AUSTRALIAN BIODIVERSITY RECORD

2007 (No 1) ISSN 1325-2992 March, 2007

Some Taxonomic and Nomenclatural Considerations on the Class Reptilia in Australia. Notes on the Recently Described Freshwater Turtle *Chelodina canni* McCord and Thomson, 2002 and a Redescription of *Chelodina rankini* Wells and Wellington, 1985.

by

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Chelodina canni McCord and Thomson, 2002

1985 *Chelodina rankini* Wells and Wellington, Austr. J. Herpetol., Suppl. Ser. 1: 8.
2002 *Chelodina canni* McCord and Thomson, J. Herpetol., 36: 256; figs 2a-b, 3a-c; plates 1, 2A-B, 2E-F.– Type locality: Malogie Waterhole, near Scarlet Hill on Kalala Station (16°08'S 133°36'E), Northern Territory, Australia.

Description: This is a small to medium-sized Chelid turtle with a long neck, moderately deep body-form and with only 4 claws on each forelimb. The head is moderately depressed, and the snout is blunt and the eyes tend to be laterally directed. In mature specimens the colouration varies somewhat depending upon location. The carapace may be brown to black and with or without brownish or blackish speckling. The ventral surface may be creamish or whitish, with the sutures of the plastral plates edged in black to a varying extent. Some other significant features of this species' morphology are: gular shields in contact in front of the intergular; inguinal musk glands present; plastron greatly expanded anteriorly, with the anterior lobes of the plastron rounded and not extending laterally any further than the inner edges of the marginals; intergular at least twice, or more than twice the length of the pectoral suture. Generally, the carapace is strongly convex, has a distinct vertebral groove and is more 'crinkled' or irregularly sculptured in surface pattern. The carapace is oval-shaped with some posterior expansion, but there is notable variation in shell shape from one area to another (see below).

Distribution: As generally defined, *Chelodina canni* is a species of tropical north-eastern and northern Australia, having been found at scattered locations throughout coastal north-eastern Queensland, and in most of the drainages entering the Gulf of Carpentaria from western Cape York Peninsula, westwards to the Roper River system in the north-eastern Northern Territory. An apparently isolated inland population occurs near Lake Woods, near Daly Waters NT as well and I have personally examined a living specimen of this population. It also lives in the larger water bodies such as the Roper River, and the MacArthur River NT, as well as the Albert River, Mitchell River, and Gilbert River in Queensland.

Habitat: This is mainly a species of shallow slow-moving or still water-bodies such as inland or coastal swamps, marshes, billabongs or lagoons. It also inhabits the seasonally dry river headwaters.

Biology/Ecology: During the Dry Season this species is known to aestivate in the mud or under exposed overhanging banks as watercourses dry to chains of ponds or disappear entirely. Specimens will also move overland to refuges provided by larger water bodies as their lagoon or pond habitats dry up. Similarly, as flooding occurs during the Wet Season, overland migration will occur as well. Up to 16 elongate brittle-shelled eggs are layed in a clutch about August and these usually hatch after around 120 days incubation. This is a carnivorous species, consuming a range of aquatic invertebrates such as small crustaceans, small fish and carrion.

Survival Status: It is protected under the Qld Nature Conservation Act (1992) and the Territory Parks and Wildlife Conservation Act (1998). It is generally regarded as common in most parts of its range. *Etymology:* Named for Australian herpetologist John Cann.

The Status of *Chelodina rankini* Wells and Wellington, 1985

As the description of *Chelodina canni* by McCord and Thomson (2002) was clearly intended to subsume the briefly described *Chelodina rankini* Wells and Wellington (1985), the taxonomic status of *Chelodina rankini* must be reconsidered. Following its original description *Chelodina rankini* was questionably regarded as *nomen nudum* by Iverson et al 2001 and later by Fritz and Havas (2006). While the original description of *Chelodina rankini* Wells and Wellington, 1985 was certainly brief, I believe that an argument could be sustained for its availability over *Chelodina canni* McCord and Thomson, 2002. However, when one examines the original description of *Chelodina canni* it is clear that BOTH names should be used, as the concept of *Chelodina canni* - as described by McCord and Thomson, (2002) - actually includes two completely different species as will be shown below. Should the Iverson et al designation of *Chelodina rankini* Wells and Wellington, 1985 as *nomen nudum* be confirmed, then of course, its validity will therefore date from the redescription below.

Historical Background: For a long period, a widespread tropical Australian turtle was erroneously listed as *Chelodina novaeguineae* [see Boulenger, (1888): Ann. Mus. Civ. Stor. Natur. Genova, (2) 6: 450 – Type Locality: Katow (Mawatta, Binaturi River), Papua New Guinea for type data for *Chelodina novaeguineae sensu stricto*]. Wells and Wellington (1985) however, expressed the view that *Chelodina novaeguineae* did not occur in Australia, and accordingly applied the name *'Chelodina rankini'* to the Australian population which was thought at the time to be restricted to north-eastern Australia [Type Locality: Burdekin River, Queensland]. When Wells and Wellington formally proposed the name *Chelodina rankini* this was soon after rejected by King and Horner (1987). When faced with the discovery of an enigmatic but very similar *Chelodina* in the Northern Territory, King and Horner refused to use the most plausible name *Chelodina rankini*, and instead opted to take the usual view that this was just another population of *Chelodina novaeguineae*. This was a puzzling act because in the Australian populations the snout was blunt not protruding or beak-like as in *Chelodina novaeguineae* from New Guinea, and typical *Chelodina novaeguineae* had distinctive radiating lines across a strongly convex carapace in marked contrast to the Australian populations' carapace morphology. Later, Scott Thomson and others became aware of the distinctiveness of the population that Wells and Wellington had named as *Chelodina rankini* but rather than conserve the name by a redescription, they referred *Chelodina rankini* to the status of a *nomen nudum* (see Iverson, Thomson and Georges 2001) pending its renaming by one of them (Thomson). As the original description of *Chelodina rankini* allegedly did not comply with Article 13(a) of the Code of Zoological Nomenclature – the actions of Iverson et al effectively placed its nomenclatural status under a question mark that discouraged any further use of the name. While this decision itself was questionable, as stated earlier, the original description of *Chelodina rankini* WAS certainly brief and essentially relied upon the descriptive data appearing elsewhere to demonstrate the distinctive features of *C. rankini* from *C. novaeguineae* – the species that it had been previously confounded with. Those authors referring *Chelodina rankini* to the status of a *nomen nudum* chose to interpret Article 13(a) of the Code literally – in that as the referred articles did not in themselves specify that the data represented a specific statement as to the distinctiveness of the new taxon, the description by Wells and Wellington was invalid – a serious error on their part, for they allowed no consideration of the clearly stated intent of Wells and Wellington to name the species as distinct and to offer an original interpretation of the data so referenced. This was a typical example of the repeated misapplication of Article 13(a) of the Code of Zoological Nomenclature in recent years, for such an interpretation was clearly contrary to its original intent to be used in association with other Articles of the Code and more importantly, act as a mechanism to clarify taxonomic or nomenclatural acts arrived at through a lapsus and/or uncertain intent on the part of the author of a work. Article 13(a) was clearly never intended to be used in isolation, or in particular, as a mechanism for the manipulation or overturning of taxonomic decisions where the AUTHOR/S intentions were clear and unambiguous. In the original description, Wells and Wellington could have played with the Code as some others do. For instance they could have merely extracted and compared verbatim the information

contained within the cited references or even made some absurd statement about the species' alleged differences - and as a consequence, they would have immediately blocked any pernicious misuse of Art.13(a). They could have immediately and unquestionably validated the description of *Chelodina rankini* by this narrower interpretation of the meaning and intent of Article 13(a), but instead chose not to abuse the Code. Instead they gave other authors due credit for the data contained within the relevant papers used in their interpolation while at the same time forced the readers to go to the original documentary sources to ensure accuracy of use – as well as show that the cited authors had hitherto not accurately recognized the species they were referring to. This was done because their intent to name *Chelodina rankini* was clear and unambiguous. Subsequently, the species was eventually redescribed as *Chelodina canni* by McCord and Thomson (2002) making at first glance any further argument for the protection of *Chelodina rankini* more or less problematic as one of the authors of *Chelodina canni* was the main critic responsible for the misuse of Article 13(a). While I can quite happily accept the species being accepted by others as *Chelodina canni* at the present time, it would be remiss of me not to point out that actually BOTH names are valid in my opinion. So, in effect, I still maintain that *Chelodina rankini* Wells and Wellington (1985) is a valid species [see the original Type Description [Wells and Wellington, 1985 Austr. J. Herpetol., Suppl. Ser. 1: 8] as well as the information below as a redefinition]:
Diagnosis: I herein designate as Holotype BMNH 1908.2.25.1. The Type Locality is Lower Burdekin River, Queensland. *Chelodina rankini* can be readily separated from its close relatives *Chelodina canni* and *Chelodina novaeguineae* by the following combination of characters: From *Chelodina novaeguineae*, both *C. rankini* and *C. canni* differ in that the snout is blunt and not protruding or beak-like as in *Chelodina novaeguineae*. Additionally, both species have a much less sculptured carapace when compared with that of *C. novaeguineae*. *Chelodina rankini* can be distinguished from *Chelodina canni* by differences in carapace size, shape and structure, as well as in neck morphology, colouration and patterning, and larger maximum size. The carapace shape is more rounded in *Chelodina canni*, whereas in *Chelodina rankini* the carapace is somewhat more ovate in shape with the rear marginals distinctly flaring outwards. Further, the carapace of *Chelodina rankini* is slightly more sculptured with more regular radiations (particularly in immature specimens) than the carapace of *Chelodina canni* - which tends to be smoother or is at least far less regularly sculptured. The neck of *Chelodina rankini* also has numerous flat wart-like protuberances present, whereas in *Chelodina canni* these warty structures are interspersed with larger conical tubercles. In juvenile colouration and pattern there are also notable differences between the different 'populations' currently referred to as *Chelodina canni* by McCord and Thomson. Juveniles of the Gulf drainage specimens (*Chelodina canni sensu stricto*) (such as from the Roper River, NT) have a black carapace with paler spotting along the edges, a bright red and black-mottled plastron, and are distinctively bright red on the inside of limbs, as well as on the edges of the jaw and under the throat. Juveniles of *Chelodina rankini* (i.e. those so-called *Chelodina canni* from the eastern drainages of north-east Queensland - for example from the Burdekin River) have a yellowish plastron with black mottling, and a darker greyish carapace. Additionally, there are also apparent size differences within the 'species'. *Chelodina rankini* reaches a maximum carapace length of about 260 mm., and those from the Gulf drainage - *Chelodina canni* - are much smaller turtles at a maximum size of only around 200 mm.

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Australian Biodiversity Record
ISSN 1325-2992

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