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A sensible four-way breakup of the South-American River Turtle genus *Podocnemis* Wagler, 1830 along obvious phylogenetic and morphological lines.

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ABSTRACT

The taxonomy and nomenclature of the South American River Turtle genus *Podocnemis* Wagler, 1830 has been stable for many years.

The most recently named species in the genus *Podocnemis vogli* was named by Müller in 1935.

Notwithstanding this, recent molecular studies have consistently shown the species group to be archaic and relevant genus members to have diverged from one another between 15 and 36 million years ago.

Such deep divergences clearly warrant recognition at the genus level as is seen for similarly divergent Turtle genera elsewhere.

As a result, the genus *Podocnemis* is divided four ways for each group of species that divided 22.5 or more million years ago. Two generic names are available and two new ones formally assigned. For three species that diverged from one another between 15 and 18 million years ago, each are also placed in newly named subgenera.

Keywords: Taxonomy; Nomenclature; Pelomedusidae; *Podocnemis*; *Bartlettia*; South America; new genus; *Novamyuchelys*; *Wellsandwellingtonchelys*; new subgenus; *Magdalenachelys; Erythrocephalachelys*.

INTRODUCTION

The taxonomy and nomenclature of the iconic South American River Turtle genus *Podocnemis* Wagler, 1830 has been stable for many years.

The most recently named species in the genus *Podocnemis vogli* was named by Müller in 1935.

Notwithstanding this, recent molecular studies have consistently shown the species group to be archaic and relevant genus members to have diverged from one another between 15 and 36 million years ago (Vargas-Ramirez *et al.* 2008).

Such deep divergences clearly warrant recognition at the genus level as is seen for similarly divergent Turtle genera elsewhere. See for example Le *et al.* (2013) who accepted the genus level division for the Australian *Wollumbinia* Wells, 2007 (which they erroneously called *Myuchelys* Thomson and Georges, 2009) and *Emydura* Bonaparte, 1836.

They showed that each species group diverged from one another 22.5 MYA and upheld the previously proposed genus level separation.

As a result of known divergence timelines as set out by Vargas-Ramirez *et al.* (2008), the genus *Podocnemis* is divided four ways for each group of species that divided 22.5 or more million years ago. For three species that diverged from one another between 15 and 18 million years ago in group 4, each are placed in newly named subgenera.

While it may appear extravagant to give six putative species a genus level recognition, the divergences alone justify the move. Furthermore there is absolutely no doubt that in at least some of these putative species more than one so-called "cryptic species" await formal discovery and naming, thus meaning that some of these genus-level groupings will not remain monotypic.

Inspection of specimens of the relevant taxa in order to find cryptic species proved difficult. It soon became evident that a lot of the collection data for museum specimens was unreliable and that furthermore specimens had been sold, traded and translocated by people across significant land barriers and likely interbred with other populations.

This has also shown up in studies by other herpetologists (as cited below).

Hence this paper does not formally name or resurrect any species.

MATERIALS AND METHODS

These are not formally explained in a number of my recent papers under the heading "Materials and methods" or similar, on the basis they are self evident to any vaguely perceptive reader.

However, the process by which the following taxonomy and nomenclature in this and other recent papers by myself of similar form (in *Australasian Journal of Herpetology* issues 1-36), has been arrived at, is explained herein for the benefit of people who have recently published so-called "criticisms" online of some of my recent papers. They have alleged a serious "defect" by myself not formally explaining "Materials and Methods" under such a heading.

The process involved in creating the final product for this and other relevant papers has been via a combination of the following:

Genera and component species have been audited to see if their classifications are correct on the basis of known type specimens, locations and the like when compared with known phylogenies and obvious morphological differences between relevant specimens and similar putative species.

Original descriptions and contemporary concepts of the species are matched with available specimens from across the ranges of the species to see if all conform to accepted norms.

These may include those held in museums, private collections, collected in the field, photographed, posted on the internet in various locations or held by individuals, and only when the location data is good and any other relevant and verifiable data is available.

Where specimens do not appear to comply with the described

species or genera (and accepted concept of each), this non-conformation is looked at with a view to ascertaining if it is worthy of taxonomic recognition or other relevant considerations on the basis of differences that can be tested for antiquity or deduced from earlier studies.

When this appears to be the case (non-conformation), the potential target taxon is inspected as closely as practicable with a view to comparing with the nominate form or forms if other similar taxa have been previously named.

Other relevant data is also reviewed, including any available molecular studies which may indicate likely divergence of populations.

Where molecular studies are unavailable for the relevant taxon or group, other studies involving species and groups constrained by the same geographical or geological barriers, or with like distribution patterns are inspected as they give reasonable indications of the likely divergences of the taxa being studied herein.

Additionally other studies involving geological history, sea level and habitat changes associated with long-term climate change, including recent ice age changes in sea levels, versus known sea depths are utilized to predict past movements of species and genus groups in order to further ascertain likely divergences between extant populations (as done in this very paper), while also assessing likely habitat boundaries for given populations.

When all available information checks out to show taxonomically distinct populations worthy of recognition, they are then recognized herein according to the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999).

This means that if a name has been properly proposed in the past (even if in the absence of sound scientific data), it is used as is done in this paper. Alternatively, if no name is available, one is proposed according to the rules of the Code as is also done in this paper.

As a matter of trite I mention that if a target taxon or group does check out as being “in order” or properly classified, a paper is usually not published unless some other related taxon is named for the first time.

The published literature relevant to *Podocnemis* Wagler, 1830 *sensu lato* and the taxonomic and nomenclatural judgements made within this paper includes the following: Abdala *et al.* (2008), Alarcon Pardo (1969), Alderton (1988), Baur (1893), Bernardes *et al.* (2014), Bernarde *et al.* (2011), Bernhard and Vogt (2012), Bonin *et al.* (2006), Boulenger (1889), Cañas-Orozco (2015), Cantarelli *et al.* (2014), Cardoso dos Santos *et al.* (2016), Carneiro and Pezzuti (2015), Catenazzi *et al.* (2015), Cisneros-Heredia (2006), Cole *et al.* (2013), Cornalia (1849), Cunha and Vogt (2014, 2017) Cunha *et al.* (2014), Da Silva *et al.* (2016), Duellman (2005), Duellman and Salas (1991), Duméril (1852), Duméril and Bibron (1835), Emmons (2016), Erickson and Baccaro (2016), Erickson and Kaefer (2015), Erickson *et al.* (2015), Ernst and Barbour (1989), Fabrezi *et al.* (2009), Fachín-Terán and Vogt (2004), Fachín-Terán *et al.* (2003), Fantin *et al.* (2007, 2015), Ferronato *et al.* (2011), Forrero-Medina *et al.* (2014a, 2014b), Frair *et al.* (1978), Fretey (1977), Gaffney *et al.* (2011), Gallego-García and Páez (2016), Goeldi (1886), Goin *et al.* (1978), Gómez-Saldarriaga *et al.* (2016), Gorzula and Senaris (1999), Gotte (1992), Gray (1830, 1871), Herz (2014), Hoogmoed and Avila-Pires (1990), Hoogmoed and Gruber (1983), Huang and Clark (1969), Iverson (1986, 1995), Jaffé *et al.* (2008), Joyce *et al.* (2013), Kahl *et al.* (1980), Knaack (2004), Kornacker and Dederichs (1998), Krysko *et al.* (2009), Le *et al.* (2013), Lehr (2002), Magalhães *et al.* (2014), Menezes *et al.* (2016), Merchán (1998, 2003), Methner (1989), Miorando *et al.* (2013), Mittermeier and Wilson (1974), Morato *et al.* (2014), Moravec and Aparicio (2004), Müller (1935), Noronha *et al.* (2016), Oliveira-Ferronato *et al.* (2013), Páez *et al.* (2013, 2015a, 2015b), Pauler and Tredau (1995), Pearse *et al.* (2006), Pedroza-Banda *et al.* (2014), Peñaloza *et al.* (2013), Pereira *et al.* (2014), Perrone *et al.* (2014, 2016a, 2016b), Pignati *et al.* (2013a, 2013b, 2013c), Portelinha *et al.* (2013, 2014), Pritchard and Trebbau (1984), Ramo (1982), Restrepo *et al.* (2008), Rivas *et al.* (2012), Rudge-Ferrara *et al.* (2014), Schlüter *et al.* (2004), Schneider *et al.* (2012), Schweigger (1812), Siebenrock (1902), Spix and Wagler (1824), Thomson *et al.* (2008), Troschel (1848), Valverde (2009), Vargas-Ramirez *et al.* (2007, 2008), Vergara-Ríos *et al.* (2015), Vogt (2014), Vogt *et al.* (2007, 2013), Wagler (1830), Wermuth and Mertens (1977), Winkler (2006), Zapata *et al.* (2014) and sources cited therein.

Some material within descriptions below may be repeated for different described taxa and this is in accordance with the provisions of the *International Code of Zoological Nomenclature* and the legal requirements for each description. I make no apologies for this.

I also note that, notwithstanding the theft of relevant materials from this author in an illegal armed raid on 17 August 2011, which were not returned in breach of undertakings to the court (Court of Appeal Victoria 2014 and VCAT 2015), I have made a decision to publish this paper.

This is in view of the conservation significance attached to the formal recognition of unnamed taxa at all levels and on the basis that further delays may in fact put these presently unnamed or potentially improperly assigned taxa at greater risk of extinction.

This comment is made noting the extensive increase in human population in the north of South America, which is where the relevant species occur and the general environmental destruction across the planet as documented by Hoser (1991), including low density areas without a large permanent human population.

These areas still remain heavily impacted by non-residential human activities.

I also note the abysmal environmental record of various National, State and Local governments in all parts of the world in terms of wildlife conservation in the past 200 years as detailed by Hoser (1989, 1991, 1993 and 1996).

NOTES ON THE DESCRIPTIONS FOR ANY POTENTIAL REVISORS

Unless mandated by the rules of the *International Code of Zoological Nomenclature*, none of the spellings of the newly proposed names should be altered in any way. Should one or more newly named taxa be merged by later authors to be treated as a single genus or subgenus, the order of priority of retention of names should be the order (page priority) of the descriptions within this text.

I also note that an attempted illegal hegemony of taxonomy and nomenclature involving herpetology and the turtles in particular by serial liars and thieves Wolfgang Wüster, Anders Rhodin, Scott Thomson and Arthur Georges should be rejected (VCAT 2015).

Furthermore in Australia, a court agreed settlement signed by members of the so called Wüster gang in August 2017, now expressly forbids the Wüster gang and anyone else acting on their behest or instigation, from illegally renaming taxa named by myself (Raymond Hoser), or any other illegal use or theft of any intellectual property (IP) of Raymond Hoser (Alexander, 2017).

It is likely that members of the Wüster gang of thieves will unlawfully rename the relevant genera and then use unethical and illegal means to force others to use their non-ICZN compliant nomenclature.

Their actions should be totally rejected by all scientists and other users of the relevant taxonomy and nomenclature and would be in breach of an Australian court enforceable signed agreement by the relevant gang.

GENUS *PODOCNEMIS* WAGLER, 1830.

Type Species: *Emys expansa* Schweigger, 1812.

Diagnosis: All turtles within the Pelomedusidae are separated from other Chelids by the following suite of characters: Plastral bones eleven, mesoplastra being present. Shell covered with epidermal shields. Neck completely retractile within the shell, second cervical vertebra biconvex. A bony temporal arch; no parieto-squamosal arch, palatine bones in contact; no nasals; praefrontals in contact; dentary single. Digits moderately elongate, four or five claws.

South American Pelomedusidae as currently understood and including all the South American species are separated from the majority of African and Madagascan species by the presence of a bony temporal roof, the quadratojugal forming a suture with the parietal and mesoplastra small and lateral.

They are further defined as having mesoplastral bones small, lateral, wedged in between the hyoand the hypoplastra; plastron is

large, without hinge, with strong axillary and inguinal buttresses. A bony temporal roof, the quadratojugal forming a suture with the parietal; alveolar surface of upper jaw with one or more ridges; a single shield between the eyes; a pair of large parietal shields and an inter-parietal. Digits broadly webbed, fore foot with five claws, hind foot with four. Tail is very short.

South American Pelomedusidae within *Podocnemis* as currently recognized are further separated from similar species by a concave forehead (versus flat in the others) and the jugal and quadrate bones are separated.

Podocnemis is herein restricted to the species *P. expansa* (Schweigger, 1812). It is separated from all other species until now treated as also being in the genus *Podocnemis* by short and feeble alveolar ridges and two mental barbells.

Morphologically most similar to this genus is the resurrected genus *Bartlettia* Gray, 1870 for the species originally described as *Podocnemis sextuberculata*, which is separated from the species *P. expansa* (Schweigger, 1812), by having one instead of two mental barbells.

The genus *Novamyuchelys gen. nov.* (type species is *Podocnemis vogli* Müller, 1935) is separated from all other Pelomedusidae, including other species within *Podocnemis* as recognized to date, by the following suite of characters:

Vertebral keel feeble or absent; posterior margin of shell not expanded. Shields smooth or nearly so. Size not known to exceed 300 mm. Upper jaw feebly notched. Skull rather broad with three ridges on the triturating surface of the maxilla, all ridges roughened or dentate. Temporal region of skull well covered, only slightly emarginate dorsally or ventrally. Vomer present, tending to form part of choanal septum.

Shell with only a feeble nuchal indentation. Hatchlings with vertebral two large, exceeding vertebrals three or four in length and with black quadrangular blotches on each plastral scute. Skull is rather broad. A precolumellar fossa present. Width of cavum tympani equals width of orbit. Interorbital width less than height of orbit. Premaxillae not reaching choanal margin but joining vomer to separate maxillae. Foramina incisiva well within the margins of the premaxillae but almost concealed from ventral view by extensions of the parachoanal triturating ridges. Interparietal scale elongate, but parietal scales meeting behind it. Suboculars large. Maxillary scale light only posteriorly, being dark in the middle and anteriorly. Two barbells and three foot scales.

The three species within the genus *Wellsandwellingtonchelys gen. nov.* (type species is *Podocnemis unifilis* Troschel, 1848), are separated from all other Pelomedusidae, including other species within *Podocnemis* as recognized to date, by the following suite of characters:

Forehead concave; jugal and quadrate bones separated. Alveolar ridges of upper jaw strong, running along the whole length of the jaw. One or two mental barbells, but if two barbells, then two azygous shields between the parietals.

Within *Wellsandwellingtonchelys gen. nov.* the subgenus *Magdelenachelys subgen. nov.* (type species is *Podocnemis lewyana* Duméril, 1852), is readily separated from the other species in the genus by two, versus one mental barbell and three foot scales. There are two azygous shields between the parietals. This subgenus is further defined as follows:

Intergular broad, gulars not longer than intergular is wide anteriorly. Head never with yellow spots on the interparietal scale, always with sides of head light in color. Shell with vertebral keel barely or not at all visible. No nuchal indentation. Skull moderately elongate, upper jaw rounded, not notched at middle. Two parallel ridges on the triturating surface of the maxilla. Width of cavum tympani equals width of orbit. Interorbital width less than height of orbit.

Premaxillae not separating maxillae and not reaching choanal margin. Foramina incisiva well within the borders of the premaxillae. A vestigial vomer may be present. Interparietal scale heart-shaped. Suboculars present. Two barbells and three foot scales.

The subgenus *Erythrocephalachelys subgen. nov.* (type species is *Podocnemis erythrocephala* Spix, 1824) is separated from the other two subgenera by the following suite of characters:

Upper jaw notched medially, if feebly notched the interparietal scale elongate; shell more or less convex, much expanded posteriorly; vertebral keel distinct, most prominent on vertebral two or three. No nuchal indentation. Skull elongate with two parallel longitudinal ridges on surfaces of the maxilla. Suboculars present. Two barbells, two foot scales. Head is reddish in colour of individuals of 200 mm carapace length or greater.

Within the subgenus *Wellsandwellingtonchelys subgen. nov.* (type species is *Podocnemis unifilis* Troschel, 1848), the relevant species can be separated from others in the genus *Wellsandwellingtonchelys gen. nov.* by the following unique suite of characters:

Vertebral keel usually distinct, typically most prominent on vertebral three; posterior shell margin somewhat expanded; shell commonly concentrically ridged. Size known to exceed 600 mm. Upper jaw distinctly notched. Skull elongate with two ridges on the triturating surface of the maxilla, the internal ridge not sharply dentate. Temporal region of skull strongly emarginate both dorsally and ventrally. Vomer usually absent. Shell with a distinct nuchal indentation. Hatchlings with vertebral two usually only as long as vertebral three and with the plastron completely yellow or without a definite plastral pattern. Skull more or less elongate. A deep precolumellar fossa in the cavum tympani. Width of cavum tympani as great as or greater than the width of the orbit. Interorbital width less than height of orbit. Premaxillae not separating maxillae, not reaching choanal margin. Foramina incisive well within the borders of the premaxillae. The interchoanal bar, if present, formed from the palatines. Interparietal scale is very elongate but parietal scales usually meeting behind it. Suboculars usually present, usually not large. Maxillary scale light in color anteriorly and posteriorly, but dark in the middle. Usually only one barbel and three foot scales.

Distribution: All of northern South America east of the Andes, and the Magdalena drainage.

Content: *Podocnemis expansa* (Schweigger, 1812).

GENUS *BARTLETTIA* GRAY, 1870

Type species: *Bartlettia pitipii* Gray, 1870 (a synonym of *Podocnemis sextuberculata* Cornalia, 1849).

Diagnosis: See within the preceding description of *Podocnemis* Wagler, 1830.

The genus is further diagnosed and defined as follows:

Vertebral keel sharply raised into a swelling at the posterior margin of vertebral two; shell always smooth, concentric lines of growth if present, few and usually lines of pigment only, not ridges on the horny shields. Hatchlings with three pairs of prominent swellings on the sides of the plastron, the axillary pair often still indicated in the adult. Shell much expanded posteriorly. A nuchal indentation present, sometimes feeble. Skull broad, a single feeble ridge on the triturating surface of the maxilla. Premaxillae separating maxillae and reaching the choanal margin. Vomer absent. No precolumellar fossa in cavum tympani. Width of cavum tympani about equals width of orbit. Interorbital width less than height of orbit.

Interparietal scale usually widely separating the parietal scales. Large suboculars present. Two barbells and three foot scales and with a carapace length up to 310 mm.

Distribution: The Amazonian Region.

Content: *Bartlettia sextuberculata* (Cornalia, 1849).

GENUS *NOVAMYUCHELYS GEN. NOV.*

Type species: *Podocnemis vogli* Müller, 1935.

Diagnosis: All turtles within the Pelomedusidae are separated from other Chelids by the following suite of characters: Plastral bones eleven, mesoplastra being present. Shell covered with epidermal shields. Neck completely retractile within the shell, second cervical vertebra biconvex. A bony temporal arch; no parieto-squamosal arch, palatine bones in contact; no nasals; praefrontals in contact; dentary single. Digits moderately elongate, four or five claws.

South American Pelomedusidae as currently understood and including all the South American species are separated from the majority of African and Madagascan species by the presence of a bony temporal roof, the quadratojugal forming a suture with the parietal; mesoplastra small and lateral.

They are further defined as having mesoplastral bones small, lateral, wedged in between the hyoand the hypoplastra; Plastron

large, without hinge, with strong axillary and inguinal buttresses. A bony temporal roof, the quadratojugal forming a suture with the parietal; alveolar surface of upper jaw with one or more ridges; a single shield between the eyes; a pair of large parietal shields and an inter parietal. Digits broadly webbed, for foot with five claws, hind foot with four. Tail very short.

South American Pelomedusidae within *Podocnemis* as currently recognized are further separated from similar species by a concave forehead (versus flat in the others) and the jugal and quadrate bones are separated.

Podocnemis is herein restricted to the species *P. expansa* (Schweigger, 1812). It is separated from all other species until now treated as also being in the genus *Podocnemis* by short and feeble alveolar ridges and two mental barbells.

Morphologically most similar to this genus is the resurrected genus *Bartlettia* Gray, 1870 for the species originally described as *Podocnemis sextuberculata*, which is separated from the species *P. expansa* (Schweigger, 1812), by having one instead of two mental barbells.

The genus *Novamyuchelys gen. nov.* (type species is *Podocnemis vogli* Müller, 1935) is separated from all other Pelomedusidae, including other species within *Podocnemis* as recognized to date, by the following suite of characters:

Vertebral keel feeble or absent; posterior margin of shell not expanded. Shields smooth or nearly so. Size not known to exceed 300 mm. Upper jaw feebly notched. Skull rather broad with three ridges on the triturating surface of the maxilla, all ridges roughened or dentate. Temporal region of skull well covered, only slightly emarginate dorsally or ventrally. Vomer present, tending to form part of choanal septum. Shell with only a feeble nuchal indentation. Hatchlings with vertebral two large, exceeding vertebrals three or four in length and with black quadrangular blotches on each plastral scute. Skull rather broad. A precolumellar fossa present. Width of cavum tympani equals width of orbit. Interorbital width less than height of orbit. Premaxillae not reaching choanal margin but joining vomer to separate maxillae.

Foramina incisiva well within margins of premaxillae but almost concealed from ventral view by extensions of the parachoanal triturating ridges. Interparietal scale elongate, but parietal scales meeting behind it. Suboculars large. Maxillary scale light only posteriorly, dark in middle and anteriorly.

Two barbells and three foot scales.

The three species within the genus *Wellsandwellingtonchelys gen. nov.* (type species is *Podocnemis unifilis* Troschel, 1848), are separated from all other Pelomedusidae, including other species within *Podocnemis* as recognized to date, by the following suite of characters:

Forehead concave; jugal and quadrate bones separated. Alveolar ridges of upper jaw strong, running along the whole length of the jaw. One or two mental barbells, but if two barbells, then two azygous shields between the parietals.

Within *Wellsandwellingtonchelys gen. nov.* the subgenus *Magdelenachelys subgen. nov.* (type species is is *Podocnemis lewyana* Duméril, 1852), is readily separated from the other species in the genus by two, versus one mental barbell and three foot scales. There are two azygous shields between the parietals. This subgenus is further defined as follows:

Intergular broad, gulars not longer than intergular is wide anteriorly. Head never with yellow spots on the interparietal scale, always with sides of head light in color.

Shell with vertebral keel barely or not at all visible. No nuchal indentation. Skull moderately elongate, upper jaw rounded, not notched at middle. Two parallel ridges on the triturating surface of the maxilla. Width of cavum tympani equals width of orbit. Interorbital width less than height of orbit. Premaxillae not separating maxillae and not reaching choanal margin. Foramina incisiva well within the borders of the premaxillae. A vestigial vomer may be present. Interparietal scale heart-shaped. Suboculars present. Two barbells and three foot scales.

The subgenus *Erythrocephalachelys subgen. nov.* (type species is *Podocnemis erythrocephala* Spix, 1824) is separated from the other two subgenera by the following suite of characters:

Upper jaw notched medially, if feebly notched the interparietal scale elongate; shell more or less convex, much expanded posteriorly; vertebral keel distinct, most prominent on vertebral two or three. No nuchal indentation. Skull elongate with two parallel longitudinal ridges on surfaces of the maxilla. Suboculars present. Two barbells, two foot scales. Head is reddish in colour of individuals of 200 mm carapace length or greater.

Within the subgenus *Wellsandwellingtonchelys subgen. nov.* (type species is *Podocnemis unifilis* Troschel, 1848), the relevant species can be separated from others in the genus *Wellsandwellingtonchelys gen. nov.* by the following unique suite of characters:

Vertebral keel usually distinct, typically most prominent on vertebral three; posterior shell margin somewhat expanded; shell commonly concentrically ridged. Size known to exceed 600 mm. Upper jaw distinctly notched. Skull elongate with two ridges on the triturating surface of the maxilla, the internal ridge not sharply dentate. Temporal region of skull strongly emarginate both dorsally and ventrally. Vomer usually absent.

Shell with a distinct nuchal indentation. Hatchlings with vertebral two usually only as long as vertebral three and with the plastron completely yellow or without a definite plastral pattern. Skull more or less elongate. A deep precolumellar fossa in the cavum tympani. Width of cavum tympani as great as or greater than the width of the orbit. Interorbital width less than height of orbit. Premaxillae not separating maxillae, not reaching choanal margin. Foramina incisive well within the borders of the premaxillae. The interchoanal bar, if present, formed from the palatines. Interparietal scale very elongate but parietal scales usually meeting behind it. Suboculars usually present, usually not large. Maxillary scale light in color anteriorly and posteriorly, but dark in the middle. Usually only one barbel and three foot scales.

Distribution: Orinoco drainage, mainly in Venezuela.

Content: *Novamyuchelys vogli* (Müller, 1935).

Etymology: From the Australian Aboriginal word “myuna” meaning clear water and the Greek “chelys” meaning turtle is where the name “Myuchelys” comes from. The name *Myuchelys* was illegally coined by serial thieves Scott Thomson and Arthur Georges in 2009 in a crude and ill-conceived attempt to steal name authority for the Australian chelid genus *Wollumbinia* Wells, 2007.

As the name “*Myuchelys*” could be conceived as being “available” in Zoology, the name “nova-Myuchelys” has been assigned to this group of river-dwelling chelids, as in “new” *Myuchelys*. Hence we have *Novamyuchelys*!

GENUS *WELLSANDWELLINGTONCHELYS GEN. NOV.*

Type species: *Podocnemis unifilis* Troschel, 1848.

Diagnosis: All turtles within the Pelomedusidae are separated from other Chelids by the following suite of characters: Plastral bones eleven, mesoplastra being present. Shell covered with epidermal shields. Neck completely retractile within the shell, second cervical vertebra biconvex. A bony temporal arch; no parieto-squamosal arch, palatine bones in contact; no nasals; praefrontals in contact; dentary single. Digits moderately elongate, four or five claws.

South American Pelomedusidae as currently understood and including all the South American species are separated from the majority of African and Madagascan species by the presence of a bony temporal roof, the quadratojugal forming a suture with the parietal; mesoplastra small and lateral.

They are further defined as having mesoplastral bones small, lateral, wedged in between the hyoand the hypoplastra; Plastron large, without hinge, with strong axillary and inguinal buttresses. A bony temporal roof, the quadratojugal forming a suture with the parietal; alveolar surface of upper jaw with one or more ridges; a single shield between the eyes; a pair of large parietal shields and an inter parietal. Digits broadly webbed, for foot with five claws, hind foot with four. Tail very short.

South American Pelomedusidae within *Podocnemis* as currently recognized are further separated from similar species by a concave forehead (versus flat in the others) and the jugal and quadrate bones are separated.

Podocnemis is herein restricted to the species *P. expansa* (Schweigger, 1812). It is separated from all other species until now

treated as also being in the genus *Podocnemis* by short and feeble alveolar ridges and two mental barbells.

Morphologically most similar to this genus is the resurrected genus *Bartlettia* Gray, 1870 for the species originally described as *Podocnemis sextuberculata*, which is separated from the species *P. expansa* (Schweigger, 1812), by having one instead of two mental barbells.

The genus *Novamyuchelys gen. nov*. (type species is *Podocnemis vogli* Müller, 1935) is separated from all other Pelomedusidae, including other species within *Podocnemis* as recognized to date, by the following suite of characters:

Vertebral keel feeble or absent; posterior margin of shell not expanded. Shields smooth or nearly so. Size not known to exceed 300 mm. Upper jaw feebly notched. Skull rather broad with three ridges on the triturating surface of the maxilla, all ridges roughened or dentate. Temporal region of skull well covered, only slightly emarginate dorsally or ventrally. Vomer present, tending to form part of choanal septum.

Shell with only a feeble nuchal indentation. Hatchlings with vertebral two large, exceeding vertebrals three or four in length and with black quadrangular blotches on each plastral scute.

Skull rather broad. A precolumellar fossa present. Width of cavum tympani equals width of orbit. Interorbital width less than height of orbit. Premaxillae not reaching choanal margin but joining vomer to separate maxillae.

Foramina incisiva well within margins of premaxillae but almost concealed from ventral view by extensions of the parachoanal triturating ridges.

Interparietal scale elongate, but parietal scales meeting behind it. Suboculars large. Maxillary scale light only posteriorly, dark in middle and anteriorly.

Two barbells and three foot scales.

The three species within the genus *Wellsandwellingtonchelys gen. nov*. (type species is *Podocnemis unifilis* Troschel, 1848), are separated from all other Pelomedusidae, including other species within *Podocnemis* as recognized to date, by the following suite of characters:

Forehead concave; jugal and quadrate bones separated. Alveolar ridges of upper jaw strong, running along the whole length of the jaw. One or two mental barbells, but if two barbells, then two azygous shields between the parietals.

Within *Wellsandwellingtonchelys gen. nov*. the subgenus *Magdelenachelys subgen. nov*. (type species is is *Podocnemis lewyana* Duméril, 1852), is readily separated from the other species in the genus by two, versus one mental barbell and three foot scales. There are two azygous shields between the parietals. This subgenus is further defined as follows:

Intergular broad, gulars not longer than intergular is wide anteriorly. Head never with yellow spots on the interparietal scale, always with sides of head light in color.

Shell with vertebral keel barely or not at all visible. No nuchal indentation.

Skull moderately elongate, upper jaw rounded, not notched at middle. Two parallel ridges on the triturating surface of the maxilla. Width of cavum tympani equals width of orbit. Interorbital width less than height of orbit.

Premaxillae not separating maxillae and not reaching choanal margin. Foramina incisiva well within the borders of the premaxillae. A vestigial vomer may be present. Interparietal scale heart-shaped. Suboculars present. Two barbells and three foot scales.

The subgenus *Erythrocephalachelys subgen. nov*. (type species is *Podocnemis erythrocephala* Spix, 1824) is separated from the other two subgenera by the following suite of characters:
Upper jaw notched medially, if feebly notched the interparietal scale elongate; shell more or less convex, much expanded posteriorly; vertebral keel distinct, most prominent on vertebral two or three. No nuchal indentation. Skull elongate with two parallel longitudinal ridges on surfaces of the maxilla. Suboculars present. Two barbells, two foot scales. Head is reddish in colour of individuals of 200 mm carapace length or greater.

Within the subgenus *Wellsandwellingtonchelys subgen. nov*. (type species is *Podocnemis unifilis* Troschel, 1848), the relevant species can be separated from others in the genus *Wellsandwellingtonchelys gen. nov*. by the following unique suite of characters:

Vertebral keel usually distinct, typically most prominent on vertebral three; posterior shell margin somewhat expanded; shell commonly concentrically ridged. Size known to exceed 600 mm. Upper jaw distinctly notched. Skull elongate with two ridges on the triturating surface of the maxilla, the internal ridge not sharply dentate. Temporal region of skull strongly emarginate both dorsally and ventrally. Vomer usually absent.

Shell with a distinct nuchal indentation. Hatchlings with vertebral two usually only as long as vertebral three and with the plastron completely yellow or without a definite plastral pattern. Skull more or less elongate. A deep precolumellar fossa in the cavum tympani. Width of cavum tympani as great as or greater than the width of the orbit. Interorbital width less than height of orbit. Premaxillae not separating maxillae, not reaching choanal margin. Foramina incisive well within the borders of the premaxillae. The interchoanal bar, if present, formed from the palatines. Interparietal scale very elongate but parietal scales usually meeting behind it. Suboculars usually present, usually not large. Maxillary scale light in color anteriorly and posteriorly, but dark in the middle. Usually only one barbel and three foot scales.

Distribution: Guianan, Amazonian regions and the Orinoco and Magdalena drainages.

Content: *Wellsandwellingtonchelys unifilis* (Troschel, 1848) (type species); *W. erythrocephala* (Spix, 1824); *W. lewyana* (Duméril, 1852).

Etymology: Named in honour of Australian herpetologists, Richard Wells and Cliff Ross Wellington, both of New South Wales, Australia, in recognition of their leading works on turtle systematics. The “chelys” suffix is the Greek word for turtle.

SUBGENUS *WELLSANDWELLINGTONCHELYS SUBGEN. NOV.*

Type species: *Podocnemis unifilis* Troschel, 1848.

Diagnosis: All turtles within the Pelomedusidae are separated from other Chelids by the following suite of characters: Plastral bones eleven, mesoplastra being present. Shell covered with epidermal shields. Neck completely retractile within the shell, second cervical vertebra biconvex. A bony temporal arch; no parieto-squamosal arch, palatine bones in contact; no nasals; praefrontals in contact; dentary single. Digits moderately elongate, four or five claws.

South American Pelomedusidae as currently understood and including all the South American species are separated from the majority of African and Madagascan species by the presence of a bony temporal roof, the quadratojugal forming a suture with the parietal; mesoplastra small and lateral.

They are further defined as having mesoplastral bones small, lateral, wedged in between the hyoand the hypoplastra; Plastron large, without hinge, with strong axillary and inguinal buttresses. A bony temporal roof, the quadratojugal forming a suture with the parietal; alveolar surface of upper jaw with one or more ridges; a single shield between the eyes; a pair of large parietal shields and an inter parietal. Digits broadly webbed, for foot with five claws, hind foot with four. Tail very short.

South American Pelomedusidae within *Podocnemis* as currently recognized are further separated from similar species by a concave forehead (versus flat in the others) and the jugal and quadrate bones are separated.

Podocnemis is herein restricted to the species *P. expansa* (Schweigger, 1812). It is separated from all other species until now treated as also being in the genus *Podocnemis* by short and feeble alveolar ridges and two mental barbells.

Morphologically most similar to this genus is the resurrected genus *Bartlettia* Gray, 1870 for the species originally described as *Podocnemis sextuberculata*, which is separated from the species *P. expansa* (Schweigger, 1812), by having one instead of two mental barbells.

The genus *Novamyuchelys gen. nov*. (type species is *Podocnemis vogli* Müller, 1935) is separated from all other Pelomedusidae, including other species within *Podocnemis* as recognized to date,

by the following suite of characters:

Vertebral keel feeble or absent; posterior margin of shell not expanded. Shields smooth or nearly so. Size not known to exceed 300 mm. Upper jaw feebly notched. Skull rather broad with three ridges on the triturating surface of the maxilla, all ridges roughened or dentate. Temporal region of skull well covered, only slightly emarginate dorsally or ventrally. Vomer present, tending to form part of choanal septum.

Shell with only a feeble nuchal indentation. Hatchlings with vertebral two large, exceeding vertebrals three or four in length and with black quadrangular blotches on each plastral scute.

Skull rather broad. A precolumellar fossa present. Width of cavum tympani equals width of orbit. Interorbital width less than height of orbit. Premaxillae not reaching choanal margin but joining vomer to separate maxillae. Foramina incisiva well within margins of premaxillae but almost concealed from ventral view by extensions of the parachoanal triturating ridges.

Interparietal scale elongate, but parietal scales meeting behind it. Suboculars large. Maxillary scale light only posteriorly, dark in middle and anteriorly.

Two barbells and three foot scales.

The three species within the genus *Wellsandwellingtonchelys gen. nov.* (type species is *Podocnemis unifilis* Troschel, 1848), are separated from all other Pelomedusidae, including other species within *Podocnemis* as recognized to date, by the following suite of characters:

Forehead concave; jugal and quadrate bones separated. Alveolar ridges of upper jaw strong, running along the whole length of the jaw. One or two mental barbells, but if two barbells, then two azygous shields between the parietals.

Within *Wellsandwellingtonchelys gen. nov.* the subgenus *Magdelenachelys subgen. nov.* (type species is is *Podocnemis lewyana* Duméril, 1852), is readily separated from the other species in the genus by two, versus one mental barbell and three foot scales. There are two azygous shields between the parietals. This subgenus is further defined as follows:

Intergular broad, gulars not longer than intergular is wide anteriorly. Head never with yellow spots on the interparietal scale, always with sides of head light in color.

Shell with vertebral keel barely or not at all visible. No nuchal indentation.

Skull moderately elongate, upper jaw rounded, not notched at middle. Two parallel ridges on the triturating surface of the maxilla. Width of cavum tympani equals width of orbit. Interorbital width less than height of orbit.

Premaxillae not separating maxillae and not reaching choanal margin. Foramina incisiva well within the borders of the premaxillae. A vestigial vomer may be present.

Interparietal scale heart-shaped. Suboculars present. Two barbells and three foot scales.

The subgenus *Erythrocephalachelys subgen. nov.* (type species is *Podocnemis erythrocephala* Spix, 1824) is separated from the other two subgenera by the following suite of characters:
Upper jaw notched medially, if feebly notched the interparietal scale elongate; shell more or less convex, much expanded posteriorly; vertebral keel distinct, most prominent on vertebral two or three. No nuchal indentation. Skull elongate with two parallel longitudinal ridges on surfaces of the maxilla. Suboculars present. Two barbells, two foot scales. Head is reddish in colour of individuals of 200 mm carapace length or greater.

Within the subgenus *Wellsandwellingtonchelys subgen. nov.* (type species is *Podocnemis unifilis* Troschel, 1848), the relevant species can be separated from others in the genus *Wellsandwellingtonchelys gen. nov.* by the following unique suite of characters:

Vertebral keel usually distinct, typically most prominent on vertebral three; posterior shell margin somewhat expanded; shell commonly concentrically ridged. Size known to exceed 600 mm. Upper jaw distinctly notched. Skull elongate with two ridges on the triturating surface of the maxilla, the internal ridge not sharply dentate. Temporal region of skull strongly emarginate both dorsally and ventrally. Vomer usually absent.

Shell with a distinct nuchal indentation. Hatchlings with vertebral two usually only as long as vertebral three and with the plastron completely yellow or without a definite plastral pattern. Skull more or less elongate. A deep precolumellar fossa in the cavum tympani. Width of cavum tympani as great as or greater than the width of the orbit. Interorbital width less than height of orbit. Premaxillae not separating maxillae, not reaching choanal margin. Foramina incisive well within the borders of the premaxillae. The interchoanal bar, if present, formed from the palatines. Interparietal scale very elongate but parietal scales usually meeting behind it. Suboculars usually present, usually not large. Maxillary scale light in color anteriorly and posteriorly, but dark in the middle. Usually only one barbel and three foot scales.

Distribution: Guianan and Amazonian regions.

Content: *Wellsandwellingtonchelys* (*Wellsandwellingtonchelys*) *unifilis* (Troschel, 1848).

Etymology: As for the genus. Named in honour of Australian herpetologists, Richard Wells and Cliff Ross Wellington, both of New South Wales, Australia, in recognition of their leading works on turtle systematics. The “chelys” suffix is the Greek word for turtle.

SUBGENUS *MAGDELENACHELYS SUBGEN. NOV.*

Type species: *Podocnemis lewyana* Duméril, 1852.

Diagnosis: All turtles within the Pelomedusidae are separated from other Chelids by the following suite of characters: Plastral bones eleven, mesoplastra being present. Shell covered with epidermal shields. Neck completely retractile within the shell, second cervical vertebra biconvex. A bony temporal arch; no parieto-squamosal arch, palatine bones in contact; no nasals; praefrontals in contact; dentary single. Digits moderately elongate, four or five claws.

South American Pelomedusidae as currently understood and including all the South American species are separated from the majority of African and Madagascan species by the presence of a bony temporal roof, the quadratojugal forming a suture with the parietal; mesoplastra small and lateral.

They are further defined as having mesoplastral bones small, lateral, wedged in between the hyoand the hypoplastra; Plastron large, without hinge, with strong axillary and inguinal buttresses. A bony temporal roof, the quadratojugal forming a suture with the parietal; alveolar surface of upper jaw with one or more ridges; a single shield between the eyes; a pair of large parietal shields and an inter parietal. Digits broadly webbed, for foot with five claws, hind foot with four. Tail very short.

South American Pelomedusidae within *Podocnemis* as currently recognized are further separated from similar species by a concave forehead (versus flat in the others) and the jugal and quadrate bones are separated.

Podocnemis is herein restricted to the species *P. expansa* (Schweigger, 1812). It is separated from all other species until now treated as also being in the genus *Podocnemis* by short and feeble alveolar ridges and two mental barbells.

Morphologically most similar to this genus is the resurrected genus *Bartlettia* Gray, 1870 for the species originally described as *Podocnemis sextuberculata*, which is separated from the species *P. expansa* (Schweigger, 1812), by having one instead of two mental barbells.

The genus *Novamyuchelys gen. nov.* (type species is *Podocnemis vogli* Müller, 1935) is separated from all other Pelomedusidae, including other species within *Podocnemis* as recognized to date, by the following suite of characters:

Vertebral keel feeble or absent; posterior margin of shell not expanded. Shields smooth or nearly so. Size not known to exceed 300 mm. Upper jaw feebly notched. Skull rather broad with three ridges on the triturating surface of the maxilla, all ridges roughened or dentate. Temporal region of skull well covered, only slightly emarginate dorsally or ventrally. Vomer present, tending to form part of choanal septum.

Shell with only a feeble nuchal indentation. Hatchlings with vertebral two large, exceeding vertebrals three or four in length and with black quadrangular blotches on each plastral scute.

Skull rather broad. A precolumellar fossa present. Width of cavum tympani equals width of orbit. Interorbital width less than height of

orbit. Premaxillae not reaching choanal margin but joining vomer to separate maxillae.

Foramina incisiva well within margins of premaxillae but almost concealed from ventral view by extensions of the parachoanal triturating ridges.

Interparietal scale elongate, but parietal scales meeting behind it. Suboculars large. Maxillary scale light only posteriorly, dark in middle and anteriorly.

Two barbells and three foot scales.

The three species within the genus *Wellsandwellingtonchelys gen. nov.* (type species is *Podocnemis unifilis* Troschel, 1848), are separated from all other Pelomedusidae, including other species within *Podocnemis* as recognized to date, by the following suite of characters:

Forehead concave; jugal and quadrate bones separated. Alveolar ridges of upper jaw strong, running along the whole length of the jaw. One or two mental barbells, but if two barbells, then two azygous shields between the parietals.

Within *Wellsandwellingtonchelys gen. nov.* the subgenus *Magdelenachelys subgen. nov.* (type species is is *Podocnemis lewyana* Duméril, 1852), is readily separated from the other species in the genus by two, versus one mental barbell and three foot scales. There are two azygous shields between the parietals. This subgenus is further defined as follows:

Intergular broad, gulars not longer than intergular is wide anteriorly. Head never with yellow spots on the interparietal scale, always with sides of head light in color.

Shell with vertebral keel barely or not at all visible. No nuchal indentation.

Skull moderately elongate, upper jaw rounded, not notched at middle. Two parallel ridges on the triturating surface of the maxilla. Width of cavum tympani equals width of orbit. Interorbital width less than height of orbit.

Premaxillae not separating maxillae and not reaching choanal margin. Foramina incisiva well within the borders of the premaxillae. A vestigial vomer may be present.

Interparietal scale heart-shaped. Suboculars present. Two barbells and three foot scales.

The subgenus *Erythrocephalachelys subgen. nov.* (type species is *Podocnemis erythrocephala* Spix, 1824) is separated from the other two subgenera by the following suite of characters:
Upper jaw notched medially, if feebly notched the interparietal scale elongate; shell more or less convex, much expanded posteriorly; vertebral keel distinct, most prominent on vertebral two or three. No nuchal indentation. Skull elongate with two parallel longitudinal ridges on surfaces of the maxilla. Suboculars present. Two barbells, two foot scales. Head is reddish in colour of individuals of 200 mm carapace length or greater.

Within the subgenus *Wellsandwellingtonchelys subgen. nov.* (type species is *Podocnemis unifilis* Troschel, 1848), the relevant species can be separated from others in the genus *Wellsandwellingtonchelys gen. nov.* by the following unique suite of characters:

Vertebral keel usually distinct, typically most prominent on vertebral three; posterior shell margin somewhat expanded; shell commonly concentrically ridged. Size known to exceed 600 mm. Upper jaw distinctly notched. Skull elongate with two ridges on the triturating surface of the maxilla, the internal ridge not sharply dentate. Temporal region of skull strongly emarginate both dorsally and ventrally. Vomer usually absent.

Shell with a distinct nuchal indentation. Hatchlings with vertebral two usually only as long as vertebral three and with the plastron completely yellow or without a definite plastral pattern. Skull more or less elongate. A deep precolumellar fossa in the cavum tympani. Width of cavum tympani as great as or greater than the width of the orbit. Interorbital width less than height of orbit. Premaxillae not separating maxillae, not reaching choanal margin. Foramina incisive well within the borders of the premaxillae. The interchoanal bar, if present, formed from the palatines. Interparietal scale very elongate but parietal scales usually meeting behind it. Suboculars usually present, usually not large. Maxillary scale light in color anteriorly and posteriorly, but dark in the middle. Usually only one barbel and three foot scales.

Distribution: Magdalena drainage, Colombia.

Content: *Wellsandwellingtonchelys* (*Magdalenachelys*) *lewyana* (Duméril, 1852).

Etymology: Magdalena is the drainage system that the genus occurs and “chelys” is the Greek for turtle.

SUBGENUS *ERYTHROCEPHALACHELYS SUBGEN. NOV.*

Type species: *Emys erythrocephala* Spix, 1824.

Diagnosis: All turtles within the Pelomedusidae are separated from other Chelids by the following suite of characters: Plastral bones eleven, mesoplastra being present. Shell covered with epidermal shields. Neck completely retractile within the shell, second cervical vertebra biconvex. A bony temporal arch; no parieto-squamosal arch, palatine bones in contact; no nasals; praefrontals in contact; dentary single. Digits moderately elongate, four or five claws.

South American Pelomedusidae as currently understood and including all the South American species are separated from the majority of African and Madagascan species by the presence of a bony temporal roof, the quadratojugal forming a suture with the parietal; mesoplastra small and lateral.

They are further defined as having mesoplastral bones small, lateral, wedged in between the hyoand the hypoplastra; Plastron large, without hinge, with strong axillary and inguinal buttresses. A bony temporal roof, the quadratojugal forming a suture with the parietal; alveolar surface of upper jaw with one or more ridges; a single shield between the eyes; a pair of large parietal shields and an inter parietal. Digits broadly webbed, for foot with five claws, hind foot with four. Tail very short.

South American Pelomedusidae within *Podocnemis* as currently recognized are further separated from similar species by a concave forehead (versus flat in the others) and the jugal and quadrate bones are separated.

Podocnemis is herein restricted to the species *P. expansa* (Schweigger, 1812). It is separated from all other species until now treated as also being in the genus *Podocnemis* by short and feeble alveolar ridges and two mental barbells.

Morphologically most similar to this genus is the resurrected genus *Bartlettia* Gray, 1870 for the species originally described as *Podocnemis sextuberculata*, which is separated from the species *P. expansa* (Schweigger, 1812), by having one instead of two mental barbells.

The genus *Novamyuchelys gen. nov.* (type species is *Podocnemis vogli* Müller, 1935) is separated from all other Pelomedusidae, including other species within *Podocnemis* as recognized to date, by the following suite of characters:

Vertebral keel feeble or absent; posterior margin of shell not expanded. Shields smooth or nearly so. Size not known to exceed 300 mm. Upper jaw feebly notched. Skull rather broad with three ridges on the triturating surface of the maxilla, all ridges roughened or dentate. Temporal region of skull well covered, only slightly emarginate dorsally or ventrally. Vomer present, tending to form part of choanal septum.

Shell with only a feeble nuchal indentation. Hatchlings with vertebral two large, exceeding vertebrals three or four in length and with black quadrangular blotches on each plastral scute.

Skull rather broad. A precolumellar fossa present. Width of cavum tympani equals width of orbit. Interorbital width less than height of orbit. Premaxillae not reaching choanal margin but joining vomer to separate maxillae.

Foramina incisiva well within margins of premaxillae but almost concealed from ventral view by extensions of the parachoanal triturating ridges.

Interparietal scale elongate, but parietal scales meeting behind it. Suboculars large. Maxillary scale light only posteriorly, dark in middle and anteriorly.

Two barbells and three foot scales.

The three species within the genus *Wellsandwellingtonchelys gen. nov.* (type species is *Podocnemis unifilis* Troschel, 1848), are separated from all other Pelomedusidae, including other species within *Podocnemis* as recognized to date, by the following suite of characters:

Forehead concave; jugal and quadrate bones separated. Alveolar ridges of upper jaw strong, running along the whole length of the jaw. One or two mental barbells, but if two barbells, then two azygous shields between the parietals.

Within *Wellsandwellingtonchelys gen. nov.* the subgenus *Magdelenachelys subgen. nov*. (type species is is *Podocnemis lewyana* Duméril, 1852), is readily separated from the other species in the genus by two, versus one mental barbell and three foot scales. There are two azygous shields between the parietals. This subgenus is further defined as follows:

Intergular broad, gulars not longer than intergular is wide anteriorly. Head never with yellow spots on the interparietal scale, always with sides of head light in color.

Shell with vertebral keel barely or not at all visible. No nuchal indentation.

Skull moderately elongate, upper jaw rounded, not notched at middle. Two parallel ridges on the triturating surface of the maxilla. Width of cavum tympani equals width of orbit. Interorbital width less than height of orbit.

Premaxillae not separating maxillae and not reaching choanal margin. Foramina incisiva well within the borders of the premaxillae. A vestigial vomer may be present.

Interparietal scale heart-shaped. Suboculars present. Two barbells and three foot scales.

The subgenus *Erythrocephalachelys subgen. nov.* (type species is *Podocnemis erythrocephala* Spix, 1824) is separated from the other two subgenera by the following suite of characters:
Upper jaw notched medially, if feebly notched the interparietal scale elongate; shell more or less convex, much expanded posteriorly; vertebral keel distinct, most prominent on vertebral two or three. No nuchal indentation. Skull elongate with two parallel longitudinal ridges on surfaces of the maxilla. Suboculars present. Two barbells, two foot scales. Head is reddish in colour of individuals of 200 mm carapace length or greater.

Within the subgenus *Wellsandwellingtonchelys subgen. nov.* (type species is *Podocnemis unifilis* Troschel, 1848), the relevant species can be separated from others in the genus *Wellsandwellingtonchelys gen. nov*. by the following unique suite of characters:

Vertebral keel usually distinct, typically most prominent on vertebral three; posterior shell margin somewhat expanded; shell commonly concentrically ridged. Size known to exceed 600 mm. Upper jaw distinctly notched. Skull elongate with two ridges on the triturating surface of the maxilla, the internal ridge not sharply dentate. Temporal region of skull strongly emarginate both dorsally and ventrally. Vomer usually absent.

Shell with a distinct nuchal indentation. Hatchlings with vertebral two usually only as long as vertebral three and with the plastron completely yellow or without a definite plastral pattern. Skull more or less elongate. A deep precolumellar fossa in the cavum tympani. Width of cavum tympani as great as or greater than the width of the orbit. Interorbital width less than height of orbit. Premaxillae not separating maxillae, not reaching choanal margin. Foramina incisive well within the borders of the premaxillae. The interchoanal bar, if present, formed from the palatines. Interparietal scale very elongate but parietal scales usually meeting behind it. Suboculars usually present, usually not large. Maxillary scale light in color anteriorly and posteriorly, but dark in the middle. Usually only one barbel and three foot scales.

Distribution: Guianan and Amazonian regions and the Orinoco.

Content: *Wellsandwellingtonchelys* (*Erythrocephalachelys*) *erythrocephala* (Spix, 1824).

Etymology: As for the species “Erythrocephala” relates to the red coloured head, while “chelys” is the Greek word for turtle.

FINAL NOTE

The estimated times of divergences for the various genus-level groupings outlined above based on the published results of Vargas-Ramirez *et al.* (2008), are as follows:

Podocnemis Wagler, 1830 from the rest is at least 36.86 MYA, *Novamyuchelys gen. nov.* from the rest is at least 26.53 MYA, *Bartlettia* Gray, 1870 from the rest (including *Wellsandwellingtonchelys gen. nov.*) is at least 22.27 MYA, *Wellsandwellingtonchelys gen. nov.* subgenera diverged from one another at least 18.45 and 15.45 MYA.

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CONFLICT OF INTEREST

There are none.