations of variations, secular and periodic, of ocean currents and temperatures with chelonian colonization or penetration, the present material becomes a source of some significant morphological

and distributional data. A study made on the Tasmanian loggerheads and of their bearing on some of these problems that has grown to exceed the dimensions appropriate to presentation here will, it is hoped, appear later: the present notice is, in these circumstances, confined to a formal record of occurrence, accompanied by an enumeration of the material in hand.

It may perhaps, however, usefully be observed in passing that for over a century it was not generally realized that there are at least two well-differentiated species of loggerheads, the confusion largely being traceable to an overlap in distribution over the greater part of the combined range of the two main forms. More conservative opinion now recognizes two species, each with two subspecies, as set out below: by some herpetologists each of these four forms is accorded specific status, the second form in the subjoined list, further, being referred by some to a third genus, *Colpochelys* Garman, 1880.

Lepidochelys olivacea olivacea (Eschscholtz, 1829). Range: Indo-Pacific (probably the whole of the Pacific), West Coast of Africa.

Lepidochelys olivacea kempfi (Garman, 1880). Range: essentially a native of the West Atlantic; occasionally reaching Great Britain.

Caretta caretta caretta (Linné, 1766). Range: Atlantic, Mediterranean.

Caretta caretta gigas Deraniyagala, 1933. Range: Indo-Pacific (probably to Pacific generally; possibly travelling up round West African coast to Mediterranean).

Family DERMOCHELYIDAE

Genus *Dermochelys* Blainville, 1816

Testudo coriacea Linné, 1766, Syst. Nat., ed. XII: 330.

Dermochelys coriacea (Linné). Boulenger, 1899, Cat. Chelon. Brit. Mus.: 80. de Rooij, 1915, Rept. Indo-Aust. Arch., I: 313.

Record.—The only Tasmanian specimen of which we have found published record came ashore at Fortescue Bay, south-east coast, in March, 1889 (Lord & Scott, 1924). This animal is now mounted in the Tasmanian Museum, Hobart (Reg. No. 13444/C34). While not attaining the dimensions—a length of 9 ft. and a weight of more than a ton—asccribed by some authors to this species, it is quite a large example, exceeding in total length and length of carapace the maximum noted by Gadow (1909) for the British national collection. Total length 6 ft. 10 in., median length of carapace 4 ft. 11 in., maximum width of carapace 3 ft. 0 in.; all measurements between parallels.

In the course of our inquiries regarding loggerheads, we received from Mr. Jack Fazackerly a report of a turtle he saw leave the water and come ashore at Fortescue Bay about 1945. It was described as being 7-8 ft. in length, and as having the body leathery, and partly covered with seaweed. There seems little doubt this animal was a luth. It is curious our only two records should come from the same locality.

For Victorian records see McCoy (1885; dec. xi: 1, pl. 101), Kershaw (1911), Lucas & Le Souëf (1909: 194). A recent occurrence noted in the Melbourne press was that of a 650-lb. turtle caught off Cape Schanck by Mr. C. Mannix on 17th February, 1955: Professor O. W. Tiegs has kindly informed us that this animal, parts of which are preserved in the Zoology Department, University of Melbourne, is a luth. For records in New South Wales see Lucas (1914): in South Australia, Waite (1929): in Western Australia, Glauert (1928), Campbell (1947). See also MacInnes (1951).

Family CHELONIIDAE

Genus *Caretta* Rafinesque, 1814

Caretta caretta gigas Deraniyagala, 1933

[Part.] *Testudo caretta* Linné, 1776. Syst. Nat., ed. XII: 351.

[Part.] *Thalassochelys caretta* (Linné). Boulenger, 1889, Cat. Chelon. Brit. Mus.: 184.

[Part.] *Caretta caretta* (Linné). de Rooij, 1915, Rept. Indo-Aust. Arch., 1: 310, figs. 117, 118 (omitting extra-Indopacific records).

Caretta gigas Deraniyagala, Spol. Zeyl., XVII, 1: 66, figs. 4-6.

Caretta caretta gigas Deraniyagala. Deraniyagala, 1946, Spol. Zeyl., 24, 2: 97, figs. 1, 2: 1946, Spol. Zeyl., 24, 3: 196, pl. XXV.

A. RECORDS BASED ON SPECIMENS EXAMINED

ANIMAL E₁

Record.—At about 9 a.m. on 24th November, 1951, about half a mile north of Mount Cameron West, at midtide level (the tide then making), on a sandy one-mile beach, facing west to the open sea, one of us (B.M.) found a turtle, fresh-smelling, and recently blown by flies. The plates of both carapace and plastron were heavily overgrown with green weed, and encrusted with barnacles and lime concretions: sutures, especially those of the marginals, were indistinct. The head, with atlas and axis attached, was severed, and was later carried to Woolnorth. With the assistance of another member of the party, Mr. Bruce Ellis, the decapitated animal, of an estimated weight of about 160 lb. was dragged up above highwater mark: unfortunately, we have not hitherto succeeded in retrieving these remains.

Material.—(a) *Cranium.*—Length: condylobasal 144; to level of posterior border of squamosal 180; to tip of supraoccipital spine 192.5. Maximum width 140. (b) *Mandible.*—Length 129, width 110. (All measurements between parallels.) Cranium retains some scutes and mandible carries horny beak.

ANIMAL E₂

Record.—Mr. Max Hardy, Stanley, informs us that in March, 1951, he saw the remains of a turtle measuring about three feet by two feet at the residence of Mr. Bailey, at the Arthur River ferry. Mr. J. Breheny, M.H.A., dates this find as December, 1951. Some remains were later obtained from Mr. Bailey, who had collected the animal near his home, by Mr. A. M. Olsen, C.S.I.R.O., who has very kindly placed them at our disposal for description.

Material.—(a) *Carapace.*—This is broken into six main pieces, but sufficient of it remains to allow of a general reconstruction of its outline: half a dozen largish and several smaller sheets of paper-thin brown flexible horny investment remain, covering in all about one-sixth of the total area. Length: between parallels, as carapace rests on table 763; median, direct 804; median, following curves, estimated 838. Maximum width, direct 560. (b) *Cranium.*—Length: condylobasal 175; to level of posterior border of squamosal 223; to tip of (much damaged) supraoccipital spine 180. Maximum width 164. (c) *Mandible.*—Length 154; width 135.

ANIMAL E₃

Record.—On 24th August, 1955, the Tasmanian Museum, Hobart, received a complete animal (Reg. No. 13445/C35) from Adventure Bay, Bruny Island. Apart from a transverse slit in the integument near the base of the neck and a little distal abrasion of the forelimbs, the specimen, which is at present preserved entire in formalin, is in excellent condition. It is thought to have been lying for several days on the beach before it was collected. Total length (snout-tip to tail-tip) 537·5. Carapace: median length 378·5; maximum width 350.

B. RECORDS BASED ON REPORTS ONLY

ANIMALS R₁-R₄

On a mention of Animal E₁ being made, on the day of its discovery, to Mr. G. Wainwright, the Van Diemen's Land Company's manager at Woolnorth, he stated he had seen, within the preceding two months, four stranded turtles at Studland Bay (about 12 miles north of the point at which E₁ was found).

ANIMAL R₅

Summary of data supplied, as answers to a questionnaire, by Mr. Clyde Clayton, Port Davey. One turtle, dead about two weeks, observed, at normal hightide mark, in fine weather, at Stephens Beach, Port Davey, February-March, 1949. No weed or other growth; carapace thought to be leathery; no estimate of weight; length about three feet; thought by visitor from Queensland to be a green turtle; uncertain whether beak snub or hooked; no data on number of claws; remains unlikely to be available; no sketches; no knowledge of other strandings.

ANIMAL R₆

Summary of data supplied, as answers to a questionnaire, by Mr. Max Hardy, Stanley. One live turtle seen, in very fine weather, swimming about six miles north-east of the Nut (Stanley), March, 1951. No weed or other growth noticed; carapace a hard shell; no estimate of weight, length placed at eight feet by six feet; snub beak; no information on claws; no sketches; fairly light colour below; animal observed on same occasion by Mr. George French and Mr. Tom. Frebourgh. Question, 'Any other records? Names of people who have seen specimens?': answer, 'I think you can safely say every fisherman in Stanley'. No remains known to be available near Stanley; but reference made to Animal E₂.

ANIMAL R₇

We are informed that a second specimen (see Animal E₂) was found by Mr. Bailey near the Arthur River: date unknown.

On the evidence available, it seems probable Animals R₁-R₇ were loggerheads.

For South Australian records see Waite (1929): Western Australian occurrence noted by Glauert (1928), Campbell (1947).

NOTE.—Since this paper was drafted, we have learnt that a turtle was found at Currie, King Island (Tas.), in 1951, by Mr. Ray Clarke. This record has not been incorporated in the text, but it is taken into account in arriving at the number of new records (12) noted in the Abstract.

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[* Not seen.]

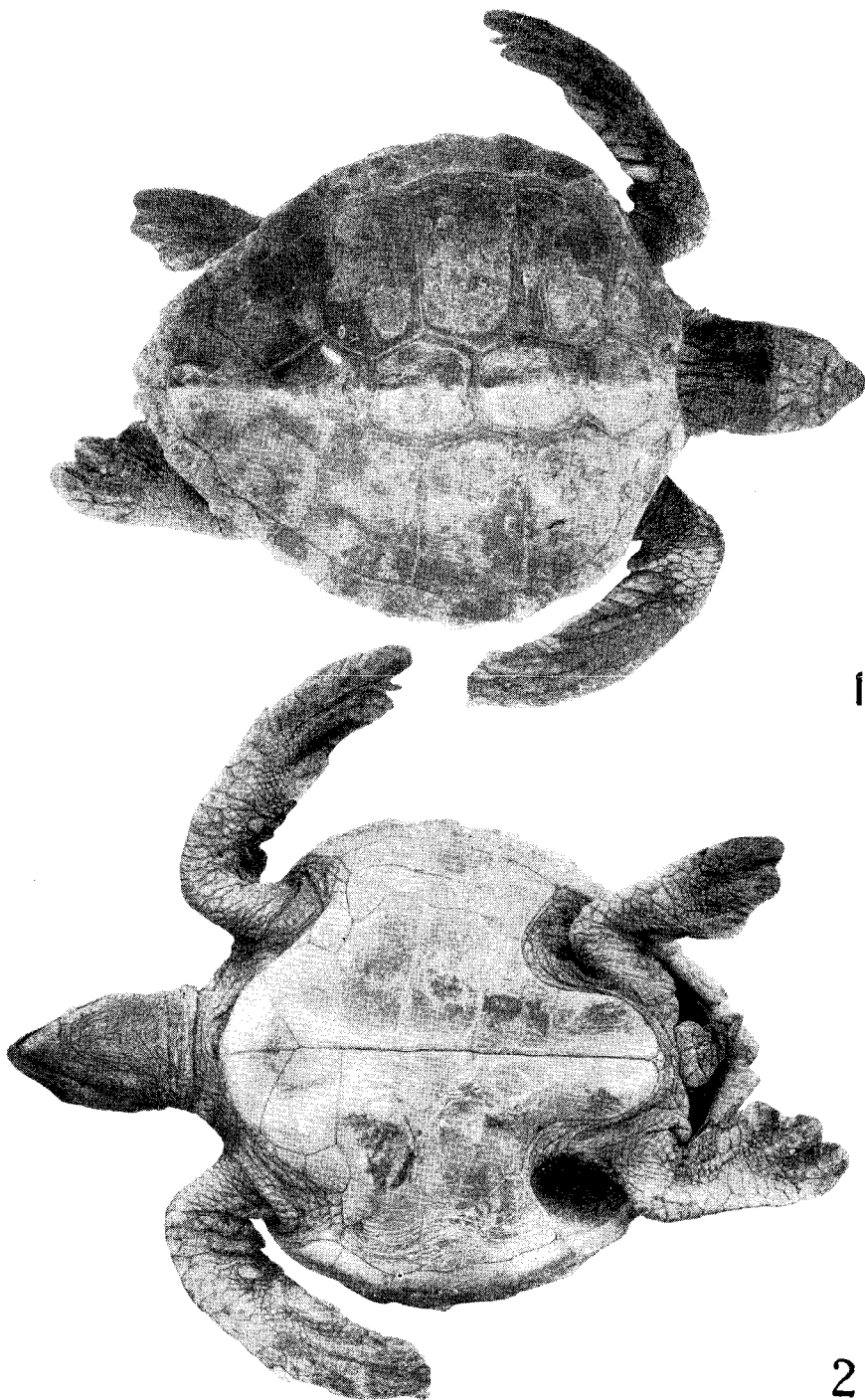


PLATE 1.—Indo-Pacific redbrown loggerhead turtle, *Caretta caretta gigas* Deraniyagala, 1933. A Tasmanian specimen from Adventure Bay, Bruny Island; 24th August, 1955: Tasmanian Museum, Hobart, registered number 13445/C35. Total length (tip of snout to tip of tail) 537.5 mm.

FIG. 1.—Dorsal aspect.

FIG. 2.—Ventral aspect.

[William Jackson photo.]

