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Turtles of Colombia: an annotated analysis of their diversity, distribution, and conservation status

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***Abstract.*—With this analysis, we update the state of knowledge on the species richness, distribution, and conservation status of the turtles of Colombia, both at the national level and regionally within Colombia by hydrological drainages and geopolitical distribution units (departments). The richness patterns and conservation status are analyzed at taxonomic and geographic levels, and the implications of the description of new species on our knowledge of their distribution and conservation status in the country are discussed. Finally, annotations are given on the turtle species that have been introduced into Colombia, translocated within the country, erroneously reported, or deemed to be taxonomically invalid. Our conservative analysis in terms of richness (based upon validated occurrence records) confirms that there are 33 species and two subspecies of turtles in Colombia, of which five are sea turtles and 28 are tortoises or freshwater turtle species. Colombia has 17 genera of chelonians in nine families, so it is second behind Brazil in terms of the number of extant species in South America. The proportion of threatened species in Colombia exceeds 43%, and the threatened species are not evenly distributed among higher taxa or regions. Commonalities were found in the national conservation status assessments for most of the turtle species shared among the five most species-rich countries in South America, including sea turtles and podocnemidids (except for the podocnemidids in Brazil).**

Keywords. Chelonians, endemism, Reptilia, sea turtles, South America, threats, tortoises

***Resumen.*—En este análisis actualizamos el estado de conocimiento sobre la riqueza de especies, distribución y estado de conservación de las tortugas de Colombia, tanto a nivel nacional, como por cuencas hidrológicas y por distribución geopolítica (departamentos). Analizamos los patrones de riqueza y conservación a nivel taxonómico y geográfico, y discutimos las implicaciones de la descripción de especies nuevas en el conocimiento de su distribución y conservación en el país. Finalmente, hacemos anotaciones sobre las especies de tortugas introducidas, traslocadas a nivel nacional, erróneamente reportadas, o consideradas taxonomicamente inválidas. Nuestro análisis conservador a nivel de riqueza de especies (basados en registros de ocurrencia validados) confirma que en Colombia ocurren 33 especies y dos subespecies de tortuga, de las cuales cinco son marinas y 28 son terrestres o de agua dulce. Colombia cuenta con nueve familias de quelonios, 17 géneros y es segundo en Suramérica después de Brasil en términos del número de especies vivientes. La proporción de especies amenazadas en Colombia excede el 43% y no se distribuye equitativamente por familia o por regiones. Encontramos similitudes en las evaluaciones nacionales de los estados de conservación para la mayoría de las especies de tortugas compartidas entre los cinco países de mayor riqueza del orden en Suramérica, incluyendo a las tortugas marinas y los podocnemididos (con la excepción de los podocnemididos de Brasil).**

Palabras clave. Amenaza, distribución, diversidad, endemismos, quelonios, Reptilia, Suramérica

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Introduction

The geographic range of a species is determined by a combination of ecological and historical factors, irrespective of political borders (Gaston 2003). However, species inventories are usually conducted for areas defined by artificial boundaries to produce species lists for specific protected areas or political regions. For example, national checklists have been used to identify "mega-diverse" countries, which can help donor agencies and conservation organizations prioritize their efforts to preserve biodiversity. Updates of national checklists may also help to document increases in the known species richness of a country, thereby providing a metric on the rate of growth in knowledge for a particular taxonomic group. National checklists provide an important first step in identifying species that face conservation concerns, because the responsibility for enacting and enforcing conservation legislation and actions lies with institutions at the national level.

Colombia is one of the richest countries in terms of turtle species, and thus plays an important global role in their study and conservation. Ceballos-Fonseca (2000) published the first checklist of turtles for Colombia, which has been followed by other updates in the literature during the past two decades (Páez et al. 2012a; Morales-Betancourt et al. 2015a; Forero-Medina et al. 2016). The richness of the Colombian turtle fauna has also been summarized in several global turtle species compilations, such as Uetz et al. (2021) and the nine editions of the Turtle Taxonomy Working Group checklists (TTWG 2021). Checklists should be updated frequently, especially for countries like Colombia where the effort of biodiversity studies, including turtles (Bock and Páez 2017), has increased exponentially in recent years.

The different checklists have all shown that Colombia and Mexico are the two countries with the most families of turtles (nine), and they rank among the top one-fifth globally in terms of turtle species richness (most recently, 33 species; TTWG 2021). However, these checklists have either failed to detail the sources of the records they were based upon or admitted to having used databases comprised of multiple kinds of records. However, voucher types vary considerably in terms of scientific merit (Lehn et al. 2007), from anecdotal reports of sightings found in gray literature reports, to e-vouchers such as photographs available on the Internet, to those in the published peer-reviewed literature, and catalogued museum voucher specimens.

For this reason, the purpose of this study was to provide an updated checklist of the turtle species of Colombia, including information on their distribution within the country, based upon only the most scientifically solid evidence available. Thus, the information in this catalogue is limited almost exclusively to data from catalogued museum voucher specimens or from peer-reviewed publications in the scientific literature. Annotations are provided in cases where taxonomic issues exist, as well as comments on the conservation status of new or otherwise non-evaluated taxa. Finally, analyses of the occurrence data are presented which compare the turtles found in different hydrological drainages and geopolitical units (departments) within Colombia, as well as comparisons of the species richness and conservation status of turtles in Colombia with the other turtle-rich countries in South America.

Materials and Methods

Previous checklists of Colombian turtles have summarized species distributions within the country either by hydrographic drainage (because most Colombian turtles are freshwater species) or by geopolitical distribution units (departments). This catalogue documents the occurrence of Colombian turtle species by department and by hydrographic drainage, with the latter based on the five macro-drainages recognized by the Instituto de Hidrología, Metereología y Estudios Ambientales (IDEAM 2013; Fig. 1): Amazon (AMA), Orinoco (OR), Caribbean (CAR), Magdalena-Cauca (MAG-CAU), and Pacific (PA). IDEAM considers the MAG-CAU drainage as distinct from the other Colombian rivers that drain into the Caribbean (CAR) due to its much greater discharge rate. Sea turtle species were excluded from the analyses involving these freshwater macro-drainages, but not from the analyses involving departments.

First, the most recent nomenclatural listings of turtle species proposed by the TTWG (2021; and previous editions) were examined, along with the slightly different taxonomic scheme used by the online Reptile Database (Uetz et al. 2021). For all taxa that have been purported to occur in Colombia, voucher specimens were identified in various biological collection databases by accessing the websites of the Global Biodiversity Information Facility (GBIF.org 2021), HerpNET (HerpNET 2021), and the Sistema de Información sobre Biodiversidad de Colombia (SiB Colombia 2021). We attempted to locate at least one voucher specimen for each macro-drainage, as well as for each of the departments in Colombia where a species had previously been reported to occur. When multiple voucher specimens for the same department were located, the oldest voucher specimen was chosen for citation here as evidence of occurrence. This was done to minimize the risk of including specimens that were translocated to a location outside of their natural range, given the frequent releases of confiscated turtles by Colombian authorities in recent years, often with no knowledge of the provenance of the individuals being released (Morales-Betancourt et al. 2012a).

Vouchers of the Colombian turtle species were found in the following collections, using the museum acronyms of Leviton et al. (1985) and Iverson (1992): AMNH: Herpetology-R (American Museum of Natural History Herpetology Collections), ARAUQ (Colección

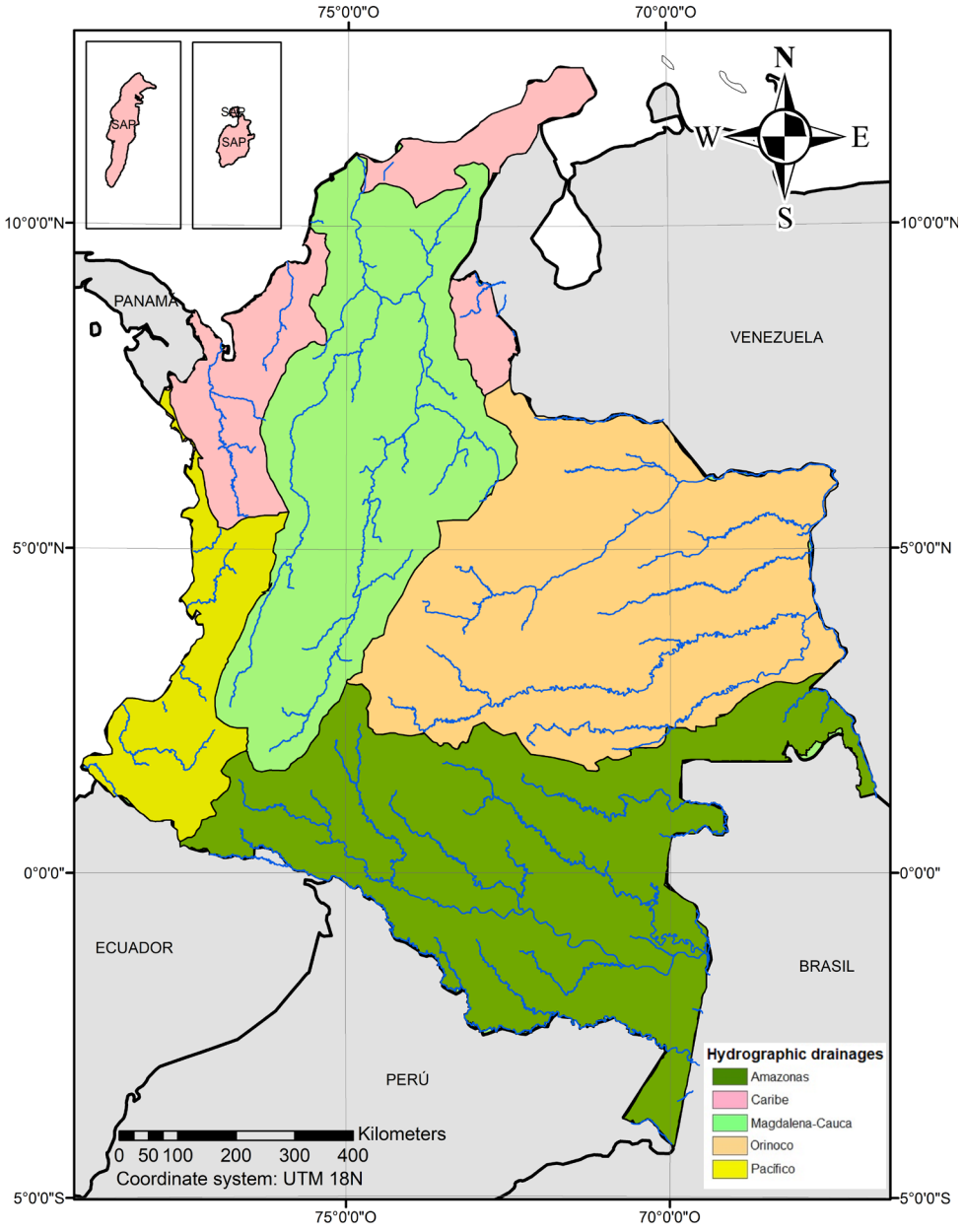

Fig. 1. Map indicating the locations of the five macro-drainages used in this study (IDEAM 2013).

de Anfibios y Reptiles de la Universidad del Quindío), CBUMAG:REP (Colección Biológica de la Universidad del Magdalena: Reptiles), COLZOOCH-H (Colección Científica de Referencia Zoológica del Chocó-Herpetología), CVS (Reptiles Corporación Autónoma Regional de los Valles del Sinú y del San Jorge), FMNH (Field Museum of Natural History (Zoology) Amphibian and Reptile Collection), HERPETOS-UQ (Colección de Herpetología de la Universidad de Quindío), IAvH-R (Colección de Reptiles del Instituto de Investigación de Recursos Biológicos Alexander von Humboldt), IAvH-CT (Colección de Tejidos del Instituto de Investigación de Recursos Biológicos Alexander von Humboldt), ICN-MHN-Rep o ICN (Colección de Herpetología del Instituto de Ciencias Naturales de la Universidad Nacional de Colombia), KUH (University of Kansas Biodiversity Institute Herpetological Collection), MCNUP-H (Colección Herpetológica del Museo de Ciencias Naturales de la Universidad de Pamplona), MHNU-H (Colección Herpetológica-Museo de Historia Natural Unillanos); MHUA-R (Colección de Reptiles, Museo de Herpetología de la Universidad de Antioquia), MLS-quel (Colección de Quelonios Museo de La Salle Bogotá), UIS-MHN (Colección Herpetológica del Museo de Historia Natural de la Universidad Industrial de Santander), MPUJ-REPT (Colección de Reptiles del Museo de Historia Natural de la Pontificia Universidad Javeriana), MVZ-Herp (Museum of Vertebrate Zoology, University of California Berkeley), SINCHI-R (Instituto Amazónico de Investigaciones Científicas SINCHI), SMF (Forschungsinstitut und Natur-Museum Senckenberg), USNM (National Museum of Natural

History, Smithsonian Institution), and UV-C (Colección de Anfibios y Reptiles de la Universidad del Valle).

To fill the gaps for macro-drainages or departments where no voucher specimens were found, the peer-reviewed scientific literature on Colombian turtle species was consulted. The book *Biología y Conservación de las Tortugas Continentales de Colombia* (Páez et al. 2012a) is a comprehensive edited volume with over 40 contributing authors that summarized the state of knowledge, at that time, on the tortoise and freshwater turtle species in Colombia. An analysis of the bibliography included in that book (Bock and Páez 2017) found that 269 citations involved studies conducted within Colombia on one or more of its native turtle species. We used this database and complimented it with our personal working bibliographies of publications on sea turtles in Colombia, as well as the more recent publications on any turtle species in Colombia, to yield a comprehensive source of solid evidence for the occurrence of Colombian turtle species in different macro-drainages and departments. We also incorporated our own personal records from working on these species in Colombia. Finally, as a secondary means to corroborate the distribution of Colombian turtle species based upon literature records, for departments where our only evidence of presence was a published article, we also consulted iNaturalist (including non-research grade records; iNaturalist 2021) for photographs of those species that show taxonomically useful characters and were accompanied by geographic coordinates.

For the data analysis, the comparisons of the turtle communities occurring within the five macro-drainages were conducted with a cluster analysis of the occurrence data, using a grouping analysis based on Jaccard indices with the *vegan* package (Oksanen et al. 2007) in R (R Core Team 2016). To summarize species richness data by department, maps were generated based on cartographic information obtained from the databases of the Instituto Geográfico Agustín Codazzi (IGAC 2021) and the Sistema de Información Ambiental de Colombia (SIAC 2021). The data were standardized in terms of format, coordinate system, scale, and resolution, and processed with ArcGIS software (version 10.4) (ESRI 2014).

Results

Species richness and distribution

The presence of 35 taxa (33 species, two of which included two subspecies each) in Colombia was documented based on both voucher specimens and the published literature (Table 1). The lone exception was our failure to locate vouchers or literature records for the recently resurrected species *Mesoclemmys wermuthi* (but see the **Recent taxonomic changes** section below). If one accepts that *M. wermuthi* is present in Colombia, then Colombia contains populations of a total of five sea turtle species, 28 tortoise and freshwater turtle species, and one exotic species (*Trachemys scripta elegans*). The native Colombian species belong to both suborders (16 Pleurodira species and 17 Cryptodira species) divided among nine families and 17 genera. Colombia has four endemic turtle species: *Kinosternon dunni, Mesoclemmys dahli, Podocnemis lewyana*, and *Trachemys medemi*. The most speciose families are Chelidae with nine species and Podocnemididae with seven species, constituting 48.5% of the Colombian turtle fauna.

In terms of the distributions of these species within Colombia, both vouchers and scientific publications confirmed the previously reported occurrences of turtle species in the five macro-drainages. However, at the level of departments, only the scientific publications confirmed all previously reported occurrences. Among the total of 263 occurrence reports for Colombian turtle species in specific departments, voucher specimens could not be located to corroborate the evidence from scientific publications in 38% of the cases. Among those cases, 14 reliable observations were found in iNaturalist to help corroborate the scientific literature reporting the presence of a species in a department.

Among the macro-drainages, CAR possesses the highest species richness (14 species), followed by OR and AMA (13), MAG-CA (eight), and PA (six) (Fig. 1). Nine species (*Chelus fimbriata*, *Chelus orinocensis*, *Mesoclemmys wermuthi*, *Podocnemis erythrocephala, Podocnemis sextuberculata*, *Podocnemis vogli*, *Rhinoclemmys diademata,* and *Trachemys medemi*) only occur in one of the five macro-drainages. In terms of species compositions, the two macro-drainages located east of the Andes (OR and AMA) differed from the three Andean macro-drainages (CAR, PA, and MAG-CA), with a dissimilarity of 95% (Fig. 2). The most similar macro-drainages were OR and AMA (56%), with nine shared species, and CAR and MAG-CA (60%), with eight shared species (Table 1). The MAG-CA macro-drainage lacked any unique species. The PA macro-drainage was grouped with the CAR and MAG-CA cluster, but with a low similarity (35%), and it shared seven species with CA and four of its species also occupy the MAG-CA macro-drainage.

Eight departments make up Colombia's Caribbean coastline, plus the island department of San Andres, Providencia, Santa Catalina, while the Pacific coastline of Colombia is divided among four departments. While all five of Colombia's sea turtle species have been documented to forage and nest in some of Colombia's departments, two species are restricted to only one coastline: *Caretta caretta* in the Caribbean and *Lepidochelys olivacea* in the Pacific. The Magdalena and Chocó departments present the highest documented nesting species richness for sea turtles (four species each).

Among the non-marine turtles of Colombia, our analysis found that four species (*Chelonoidis carbonarius*, *Kinosternon leucostomum*, *Kinosternon*

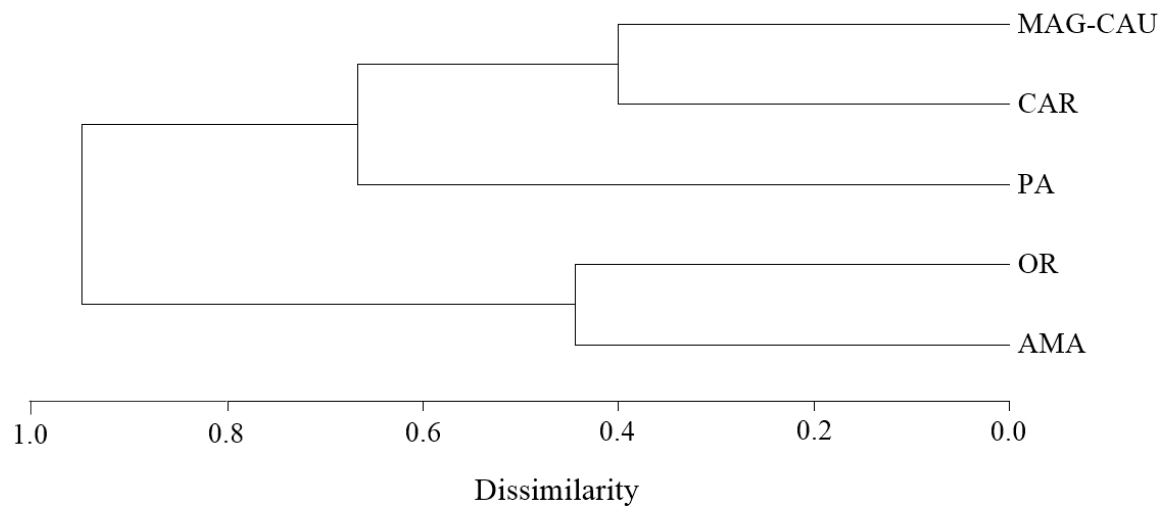

Fig. 2. Cluster diagram comparing turtle community species compositions of the five macro-drainages in Colombia.

scorpioides, and *Rhinoclemmys melanosterna*) have the widest distributions, occupying from 17 to 20 of Colombia's departments; while at the other extreme are seven species with restricted ranges within the country: *Mesoclemmys wermuthi* and *Rhinoclemmys diademata* only occur in one department, *Kinosternon dunni* and *Trachemys medemi* only occur in two departments, and *Chelus orinocensis, Podocnemis erythrocephala,* and *Rhinemys rufipes* only occur in three departments. The departments with the highest species richness (including marine turtles) are Amazonas with 13 species, and Antioquia, Caquetá, Chocó, Córdoba, Guainía, Meta, and Vichada with 12 species each. At the other extreme, Huila, Norte de Santander, Quindío, Risaralda, and Tolima each have only three species or less (Fig. 3).

Of the 33 Colombian turtle species, only four (*Chelus fimbriata, Chelus orinocensis, Rhinoclemmys diademata,* and *Rhinoclemmys nasuta*) have museum voucher specimens which document their occurrence in all departments within their ranges. The species with the most poorly documented distributions in Colombia include one of the endemic species, *Mesoclemmys dahli* (only two of the six departments where it occurs have vouchers), *Peltocephalus dumerilianus* (only two of the nine departments), *Podocnemis sextuberculata* (only one of four departments), and all five sea turtle species (*Chelonia mydas*, two of 11 departments; *Eretmochelys imbricata*, four of 11; *Dermochelys coriacea*, two of 10; *Caretta caretta*, two of five; and *Lepidochelys olivacea*, two of four). We do not know if the only voucher of *Mesoclemmys raniceps* (from only one of the five departments where it occurs) truly belongs to this species or is actually a specimen of *M. wermuthi.*

Erroneous reports and species otherwise excluded from this checklist

***Chelonia agasizzi* (Bocourt, 1868).** Ceballos-Fonseca (2000) listed *Chelonia agasizii* as having a distribution that includes the Pacific coast of Colombia. However, the consensus since then has been that there is no justification for recognizing the "black sea turtle" as a valid species, but rather that these populations simply constitute somewhat distinctive populations of the Green Sea Turtle, *C. mydas* (Karl and Bowen 1999; TTWG 2017).

***Chelonia mydas* (Linnaeus, 1758).** Ceballos-Fonseca (2000) stated that this species nests on both the Caribbean and Pacific coasts of the Chocó Department, but in the Caribbean portion of the Chocó Department no nesting by this species has been documented, with sightings limited to juvenile individuals foraging in marine grasses along the coast (C. Ramírez-Gallego and K.G. Barrientos-Muñoz, pers. comm.). Nesting by this species on the Pacific coast of the Chocó Department is sporadic (Barrientos-Muñoz et al. 2013).

***Eretmochelys imbricata* (Linnaeus, 1766).** Ceballos-Fonseca (2000) reported that this species nests on both coasts of Colombia. However, nests have only been documented on Caribbean beaches in Colombia, while nesting by this species in the Pacific has not been recorded, although there have been a few sightings of individuals foraging there (Barrientos-Muñoz et al. 2015a, 2020; Gaos et al. 2010; Tobón-López and Amorocho 2014; Trujillo-Arias et al. 2014).

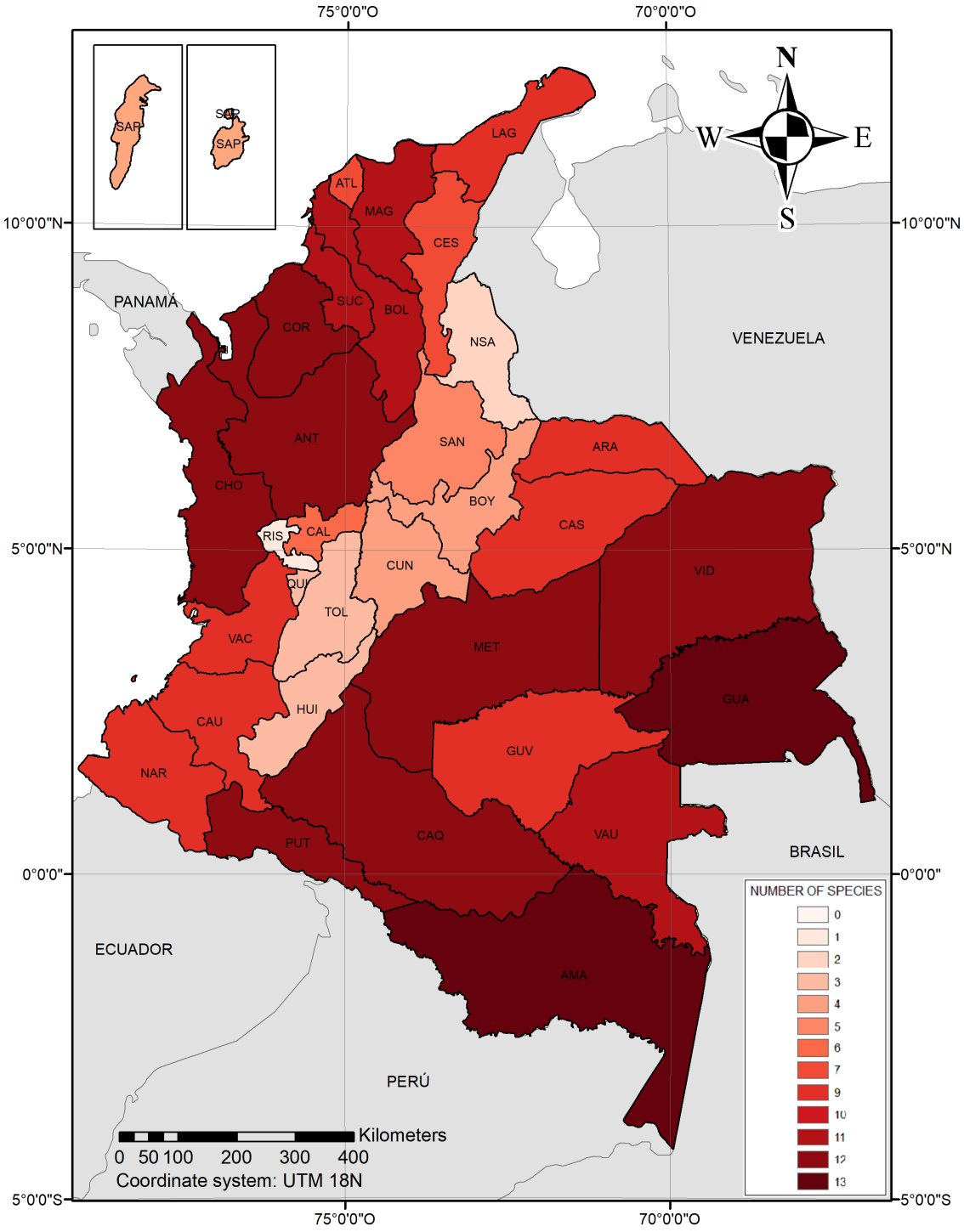

Fig. 3. Map indicating turtle species richness by department in Colombia.

***Lepidochelys kempii* (Garman, 1880).** Ceballos-Fonseca (2000) listed *Lepidochelys kempii* as occurring along the Caribbean coast of Colombia. However, the range of this species has been characterized as limited to coastal habitats of the northern Gulf of Mexico and northwestern Atlantic Ocean (Mexico and the USA; Márquez 1990; TTWG 2017), with occasional sightings of individuals in the northeastern Atlantic (Bolton and Martins 1990; Covelo et al. 2016) and even in the Mediterranean (Insacco and Spadola 2010). While it is possible that *Lepidochelys kempii* individuals occasional wander into Colombian waters, we found no voucher specimens or reports in the peer-reviewed literature to support this possibility, so this species was not included in the current checklist.

***Lepidochelys olivacea* (Eschscholtz, 1829).** Ceballos-Fonseca (2000) reported that this species occurs and nests

Table 1. Diversity, distribution, and conservation status of the turtles of Colombia. Abbreviations: **Distribution in hydrographic drainages**: the shortened forms represent: AMA (Amazon), CAR (Caribbean), MAG-CA (Magdalena-Cauca), OR (Orinoco) and PA (Pacific). **Geopolitical distribution** (by Department): Amazonas (AMA), Antioquia (ANT), Arauca (ARA), Atlántico (ATL), Bolívar (BOL), Boyacá (BOY), Caldas (CAL), Caquetá (CAQ), Casanare (CAS), Cauca (CAU), Cesar (CES), Chocó (CHO), Córdoba (COR), Cundinamarca (CUN), Guainía (GUA), Guaviare (GUV), Huila (HUI), La Guajira (LAG), Magdalena (MAG), Meta (MET), Nariño (NAR), Norte de Santander (NSA), Putumayo (PUT), Quindío (QUI), Risaralda (RIS), San Andrés, Providencia y Santa Catalina (SAP), Santander (SAN), Sucre (SUC), Tolima (TOL), Valle del Cauca (VAC), Vaupés (VAU) and Vichada (VID). For sea turtles in column "Geopolitical Distribution", (A) means only occurrence in the ocean, and (B) means it nests there too. Nesting activity for the species *Eretmochelys imbricata* in the department of Chocó occurs in the Caribbean basin, therefore it appears: CHO (CAR). Nesting activity for the species *Chelonia mydas* in the department of Chocó occurs in the Pacific basin, therefore it appears: CHO (PA). **Max. Elev.:** Maximum Elevation reported in Colombia. **National conservation status:** National Red List: Colombian conservation status (Morales-Betancourt et al. 2015a): CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; DD, Data Deficient; LC, Least Concern; and NE, Not Evaluated. **Vouchers:** *Voucher may correspond to *M. raniceps* or *M. wermuthi*. **Voucher may belong to either of the two subspecies of *Platemys platycephala*.

Taxon (common name in English and name used in Colombia)	Author, holotype, and type locality	Distribution in hydrographic drainages					Geopolitical distribution	Max. Elev. (m asl)	Endemic	National conservation status	References for geographic distribution	Vouchers
		AMA	CAR	MAG-CA	OR	PA						
Suborder Cryptodira	Cope 1869											
Family Chelydridae	Gray 1831											
1. *Chelydra acutirostris* (South American Snapping Turtle, Pímpano, Baché)	Peters 1862, ZMB 45500, Guayaquil, Ecuador		X	X		X	ANT, CAL, CAU, CHO, COR, NAR, QUI, VAC	1,500		LC	Medem 1977; Henao and Ruíz-Palma 1996; Castaño-Mora 2002b; Páez et al. 2002; Regalado-Tabares et al. 2012; Arángo-Lozano et al. 2017	ANT: MHUA-R 17013; CHO: ICN-MHN-Rep 7335; QUI: ICN-MHN-Rep 6648; VAC: MLS-quel 211
Family Geoemydidae	Theobald 1868											
2. *Rhinoclemmys annulata* Brown Wood Turtle; Montañera, Bambera)	Gray 1860, BMNH 1946.1.22.56, Esmeraldas, Ecuador		X			X	ANT, CAU, CHO, COR, NAR, VAC	1,000		LC	Castaño-Mora et al. 2004; Castro-Herrera and Vargas-Salinas 2008; Giraldo et al. 2012a, 2013a	ANT: MHUA-R 17233; CAU: AMHN R-109663; CHO: COLZOOCH-H 1165; NAR: ICN-MHN-Rep 7519; VAC: MLS-quel 242
3. *Rhinoclemmys diademata* (Maracaibo Wood Turtle; Galápago Negro, Inguensa)	Mertens 1954, SMF 48141, Maracaibo, Venezuela		X				NSA	300		EN	Armesto et al. 2011; Morales-Betancourt and Lasso 2012a, 2015b	NSA: MLS-quel 189
4. *Rhinoclemmys melanosterna* (Colombian Wood Turtle; Palmera, Orito)	Gray 1861, BMNH 1947.3.4.8, Golfo del Darién, Colombia		X	X		X	ANT, ATL, BOL, BOY, CAL, CAU, CES, CHO, COR, CUN, LAG, MAG, NAR, QUI, SAN, SUC, VAC	500		NT	Castaño-Mora et al. 2004; Castro-Herrera and Vargas-Salinas 2008; Medina-Rangel 2011; Echeverry-García et al. 2012a; Vargas-Ramírez et al. 2013; Flórez-Jaramillo and Barona-Cortés 2016; Carvajal-Cogollo 2019; González-Avendaño 2019; Pinto-Erazo et al. 2020	ANT: MHUA-R 18123; BOL: ICN-MHN-Rep 1681; BOY: https://colombia.inaturalist.org/observations/9288605; CAU: JVN-C 368; CES: https://colombia.inaturalist.org/observations/65111010; CHO: ICN-MHN-Rep 1688; COR: CVS: REPTILES 138; MAG: ICN-MHN-Rep 6662; NAR: ICN-MHN-Rep 7704; QUI: HERPETOS-UQ: ARUQ 230; SAN: UIS-MHN 4059; SUC: https://colombia.inaturalist.org/observations/36693148; VAC: MLS-quel 251
5. *Rhinoclemmys nasuta* (Large-nosed Wood Turtle; Tortuga de Río Chocoana)	Boulenger 1902, BMNH 1947.3.5.54-57, Esmeraldas, Ecuador		X			X	CAU, CHO, NAR, VAC	200		NT	Castaño-Mora et al. 2004; Castro-Herrera and Vargas-Salinas 2008; Pérez and Alegría 2009; Carr et al. 2012; Giraldo et al. 2012b; Garcés-Restrepo et al. 2013, 2019	CAU: MLS-quel 97; CHO: ICN-MHN-Rep 7525; NAR: ICN-MHN-Rep 7750; VAC: USNM 198638
Family Emydidae	Rafinesque 1815											
6. *Trachemys venusta callirostris* (Colombian Slider; Hicotea, Galápago)	Gray 1856, BMNH 1947.3.4.87, America		X	X			ANT, ATL, BOL, CAL, CES, COR, CUN, LAG, MAG, SAN, SUC	800		VU	Castaño-Mora and Medem 2002b; Medina-Rangel 2011; Bock et al. 2012a, 2015; Blanco-Torres et al. 2013; Restrepo et al. 2014; Montes-Correa et al. 2014; Medina-Rangel and Cárdenas-Arévalo 2015; Flórez-Jaramillo and Barona-Cortés 2016; Zapata-Ciro et al. 2016; Vargas-Ramírez et al. 2017	ANT: MHUA-R 18314; ATL: ICN-MHN-Rep 7755; BOL: MHUA-R 17006; CES: MLS-quel 256; COR: ICN-MHN-Rep 7645; LAG: CBUMAG: REP 00002; MAG: MHUA-R 17001; SAN: ICN-MHN-Rep 6626; SUC: ICN-MHN-Rep 7535

Taxon (common name in English and name used in Colombia)	Author, holotype, and type locality	Distribution in hydrographic drainages					Geopolitical distribution	Max. Elev. (m asl)	Endemic	National conservation status	References for geographic distribution	Vouchers
		AMA	CAR	MAG-CA	OR	PA						
7. *Trachemys medemi* sp. nov. (Atrato Slider, Hicotea del Atrato)	Vargas-R, del Valle, Ceballos, and Fritz 2017, IAVH-R 1606, Río Sucio, Chocó, Colombia		X				ANT, CHO	200	X	NE	Bock et al. 2012b; Ceballos and Brand 2014; Vargas-Ramírez et al. 2017	CHO: IAvH-R 1606
Family Kinosternidae	Agassiz 1857											
8. *Kinosternon dunni* (Dunn´s Mud Turtle; Cabeza de Trozo)	Schmidt 1947, FMNH 42804, Pizarro, Chocó, Colombia		X			X	CHO, VAC	100	X	VU	Rentería-Moreno et al.2012; Forero-Medina et al. 2015a	CHO: FMNH 42804
9. *Kinosternon leucostomumm postinguinale* (Southern White-lipped Mud Turtle; Tapaculo, Culitapa)	Duméril, Bibron, and Duméril 1851, MNHN 2114,9087, Rio Usumacita, El Peten, Guatemala		X	X		X	ANT, ATL, BOL, BOY, CAL, CAU, CES, CHO, COR, CUN, HUI, LAG, MAG, MET, NAR, QUI, RIS, SAN, SUC, TOL, VAC	1,700		LC	Castaño-Mora et al. 2004; Castro-Herrera and Vargas-Salinas 2008; Giraldo et al. 2012c, 2013b; Rodríguez-Murcia et al. 2014; Arango-Lozano et al. 2018; Carvajal-Cogollo 2019	ANT: MHUA-R 17288; BOL: MHUA-R 18523; BOY: UIS-MHN-R 2284; CAL: MPUJ-REPT 1261; CAU: AMNH-R 109654; CHO: COLZOOCH-H 1044; COR: MHUA-R 17652; CUN: ICN-MHN-Rep 3049; HUI: MVZ-Herp 71381; MAG: ICN 7822; MET: FMNH 81325; NAR: MLS-quel 245; QUI: ARUQ 232; RIS: MPUJ-REPT 511; SAN: UIS-MHN-R 3324; SUC: https://www.inaturalist.org/observations/7204706;TOL: MHUA-R 18312; VAC: UV-C 16086
10. *Kinosternon scorpioides scorpiodes* (Scorpion Mud Turtle; Tapaculo, Chibiri)	Linnaeus 1766, Not located, Surinam	X	X	X	X		AMA, ANT, ARA, ATL, BOL, CAL, CAQ, CAS, CES, COR, GUA, LAG, MAG, MET, NSA, PUT, SUC, VID	1,500		LC	Páez et al. 2002; Medina-Rangel 2011; Berry et al. 2012; Acuña-Vargas 2016; Montes-Correa et al. 2014, 2017; Cáceres-Martínez et al. 2017; Carvajal-Cogollo 2019	AMA: KUH 269162; ANT: MHUA-R 17014; ARA: IAvH-R 7434; ATL: https://colombia.inaturalist.org/observations/39512706; BOL: IAvH-R 6389; CAL: MPUJ-REPT 693; CAQ: IAvH-R 7567; CAS: https://colombia.inaturalist.org/observations/11745421; CES: NMNH 117461; COR: MHUA-R 17234; GUA: IAvH-R 7571; LAG: IAvH-R 3854; MAG: CBUMAG: REP 00001; MET: IAvH-R 08740; NSA: MCNUP-H 583; PUT: IAvH-R 7574; SUC: IAvH-R-6387; VID: MHUA-R 13342
Kinosternon scorpiodes albogulare (White-throated Mud Turtle; Swanka)	Duméril and Bocourt, 1870, MNHN 1760, San José, Costa Rica		X				SAP	20			Forero-Medina and Castaño-Mora 2011; Forero-Medina et al. 2015b	SAP: MLS-quel 11
Family Testudinidae	Batsch 1788											
11. *Chelonoidis carbonarius* (Red-footed Tortoise; Morrocoy de Patas Rojas, Morroco)	Spix 1824, Not located, South America		X	X	X		ANT, ARA, ATL, BOL, BOY, CAQ, CAS, CES, CHO, COR, GUA, HUI, LAG, MAG, MET, SAN, SUC, TOL, VID	950		VU	Castaño-Mora and Lugo-Rugeles 1981; Dueñez-Gómez et al. 2004; Vargas-Ramírez et al. 2010; Medina-Rangel 2011; Gallego-Garcia et al. 2012; Angarita-Sierra 2014; Montes-Correa et al. 2014; Castaño-Mora et al. 2015; Zapata-Ciro et al. 2016; Echeverry-Alcendra 2019	ANT: https://colombia.inaturalist.org/observations/25388974; ARA: IAvH-R 7606; ATL: USNM 117456; BOL: IAvH-R 1735; BOY: IAvH-R 7644; CAS: MLS-quel 255; CES: MLS-quel 238; CHO: IAvH-R 1616; COR: IAvH-R 1739; LAG: https://www.inaturalist.org/observations/83545483;HUI: https://www.inaturalist.org/observations/61266193; MAG: UIS-MHN-R 0607; MET: MLS-quel CR 89; SAN: IAvH-R 7857; SUC: IAvH-R 1749; VID: IAvH-CT 18214
12. *Chelonoidis denticulatus* (South American Yellow-footed Tortoise; Morrocoy de Patas Amarillas)	Linnaeus 1766, NRM De Geer collection 21, Virginia, USA (error)	X			X		AMA, ARA, CAQ, CAS, GUA, GUV, MET, PUT, VAU, VID	300		LC	Vargas-Ramírez et al. 2010; Echeverry-Alcendra et al. 2012; Blanco-Torres et al. 2019	AMA: IAvH-R 3730; CAQ: MLS-quel 154; CAS: ICN-MHN-Rep 7316; GUA: https://www.inaturalist.org/observations/79202908; GUV: IAvH-R 1725; MET: ICN-MHN-Rep 1730; PUT: MLS-quel 237; VAU: ICN-MHN-REP 1738; VID: IAvH-R 7866

Taxon (common name in English and name used in Colombia)	Author, holotype, and type locality	Distribution in hydrographic drainages					Geopolitical distribution	Max. Elev. (m asl)	Endemic	National conservation status	References for geographic distribution	Vouchers
		AMA	CAR	MAG-CA	OR	PA						
Family Cheloniidae	Oppel 1811											
13. *Caretta caretta* (Loggerhead Turtle; Caguama, Cabezona)	Linnaeus 1758, None designated, American Islands						(A) BOL, LAG, MAG, SAP, SUC; (B) LAG, MAG, SAP	0		CR	Borrero et al. 2013; Martínez-Ortega and Hernández-Fernández 2013; Moreno-Munar et al. 2014; Páez et al. 2015a; Franco-Espinosa and Hernández-Fernández 2017; Moncada et al. 2019; Ramírez-Gallego and Barrientos-Muñoz 2020a; Hernández-Obando 2020	LAG: IAvH-CT 4251; MAG: IAvH-CT 9286,
14. *Eretmochelys imbricata* (Hawksbill Turtle; Carey)	Linnaeus 1766, ZMUU 130, Bermuda Islands						(A) ANT, BOL, CAU, CHO, COR, LAG, MAG, NAR, SAP, SUC, VAC; (B) ANT, BOL, CHO (CAR), LAG, MAG, SAP, SUC	0		CR	Moreno-Munar et al. 2014; Trujillo-Arias et al. 2014; Barrientos-Muñoz et al. 2015a; Barreto 2016; Eckert and Eckert 2019; Cañas-Uribe et al. 2020; Ramírez-Gallego and Barrientos-Muñoz 2020a, 2020b; Alvarez-Rodríguez et al. 2021; Ramírez-Gallego and Barrientos 2021; Barrientos-Muñoz et al. 2022 [In Press]	BOL: IAvH-CT 9291; CAU: IAvH-CT 10313; LAG: IAvH-CT 4255; SUC: CJS-h 4960
15. *Chelonia mydas* (Green Turtle; Tortuga Verde, Tortuga Blanca)	Linnaeus 1758, Syntype NRM 19,26, Ascencion Island						(A) ANT, BOL, CAU, CHO, COR, LAG, MAG, NAR, SAP, SUC, VAC; (B) ANT, CHO (PA), MAG, SAP	0		EN	Amorocho and Reina 2008; Barrientos-Muñoz et al. 2013; Moreno-Munar et al. 2014; Barreto 2016; Eckert and Eckert 2019; Páez et al. 2015b; Ramírez-Gallego and Barrientos-Muñoz 2020a; Vásquez-Carrillo et al. 2020; Barrientos-Muñoz et al. 2022 [In Press]	CAU: IAvH-CT 10312; LAG: IAvH-CT 4245
16. *Lepidochelys olivacea* (Olive Ridley Turtle; Golfina)	Eschscholtz 1829, Possibly in MZT, Manila Bay, Philippines						(A) CAU, CHO, NAR, VAC; (B) CAU, CHO, NAR, VAC	0		VU	Amorocho et al. 1992; Camacho-Mosquera et al. 2008; Barrientos-Muñoz et al. 2014; Barrientos-Muñoz et al. 2015b; Eckert and Eckert 2019; Rivera-Robles and Adames-Jiménez 2021; Barrientos-Muñoz et al. 2022 [In Press],	CAU: IAvH-CT 10332; CHO: MHUA-R 17000
Family Dermochelyidae	Fitzinger 1843											
17. *Dermochelys coriacea* (Leatherback Turtle, Caná. La**ú**d)	Vandelli 1761, ZMUP unnumbered, Mediterranean and Adriatic seas						(A) ANT, BOL, CAU, CHO, COR, LAG, MAG, NAR, SAP, SUC; (B) ANT, CHO, LAG MAG	0		CR	Patiño-Martinez et al. 2008; Borrero et al. 2013; Moreno-Munar et al. 2014; Ramírez-Gallego et al. 2015; Rivera-Gómez et al. 2016; Barreto 2016; Hernández-Obando 2020;	CHO: MHUA 17011; LAG: IAvH-CT 4248
Subroden Pleurodira	Cope 1869											
Family Chelidae	Gray 1831											
18. *Chelus fimbriata* (Amazon matamata Turtle; Matamata del Amazonas)	Schneider 1783, Holotype not located, French Guiana	X					AMA, CAQ, CAS, GUA, GUV, PUT, VAU	250		LC	Medem 1969; Prichard 2008; Alfaro et al. 2011; Morales-Betancourt and Lasso 2012b; Angarita-Sierra 2014; Vargas-Ramírez et al. 2020	AMA: IAvH-R 1764; CAQ: ICN 1764; CAS: IAvH-R 7305; GUA: ICN 7700; GUV: IAvH-R 1763; PUT: IAvH-R 1770; VAU: IAvH-R 7700
19. *Chelus orinocensis* sp. nov. (Orinoco matamata Turtle, Matamata Orinocence, Matamata del Orinoco)	Vargas-R et al. 2020, IAvH-R 8755, Río Bita, Vichada, Colombia				X		ARA, MET, VID	250		NE	Vargas-Ramírez et al. 2020; Cunha et al. 2021	ARA: ICN 7311; MET: IAvH-R-8746; VID IAvH-R8755
20. *Mesoclemmys dahli* (Dahl´s Toad-headed Turtle; Carranchina, Montañera)	Zangerl and Medem 1958, FMNH 75980, "Vicinity of Sincelejo", Sucre, Colombia		X	X			ATL, BOL, CES, COR, MAG, SUC	250	X	EN	Castaño-Mora and Medem 2002c; Medina-Rangel 2011; Forero-Medina et al. 2012, 2015c; Montes-Correa et al. 2014; Carvajal-Cogollo 2019	BOL: https://colombia.inaturalist.org/observations/34721594; CES: ICN 11368; MAG: https://colombia.inaturalist.org/observations/40737689; SUC: IAvH-R-6384
21. *Mesoclemmys gibba* (Gibba Turtle; Hedionda, Curiza)	Schweigger 1812, MNHN 8756, South America	X			X		AMA, ARA, CAQ, CAS, GUA, GUV, MET, PUT, VAU, VID	200		LC	Morales-Betancourt and Lasso 2012c; Lasso et al. 2020	AMA: MLS-quel 179; CAQ: MLS-quel 148; GUA: ICN-MHN-Rep 7397; GUV: IAvH-R 7397, MET: IAvH-R 7394; VAU: IAvH-R 7396; VID: SINCHI-R 10604

Taxon (common name in English and name used in Colombia)	Author, holotype, and type locality	Distribution in hydrographic drainages					Geopolitical distribution	Max. Elev. (m asl)	Endemic	National conservation status	References for geographic distribution	Vouchers
		AMA	CAR	MAG-CA	OR	PA						
22. *Mesoclemmys raniceps* (Amazon Toad-headed Turtle; Cabeza de Sapo, Cabezón)	Gray 1856, BMHN 1947.3.4.92 (lectotype), Para, Brazil	X			X		AMA, CAQ, GUA, PUT, VAU??	200		DD	Castaño-Mora and Medem 2002d; Morales-Betancourt and Lasso 2012d	*AMA: ICN-MHN-Rep 7614
23. *Mesoclemmys wermuthi* (Wermuth´s Toed-headed Turtle)	Mertens 1969, NHMUK 1946.122.14, South America	X					AMA	?		NE	Molina et al 2012; Cunha et al. 2019	
24. *Platemys platycephala platycephala* (Eastern Twisted-necked Turtle; Charapa, Charapita)	Schneider 1792, Holotype not located, Cayenne, French Guiana	X			X		AMA, CAQ, GUA, GUV, MET, PUT, VAU, VID	200		LC	Medem 1983; De La Ossa et al. 2012[a]	AMA: ICN-MHN-Rep 7626; CAQ: MSL-quel 81; GUA: SINCHI-R 10387; GUV: https://colombia.inaturalist.org/observations/40604406; **PUT: USNM 224130; VAU: MPUJ-REPT 1052
P.p. melanonota (Black-backed Twisted-necked Turtle; Charapa, Charapita)	Ernst 1984, USNM 224136, "Vicinity of Galilea, Amazonas, Perú"						PUT	?		NE	TTWG 2021	
25. *Rhinemys rufipes* (Red Side-necked Turtle; Tortuga Roja, Achióte)	Spix 1824, ZSM 3006/0	X					AMA, GUA, VAU	200		DD	Castaño-Mora and Medem 2002e; Morales-Betancourt et al. 2012b	VAU: SINCHI-R 2677
26. *Phrynops geoffroanus* (Geoffroy´s Side-necked Turtle; Teparo, Matamata)	Schweigger 1812, MNHN 9417, Brasilia, Brazil	X			X		AMA, CAQ, CAS, GUA, GUV, MET, PUT, VAU, VID	200		LC	Morales-Betancourt et al. 2012c	CAQ: IAvH-R 4833, GUA: INC-MHN-Rep 7774; GUV: IAvH-R 6409; MET: IAvH-R 2202; VAU: IAvH-R 1590, VID: ICN-MHN-Rep 7771
Family Podocnemidadae	Cope 1869											
27. *Peltocephalus dumerilianus* (Big-headed Amazon River Turtle; Cabezudo, Cabezón)	Schweigger 1812, Holotype lost, South America	X			X		AMA, ARA, CAQ, GUA, GUV, MET, PUT, VAU, VID	200		DD	Medem 1960; De La Ossa et al. 2012b	GUA: ICN-MHN-Rep 7990; VID: IAvH-R 7423
28. *Podocnemis erythrocephala* (Red-headed River Turtle; Chipiro, Chipire)	Spix 1824, ZMS 2517/0, Rio Solimoes, Brazil				X		GUA, GUV, VID	225		VU	Castaño-Mora 2002c; Castaño-Mora et al. 2003; Renjifo et al. 2009; Bernhard et al. 2012; Morales-Betancourt and Lasso 2015c	GUA: ICN-MHN-Rep 7982; VID: IAvH-R 7424
29. *Podocnemis expansa* (South American River Turtle; Charapa, Arrau)	Schweigger 1812, MNHN 7997, South America	X			X		AMA, ARA, CAQ, CAS, GUA, MET, PUT, VAU, VID	200		CR	Medem 1969; Castaño-Mora and Medem 2002f; Ceballos et al. 2012a; Martínez-Callejas et al. 2015; del Rio et al. 2018	AMA: ICN-MHN-REp 7800; ARA: MHN-UCa-R 450; CAQ: ICN-MHN-Rep 7860; CAS: IAvH-R 4958; MET: MPUJ-REPT 1154; VID: MHUA-R 17897
30. *Podocnemis lewyana* (Magdalena River Turtle; Tortuga del R*ío Magdalena)*	Duméril 1852, MNHN 8905, Santa Fé de Bogotá, Colombia		X	X			ANT, ATL, BOL, BOY, CAL, CES, COR, CUN, HUI, MAG, SAN, SUC, TOL	500	X	CR	Castaño-Mora and Medem 2002a; Páez et al. 2002; Medina-Rangel 2011; Páez et al. 2012b, 2013; Páez 2015; Restrepo-Bastidas and Mendoza-Mora 2018; Carvajal-Cogollo 2019	ANT: MHUA-R 17909; ATL: SMF 54343; BOL: MHUA-R 17237; CAL: IAvH-R 4272; COR: MHUA-R 18394; CUN: KUH 158588; HUI: https://www.inaturalist.org/observations/64953960; MAG: MHUA-R 17005; SAN: MHUA-R 18522; SUC: IAvH-R 3980; TOL: USNM 108580
31. *Podocnemis sextuberculata* (Six-tubercled River Turtle; Cupiso)	Cornalia 1849, Holotype lost, Amazon River, South America	X					AMA, CAQ, PUT, VAU	200		DD	Medem 1968; García 2005; Ceballos et al. 2012b	AMA: ICN-MHN-Rep 7786
32. *Podocnemis unifilis* (Yellow-spotted River Turtle; Terecay, Terecaya)	Troschel 1848, ZMB 142, Rivers in Guyana	X			X		AMA, ARA, CAQ, CAS, GUA, GUV, MET, PUT, VAU, VID	600		EN	Medem 1958; Castaño-Mora and Medem 2002g; Escalona et al. 2012; Angarita-Sierra et al. 2013; Renjifo and Acosta-Galvis 2014; Morales-Betancourt et al. 2015b	AMA: MHUA-R 17024; ARA: AMNH-R 97345; CAQ: IAvH-R 1840; GUV: https://colombia.inaturalist.org/observations/19443278; MET: MHNU-H 202; PUT: MLS-quel 208; VID: MHUA-R 13339
33. *Podocnemis vogli* (Savanna Side-necked Turtle; Galápago Sabanero, Sabanera)	Müller 1935, ZSM 128/28 Estado Barinas, Venezuela				X		ARA, CAS, GUV, MET, VID	200		LC	Castaño-Mora and Medem 2002h; Renjifo et al. 2009; Morales-Betancout et al. 2012d; Angarita-Sierra et al. 2013; Sepúlveda-Seguro et al. 2020	ARA: IAvH-R 3192; CAS: MLS-quel 66; MET: MHNU-H 170; VID: MHUA-R 13337
Totals		**13**	**14**	**8**	**13**	**6**			**4**	**14**		

on both the Pacific and Caribbean coasts of Colombia, describing the Caribbean presence as "accidental" (Ceballos-Fonseca 2004). However, this species has only been documented to occur and nest along the Pacific coast of Colombia thus far (Barrientos-Muñoz et al. 2014; Barrientos-Muñoz et al. 2015b), with no documentation of the species occurring or nesting on Colombia's Caribbean coast. It is possible that individuals may occasionally traverse the Caribbean waters of Colombia, as sightings in the Caribbean and sporadic nesting on Caribbean islands have been reported (Eckert and Eckert 2019; Moncada and Romero 2015), but the principal nesting colonies of this species in the western Atlantic Ocean occur in Guyana, Suriname, and French Guiana (Eckert and Eckert 2019; Márquez 1990).

***Phrynops tuberosus* (Peters, 1870).** Historically, the most widespread chelid species in South America was considered to be *Phrynops geoffroanus*, with the morphological variation throughout its range leading some authors to consider it as comprised of different subspecies, including *P. g. tuberosus* (Müller 1939; Wermuth and Mertens 1961; Duellman 1978). The taxonomic revision of *Phrynops* by McCord et al. (2001) elevated *P. tuberosus* to the species level, and it is currently considered to be restricted to northeastern South America in Venezuela, Guyana, and Brazil (TTWG 2021). However, Ferrara, et al. (2017) claimed that *P. tuberosus* occurs throughout the northern Amazon of Ecuador, Peru, Colombia, Brazil, and Venezuela, based upon the results of a molecular analysis in the thesis of Carvalho (2016). While recent publications from Brazil have shown that the *Phrynops* complex is comprised of several cryptic species, or at least evolutionarily significant units (Friol 2014; Carvalho et al. 2016), the molecular evidence arguing that Colombian populations should be considered *P. tuberosus* rather than *P. geoffroanus* has yet to be published, so we therefore do not replace *P. geoffroanus* with *P. tuberosus* in this checklist.

***Podocnemis lewyana* (Duméril, 1852).** Castaño-Mora and Medem (2002a) reported that this species had been extirpated from the Río Ranchería (La Guajira Department) based on a mention of this conclusion in a non-peer reviewed document by Hurtado-Sepúlveda (1973), and this claim was perpetuated in later literature (i.e., Páez et al. 2012a, 2013). However, a niche modeling analysis to predict potential habitat for this species both now and under different scenarios of future global climate change (Ortíz-Yusty et al. 2014) failed to predict the presence of *P. lewyana* in the Río Ranchería, and the visits to this drainage that were part of the ground-confirmation effort in this analysis also failed to detect this species or any indications that local people recognized it from photographs. They concluded that the report by Hurtado-Sepúlveda (1973) of its extirpation from Río Ranchería was questionable, and for this reason we do not include the La Guajira Department in the distribution of this species.

Recent taxonomic changes

Chelidae

***Chelus*.** Matamata turtles exhibit geographic variation in carapace shape and color, with individuals from the Orinoco drainage having rounder, lighter colored carapaces than Amazonian individuals (Pritchard and Trebbau 1984; Sánchez-Villagra et al. 1995; Pritchard 2008). An examination of two mtDNA fragments (Lasso et al. 2018) also revealed haplotype differences between the Orinoco and Amazonian individuals from Colombia. Finally, an examination of three mtDNA fragments, one nuclear DNA fragment, and multiple SNPs from individuals across the range of *Chelus fimbriata* (*sensu lato*) revealed a deep phylogenetic division between samples from the Orinoco, Rio Negro, and Essequibo drainages versus samples from the Amazon and Mahury drainages, prompting Vargas-Ramírez et al. (2020) to elevate the former clade to the species level as *Chelus orinocensis*.

***Mesoclemmys heliostemma* (McCord, Jospeh-Ouni, and Lamar, 2001).** This species was described based on five voucher specimens and nine live individuals from the western Amazon region, specifically northeastern Peru, eastern Ecuador, and southern Venezuela (McCord et al. 2001). Molina et al. (2012) examined eight additional individuals from eastern Peru and northern Brazil, and concluded that the species is valid and morphologically distinct from *M. raniceps* (but see Cunha et al. 2019). They suggested that reports of *M. heliostemma* for Colombia were cases of misidentification of *M. raniceps* individuals. The previous TTWG checklist (TTWG 2017) mentioned Colombia as likely to include *M. heliostemma*, presenting a range map with a polygon that included Colombia but without any point locations. Our searches failed to find any vouchers or literature reports corroborating the occurrence of this species in Colombia. Finally, Cuhna et al. (2019) reviewed the convoluted history of the taxonomy of the genus *Mesoclemmys* and presented evidence indicating that females of *M. raniceps* may oviposit clutches that produce hatchlings with both *M. raniceps* and *M. heliostemma* phenotypes. They concluded that *M. heliostemma* should be considered a junior synonym to *M. raniceps* and warned against describing species solely on the basis of differences in color patterns. This recent taxonomic proposal, combined with the lack of any vouchers or literature records for the occurrence of turtles exhibiting the "*M. heliostemma*" phenotype in Colombia, led us to exclude this species from our checklist.

***Mesoclemmys ranicpes* and *M. wermuthi*.** Cuhna et al. (2019) not only synonymized *M. raniceps* and *M. heliostemma*, they also resurrected the species

Mesoclemmys wermuthi, which had been previously synonymized with *M. raniceps* (Bour and Pauler 1987). They also argued that the name *Mesoclemmys maculata* had precedence as the correct name for this resurrected species. Although the most recent TTWG (2021) checklist chose to recognize the species, it retained the name *M. wermuthi*. Apparently both *M. raniceps* and *M. wermuthi* have been reported to occur along the Colombian borders with Peru and Brazil (TTWG 2021), but our searches only produced one voucher specimen identified as *M. raniceps*. Thus, this is the one instance in which we failed to find a rigorous record for a species purported to occur in Colombia (*M. wermuthi*), or alternately, the voucher we located is actually a specimen of *M. wermuthi* that was misidentified, in which case we lack a rigorous record for *M. raniceps*.

Emydidae

Slider turtles. The slider turtles in the Atrato River drainage and the Gulf of Urabá region in northwestern Colombia have long been recognized as morphologically distinct from the slider turtles from other more eastern populations in Colombia, located along the Caribbean coast and in the Sinú, Magdalena, and the lower Cauca river drainages (Williams 1956; Medem 1958). Medem (1962) and Ceballos-Fonseca and Brand (2014) summarized the details of these morphological differences which involve plastron and color pattern characteristics. However, over the past two decades, the taxonomy of both "western" and "eastern" Colombian slider taxa has been unstable (as has the taxonomy of slider turtles in the Americas overall). The names assigned to the more widespread eastern slider turtle taxon in Colombia include *Pseudemys scripta ornata* (Williams 1956), *Pseudemys scripta callirostris* (Moll and Legler 1971; Pritchard and Trebbau 1984), *Trachemys callirostris* (Seidel 2002), and *Trachemys venusta callirostris* (Fritz et al. 2012; Parham et al. 2015). Similarly, the names employed for the western Colombian slider turtle taxon include *Pseudemys scripta ornata* (Williams 1956), *Pseudemys scripta venusta* (Moll and Legler 1971), *Pseudemys scripta* ca. *venusta* (Pritchard and Trebbau 1984), *Trachemys venusta* (Seidel 2002), *Trachemys venusta uhrigi* (McCord et al. 2010), and *Trachemys medemi* (Vargas-Ramírez et al. 2017).

Studies on the relationships of these two taxa to other slider turtle species and subspecies, as well as phylogeographic studies of their origins, have also been equivocal. Over the past two decades, various cladistic analyses have concluded that the two slider turtle taxa in Colombia are either closely (Stephens and Weins 2003) or distantly (Seidel 2002) related, and are of Mesoamerican (Jackson et al. 2008; Fritz et al. 2012) or Caribbean (Stephens and Weins 2003) origin, or both (Seidel 2002). Most recently, Vargas-Ramírez et al. (2017) expanded upon the study by Fritz et al. (2012) by adding samples from 12 individuals of the western Colombian slider turtle to their genetic analysis of mtDNA and nuclear DNA. They concluded that South America has been colonized twice by slider turtles from Central America; first by the ancestor of *Trachemys dorbigni* (currently occurring in Brazil, Uruguay, and Argentina) and the western Colombian slider, which they elevated to the species level, assigning the name *Trachemys medemi*. Much later, Colombia was again colonized from Central America by the ancestor of the eastern Colombian slider (*Trachemys venusta callirostris*) and the Venezuelan slider (*Trachemys venusta chichiriviche*).

Translocated native and exotic species

The occurrence of *Chelonoidis carbonarius* on the Caribbean island of Providencia (CAR macro-drainage, San Andres, Providencia, and Santa Catalina Department) has long been assumed to be due to either pre-colonial or more recent human transport (Castaño-Mora and Lugo-Rugeles 1981). This also seems to be the case for the population of *Kinosteron scorpioides albogulare* occupying the island of San Andrés (Montes-Correa et al. 2017; McCraine 2018). Medem (1969) also reported several apparently successful attempts by colonists in the Amazonian region to introduce populations of *Podocnemis expansa* into the upper Caquetá and Caguán rivers (AMA macro-drainage, Caquetá Department), presumably because of the economic importance of this species, but we failed to find any museum vouchers to support this claim. The only other documented case to date of apparent artificial range expansion for a turtle species in Colombia is from a publication (including museum voucher information) documenting the occurrence of *Trachemys venusta callirostris* individuals in several locations in Quindío Department (Cordillera Central of the Andes mountains) at approximately 1,500 m asl (Adames-Jiménez et al. 2018).

Our searches for voucher specimens in this study failed to document any additional suspicious location records for Colombian turtles (i.e., individuals collected far outside of their previously known ranges), except for vouchers in the collection of the ICN that erroneously cite the municipality of Villavicencio in the Meta Department for some locality data. For example, ICN-MHN-Rep 7531, 7544, 7546, 7646, 7713, 7855, 7856, and 7859 are all *Trachemys venusta callirostris* specimens listed for the Meta Department. Presumably, these turtles were collected within their natural range and transported to the Estación de Biología Tropical Roberto Franco by Federico Medem, where they were kept in captivity until their deaths, and then deposited in the ICN collection with the locality data indicating where they died rather than reflecting where they had been collected.

Exotic species occasionally appear among the turtles that are confiscated by environmental authorities as they are being transported in Colombia. There is no way to

estimate how many of these individuals are released into natural habitats when authorities fail to recognize them as exotics, but when confiscated turtles are correctly identified as non-native species, Colombian authorities usually relocate them to zoological parks or aquariums. For example, individuals of the Venezuelan endemic *Mesoclemmys zuliae* occasionally appear on lists of fauna confiscated by Colombian authorities (A. Echeverry-Alcendra, pers. comm.) and some eventually make their way into zoological collections. Another example is an individual of the Mediterranean *Mauremys leprosa* (Bertolero and Busack 2017) that was confiscated in Bogotá in 2003 and relocated to the Barranquilla Zoo, generating an entry for this species for Colombia in the Global Register of Introduced and Invasive Species records (Baptiste et al. 2018). This database also lists *Trachemys scripta elegans* for Colombia. This slider subspecies presumably entered Colombia as part of the illegal pet trade. The Zoological Information Management System (ZIMS 2021) documents that some individuals of this exotic species are housed in some zoos in the country. There are more ambiguous anecdotal reports of *Trachemys scripta elegans* individuals living freely in Cundinamarca Department, as well as in portions of the Cauca and Magdalena river drainages (Morales-Betancourt et al. 2012b). However, we found no museum vouchers of *Trachemys scripta elegans* or any other exotic turtle species that were collected in natural habitats in Colombia.

Conservation status update and summary

The book *Libro Rojo de Reptiles de Colombia* (Morales-Betancourt et al. 2015a) updated Castaño-Mora (2002a), and evaluated the conservation status of all turtle species in Colombia using the most recent IUCN criteria for the first time (IUCN 2012). However, three recent changes in turtle taxonomy create the need to examine their implications regarding the conservation status of the species in Colombia. In 2015, *Chelus fimbriata* was classified as Least Concern (LC) based upon its wide distribution and apparent abundance, despite the recognition that the illegal pet trade poses a threat to some populations (Morales-Betancourt et al. 2015a). The splitting of this species into Orinoco (*Chelus orinocensis*) and Amazonian (*Chelus fimbriata*) species (Vargas-Ramírez et al. 2020) does not substantially modify this assessment, and we recommend that both species tentatively be considered as LC as well, at least until their next formal reassessment. Similarly, the recognition of *Mesoclemmys warmuthi* as a valid species and its apparent co-occurrence with *M. raniceps* in the Amazon department argues that both should be assigned a Data Deficient (DD) status at present. Finally, *Trachemys callirostris* (here *Trachemys venusta callirostris*) was classified as Vulnerable (VU) in 2015, while *Trachemys venusta* (here *Trachemys medemi*) was classified as DD (Morales-Betancourt et al. 2015a). The recent taxonomic revision (Vargas-Ramírez et al. 2017) did not affect the classification of either taxon, so *Trachemys venusta callirostris* should continue to be considered as VU at the national level and *Trachemys medemi* should continue to be classified as DD.

With this updated classification of the threat levels faced by the Colombian turtle species, the sea turtles exhibit the highest level of conservation concern, with all five species categorized in one of the three threatened categories (VU, EN, or CR; IUCN 2012). Next is the family Podocnemididae, with four of its seven species (54%) being classified in a threatened category. In terms of macro-drainages, the CAR macro-drainage is the most impacted, with 43% of its turtle species considered threatened, while the AMA macro-drainage is at the other extreme, with only 16% of its species considered as threatened. Finally, in terms of the 27 departments that possess at least four turtle species, seven (Bolívar, Cundinamarca, La Guajira, Magdalena, San Andrés, Providencia, and Santa Catalina, Santander, and Sucre) exhibit the highest proportions of turtle species facing conservation concerns (more than 60%), followed by six departments (Antioquia, Atlántico, Boyacá, Cesar, Chocó, and Córdoba) with more than 50% of their turtle species categorized as facing some level of threat. It is relevant to examine the threat levels by department in Colombia because it is usually at this local level that conservation decisions are made and resources are appropriated for management actions.

With respect to bordering countries, all four South American countries that share borders with Colombia have recently published updated turtle species checklists which include evaluations of their conservation status at the national level (Venezuela: Rodríguez et al. 2015; Brazil: ICMBio 2018, Costa et al. 2022; Peru: SERFOR 2018; Ecuador: assessment from IUCN Red List 2018, Torres-Carvajal et al. 2019). Together, these five countries are the most diverse in terms of turtle species in South America. The results of our update are compared to those of these other four species-rich neighboring countries in Table 2. With 33 species, Colombia ranks second behind Brazil (38) in turtle species richness. All five countries largely concur that their sea turtle species should be considered as threatened, but Brazil does not classify any of their podocnemidid species as threatened, while almost all species in this family in the remaining four countries are classified nationally as either VU, EN, or CR (except for two species classified as DD in Colombia).

Discussion

Although turtles are relatively large and conspicuous, as well as ecologically, and often economically, important (Lovich et al 2018), they are poorly represented in reptile collections in general (~4% of all specimens; Lehn et al. 2007). Most turtle species are easily identifiable even as

Table 2. Extant turtle species that occur in the five most species-rich South American countries and their global and national conservation status. Cells in gray indicate species that are categorized as facing some level of threat by that country. Conservation status at the national level as taken from: Colombia: Morales-Betancourt et al. 2015; Venezuela: Rodríguez et al. 2015; Brazil: Livro Vermelho da Fauna Brasileira Amenaçãda de Extinção 2018; Perú: SERFOR 2018; Ecuador: Torres-Carvajal et al. 2019. Global conservation status based upon the IUCN Red List (http://www.iucnredlist.org).

Taxon	Brazil	Colombia	Ecuador	Peru	Venezuela	Global status
Suborder Cryptodira						
Family Chelydridae						
1. *Chelydra acutirostris*		X	X			NE
Family Geoemydidae						
2. *Rhinoclemmys annulata*		X	X			NT
3. *Rhinoclemmys diademata*		X			X	LC
4. *Rhinoclemmys melanosterna*		X	X			LC
5. *Rhinoclemmys nasuta*		X	X			NT
6. *Rhinoclemmys punctularia*	X				X	LC
Family Emydidae						
7. *Trachemys adiutrix*	X					EN
8. *Trachemys dorbigni*	X					LC
9. *Trachemys medemi* sp. nov.		X				NE
10. *Trachemys venusta* (*T. v. callirostris* in Colombia, *T. v. chichiriviche* in Venezuela)		X			X	NE
Family Kinosternidae						
11. *Kinosternon dunni*		X				VU
12. *Kinosternon leucostomum*		X	X			LC
13. *Kinosternon scorpioides*	X	X	X	X	X	LC
Family Testudinidae						
14. *Chelonoidis carbonarius*	X	X			X	LC
15. *Chelonoidis denticulatus*	X	X	X	X	X	VU
16. *Chelonoidis niger*			X			Varies among the subspecies
Family Cheloniidae						
17. *Caretta caretta*	X	X	X	X	X	VU
18. *Chelonia mydas*	X	X	X	X	X	EN
19. *Eretmochelys imbricata*	X	X	X	X	X	CR
20. *Lepidochelys olivacea*	X	X	X	X	X	VU
Family Dermochelyidae						
21. *Dermochelys coriacea*	X	X	X	X	X	VU
Suborden Pleurodira						
Family Chelidae						
22. *Acanthochelys macrocephala*	X					NT
23. *Acanthochelys radiolata*	X					NT
24. *Acanthochelys spixii*	X					NT
25. *Chelus fimbriata*	X	X	X	X		LC
26. *Chelus orinocensis* sp. nov.	X	X			X	LC
27. *Mesoclemmys dahli*		X				CR
28. *Mesoclemmys gibba*	X	X	X	X	X	LC

Table 2 (continued). Extant turtle species that occur in the five most species-rich South American countries and their global and national conservation status. Cells in gray indicate species that are categorized as facing some level of threat by that country. Conservation status at the national level as taken from: Colombia: Morales-Betancourt et al. 2015; Venezuela: Rodríguez et al. 2015; Brazil: Livro Vermelho da Fauna Brasileira Amenaçãda de Extinção 2018; Perú: SERFOR 2018; Ecuador: Torres-Carvajal et al. 2019. Global conservation status based upon the IUCN Red List (http://www.iucnredlist.org).

Taxon	Brazil	Colombia	Ecuador	Peru	Venezuela	Global status
29. *Mesoclemmys jurutiensis* sp. nov.	X					NE
30. *Mesoclemmys nasuta*	X					LC
31. *Mesoclemmys perplexa*	X					NE
32. *Mesoclemmys raniceps*	X	X	X	X		LC
33. *Mesoclemmys tuberculata*	X					LC
34. *Mesoclemmys vanderhaegei*	X					NT
35. *Mesoclemmys wermuthi*	X	X		X		NE
36. *Mesoclemmys zuliae*					X	VU
37. *Phrynops geoffroanus*	X	X	X	X	X	LC
38. *Phrynops hilarii*	X					LC
39. *Phrynops tuberosus*	X				X	NE
40. *Phrynops williamsi*	X					VU
41. *Platemys platycephala*	X	X	X	X	X	LC
42. *Ranacephala hogei*	X					CR
43. *Rhinemys rufipes*	X	X				NT
44. *Hydromedusa maximiliani*	X					VU
45. *Hydromedusa tectifera*	X					LC
Family Podocnemididae						
46. *Peltocephalus dumerilianus*	X	X	X	X	X	VU
47. *Podocnemis erythrocephala*	X	X			X	VU
48. *Podocnemis expansa*	X	X	X	X	X	LR/cd
49. *Podocnemis lewyana*		X				CR
50. *Podocnemis sextuberculata*	X	X		X		VU
51. *Podocnemis unifilis*	X	X	X	X	X	VU
52. *Podocnemis vogli*		X			X	LC
Total number of families	8	9	8	6	8	
Total number of genera	20	17	15	13	15	
Total number of species	38	33	21	17	22	
% Threatened species	24.3	42.4	42.8	47.0	47.8	

neonates, so space limitations cannot fully explain their scarcity in collections. Vouchering neonates would also have a limited demographic impact on threatened turtle populations (Heppell 1998). Therefore, we urge turtle biologists to be more aware of the need to deposit voucher specimens in museums in order to better document the distributions of the species they are studying, and to allow the re-examination of specimens when taxonomic changes occur. For example, in Colombia there is currently a need to reassess Matamata and *M. raniceps* voucher specimens in collections, in view of the recent split of *Chelus fimbriatus* into two species and the resurrection of *M. wermuthi* as a valid species separate from *M. raniceps* (Vargas-Ramírez et al. 2020; Cunha et al. 2019, 2021). Such a reassessment would permit a re-definition of their documented distributions in Colombia and identify possible areas of sympatry. Re-examination of Colombian slider turtle voucher specimens would also be desirable now that the two *Trachemys* taxa in Colombia have been shown to be valid and distinctive species, rather than merely subspecies (Vargas-Ramírez et al. 2017), to better determine their range limits and/or identify possible zones of contact. Having accurate distribution information on turtle species is relevant to conservation, given that three of the five criteria the IUCN employs to categorize threat levels for species consider the size of the range of the species being

classified (IUCN 2012).

We also encourage future authors to report voucher specimens as support for the inclusion of each species in their inventory checklists. Erroneous, unsubstantiated reports tend to self-perpetuate in the literature when rigorous supporting evidence is not proffered. In this checklist, despite our conservative approach of only including species that were supported by museum vouchers and scientific publications, we have shown Colombia to house a large and diverse turtle fauna that includes species from nine families. The evidence of occurrence of the non-marine turtle species within the five main hydrological drainages in Colombia was well supported both by vouchers and literature, but many gaps remain in terms of not finding vouchers to support the occurrence of various turtle species at the department level. Surprisingly, sea turtles were among the species most poorly documented by specimens in museum collections in terms of departmental occurrence, despite the attention they receive from conservation NGOs. The failure of sea turtle biologists to deposit voucher specimens in biological collections in the past means that now we cannot distinguish between the two explanations for the disparities in reports of where certain species nest (i.e., erroneous historical reports of nesting versus extirpation of these populations during the past decades).

Photographic vouchers of species occurrences uploaded to the Internet represent another means to incorporate citizen science into species distribution databases (Brown and Williams 2018), but we made sparing use of such records here. Some online records either include photographs that do not show taxonomically important characters, fail to mention whether the individual in the photograph was part of a captive collection, or only provide "obscured" geographic data to avoid revealing the precise locality information to potential commercial collectors. While sites such as iNaturalist offer opportunities to refine our information on the distributions of Colombian turtle species, care should be used in evaluating such evidence (Tiago et al. 2017). Photographic vouchers are complementary, but should never be considered as a replacement for the scientific collecting of vouchers for deposit in curated biological collections.

We have probably failed to locate some important voucher specimens during our searches, in part because some collections in Colombia still do not publish their voucher data online. Our hope is that this publication will stimulate others to make currently "hidden" voucher data accessible, as well as to continue updating the voucher information now contained in Table 1. Such efforts will provide rigorous evidence for the occurrence of all species in all departments in Colombia, both by reporting additional relevant vouchers that exist but we were unable to find, and especially by encouraging targeted collecting efforts in the departments that now genuinely lack vouchers. Additional collecting efforts may also add new species to our national inventory for Colombia, such as *Mesoclemmys gibba* in the Vichada department, *Mesoclemmys zuliae* in the Cesar and Norte de Santander departments, and perhaps *Trachemys venusta venusta* or *Trachemys grayi* in the Chocó region along the Caribbean or Pacific borders with Panama, respectively.

Hopefully, future scientific collecting efforts for turtles will also routinely include the deposition of genetic samples in museum collections along with the preserved specimens, as genetic data can reveal "cryptic" species (Vargas-Ramírez et al. 2020) and evolutionarily significant units (Jensen et al. 2014; Vargas-Ramírez et al. 2010). Genetic data also may help in identifying cases of genetic contamination, since native turtle species in Colombia are collected and transported as part of the illegal national and international pet trade and for the human consumption market. For the OR and AMA basins, species such as *C. fimbriata* and *C. orinocensis* are illegally harvested and transported to Leticia for export to Peru, a country where the international turtle trade is legal, unlike Colombia (Lasso et al. 2018). For example, records indicate that exports of *P. unifilis* from Peru to Hong Kong and China have increased up to 190-fold in less than a decade (Sinovas et al. 2017). Unfortunately, there are no reliable data on the magnitude of harvests for most species, but the data that do exist on the confiscation rates of illegally transported turtles suggest the harvest is massive (Arroyave et al. 2014; Lasso et al. 2018; Morales-Betancourt et al. 2012a). In many cases, environmental authorities in Colombia do not record information on confiscations (or voluntary surrendering of illegal wildlife pets) in a standardized manner, but the limited information available (Morales-Betancourt et al. 2012a) suggests that the most widely trafficked species are (in descending order) *Trachemys venusta callirostris, Podocnemis unifilis, Chelonoidis carbonarius,* and *Podocnemis expansa*.

Environmental authorities in Colombia often fail to register and monitor the fates of turtles they confiscate and relocate for reinforcement or reintroduction in a consistent manner (IUCN 2013). Individuals of native turtle species are sometimes released within the jurisdiction of the environmental authority that confiscated the turtles, despite a lack of information on the provenance of the individuals. These authorities also transfer many confiscated turtles, especially those confiscated in urban centers, to other areas for release, again without knowing the exact provenance of the individuals. In addition, people who buy turtles as pets in Colombia (which is an illegal practice) or receive them as gifts often decide later to release them in natural habitats, again without knowing their origin. Thus, the risks of genetic contamination and/or artificial range expansion for native turtle species in Colombia appear to be high. Although fast, cost-effective, and practical genetic protocols have recently been developed to aid in identifying the source of confiscated Matamata

turtles in Colombia, at least to the level of the correct river basin (Cardeñosa et al. 2021), much work remains before similar protocols are available for the majority of species that are subjected to illegal harvest and transport in the country. Such efforts not only help to avoid genetic contamination of native populations, but also reduce the time and cost of maintaining individuals in captivity, reducing the health and welfare risks to these turtles.

Our analyses revealed considerable geographic heterogeneity in turtle species richness in Colombia, and they also revealed substantial variation in the conservation status of the turtles that occupy different regions of the country. CAR was both the most species-rich of the five macro-drainages and the one with the greatest percentage of threatened turtle species. This region of Colombia has suffered from substantial perturbation and loss of natural habitats (Correa-Ayram et al. 2018). It is also where the custom of consuming turtles is culturally the strongest, especially during lent (Morales-Betancourt et al. 2012a). In terms of taxonomy, the most threatened turtle species in Colombia are the sea turtles and podocnemidids (i.e., the largest species), suggesting that harvest for human consumption is a more important factor than collecting for the pet trade, as is the case for most other large vertebrate species in the world (Ripple et al. 2017). The national threat classifications for turtles in Colombia are comparable to similar national classifications for the same species in neighboring countries, with the exception of Brazil where the threat levels of podocnemidids are considered to be lower for some reason. The only other divergence with respect to the classifications of podocnemidids was Colombia's classifications of *Peltocephalus dumerilianus* and *Podocnemis sextuberculata* as DD. We suspect that when more data on these two species in Colombia become available, they will be updated to receive a classification of some level of threat, as in the neighboring countries (excluding Brazil).

About 14% of Colombia's maritime territory is designated as protected areas (RUNAP 2018), so all sea turtle species have ranges that contain some refuge from harvest. The percentage of terrestrial territory in protected areas in Colombia is slightly higher (~16%), yet it fails to afford protection to all of the non-marine turtle species. Forero-Medina et al. (2014) reported that only 15 of the 25 non-marine Colombian turtle species they evaluated had records documenting their occurrence in protected areas (PAs); however, they noted that information on the distribution of some of these species predicted their undocumented occurrences in these PAs. The situation of having better documentation of species occurrences outside of PAs may reflect the historical difficulties associated with collecting in national parks and other PAs in Colombia, due to both existing legislation (MADS 2015, 2016) and restricted access to these areas due to armed conflicts (Negret et al. 2017).

It has long been recognized that conservation strategies cannot rely exclusively on the existence of nature reserves (Western 1989; DeClerck et al. 2010; Morales-Betancourt and Lasso 2015a). In Colombia, many protected areas are also recognized as reserves where ethnic groups are allowed to engage in subsistence hunting (Moreno and Negrete 2012) and/or are located in regions where armed conflict occurs (Dávalos 2001; Clerici et al. 2020; Liévano-Latorre et al. 2021), making the protection of turtle species in these areas difficult. In addition, nature reserves are not insurance against possible impacts on turtle populations from global climate change (Ihlow et al. 2012). Protecting the rich turtle fauna of Colombia will require monitoring of the populations both within (Laurance et al. 2012) and outside of reserves, and implementing effective mitigation efforts when declines are detected. Continued vouchering of the distributions of Colombian turtles should be a part of this effort, as evidence of range declines is one of the most compelling indicators that a species is becoming threatened (IUCN 2012).

Conclusions

Here we present an updated, annotated checklist of the turtle species of Colombia, compiled using a conservative approach that only includes species documented by museum vouchers and peer-reviewed scientific literature. Colombia includes 33 turtle species belonging to nine families. We also assessed the quality of the evidence for the occurrence of each of these species in the five major hydrological drainages and each department in Colombia. Occurrence in the drainages was confirmed by vouchers and the literature, but there are gaps in terms of evidence for the occurrence of some species in some departments. We evaluated the threat levels for turtle species in Colombia based on taxonomy and geographic regions, and urge biologists to recognize the importance of vouchering specimens of turtle species in biological collections. A better documentation of the distributions of these species, and changes in their range sizes, is essential for correctly classifying their threat levels and for reducing the number of species that must be designated as Data Deficient.

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Literature Cited

Acuña-Vargas JC. 2016. Anfibios y reptiles asociados a cinco coberturas de la tierra, municipio de Dibulla, La Guajira, Colombia. *Acta Zoológica Mexicana* 32(2): 133–146.

Adames-Jiménez TA, Rivera-Robles DL, Arango-Lozano J, Botero-Botero A. 2018. New records of the turtle *Trachemys venusta callirostris* in the Central Andes of Colombia. *The Herpetological Bulletin* 144(3): 28–29.

Alfaro JP, Acosta-G AE, Vejarano M. 2011. Reptiles del Casanare. Pp. 153–167 In: *Biodiversidad de Casanare: Ecosistemas Estratégicos del Departamento.* Gobernación del Casanare, WWF-Colombia, Bogotá, Colombia. 286 p.

Alvarez-Rodríguez RA, Ramírez-Gallego C, Restrepo-Garzón N, Ruíz-Álvarez T, Barrientos-Muñoz KG. 2021. Conservación de la tortuga carey, *Eretmochelys imbricata,* en Rincón del Mar, Colombia. *Boletín de Investigaciones Marinas y Costeras* 50(2): 53–72.

Amorocho DF, Rubio TH, Díaz RW. 1992. Observaciones sobre el estado actual de las tortugas marinas en el Pacífico Colombiano. Pp. 155–179 In: *Contribución al Conocimiento de las Tortugas Marinas de Colombia*. Editors, Rodríguez-Machado JV, Sánchez-Páez, H. Inderena, Bogotá, Colombia. 190 p.

Amorocho DF, Reina RD. 2008. Intake passage time, digesta composition, and digestibility in east Pacific Green Turtles (*Chelonia mydas agassizii*) at Gorgona National Park, Colombian Pacific. *Journal of Experimental Marine Biology and Ecology* 360(2): 117–124.

Angarita-Sierra T. 2014. Diagnosis del estado de conservación del ensamble de anfibios y reptiles presentes en los ecosistemas de sabanas inundables de la cuenca del río Pauto, Casanare, Colombia. *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales* 38(146): 53–78.

Angarita-Sierra T, Ospina-Sarria J, Anganoy-Criollo M, Pedroza-Banda R, Lynch JD. 2013. *Guía de Campo de los Anfibios y Reptiles del Departamento de Casanare* (*Colombia*)*. Serie Biodiversidad para la Sociedad Numero 2.* Universidad Nacional de Colombia, Sede Orinoquia, Arauca, Arauca Department, Colombia. 117 p.

Arango-Lozano J, Young-Valencia K, Giraldo A, Botero-Botero A. 2017. Estructura etaria y morfometría poblacional de la tortuga pímpano (*Chelydra acutirostris*, Peters 1862) (Chelydridae) en tres afluentes del río La Vieja, Departamento de Quindío, Colombia. *Boletín Científica del Museo de Historia Natural* 21(1): 122–137.

Arango-Lozano J, Patiño D, Benítez L, Botero-Botero A. 2018. New records of *Kinosternon lecuostomum postinguinale* (Duméril y Bibron, 1851) from the Central Cordillera of Colombia. *Revista Colombiana de Ciencias Animales* 10(1): 82–85.

Armesto LO, Gutiérrez DR, Pacheco RD, Gallardo AO. 2011. Reptiles from the municipality of Cúcuta (Norte de Santander, Colombia). *Boletín Científico. Centro de Museos. Museo de Historia Natural* 15(2): 157–168.

Arroyave FJ, Romero-Goyeneche OY, Bonilla-Gómez MA, Hurtado-Heredia RG. 2014. Tráfico ilegal de tortugas continentales (Testudinata) en Colombia: una aproximación desde el análisis de redes. *Acta Biológica Colombiana* 19(3): 381–392.

Baptiste MP, García LM, Acevedo-Charry O, Acosta A, Alarcón J, Arévalo E, Avella GC, Blanco A, Botero JE, Pagad S, et al. 2018. Global Register of Introduced and Invasive Species – Colombia. Version 1.5. Available: http://gbif.org/168568e7-eb5f-4ef6-8c59-f73ceaf57e91 [Accessed: 3 January 2021].

Barreto L. 2016. *Conservación de Tortugas Marinas en Colombia.* Editor, Barreto L. Fundación Conservación Ambiente Colombia, Bogotá, Colombia. Available: https://archive.org/details/Barreto20106ConservacionTortugasMarinasEnColombiaVol1 [Accessed: 3 January 2021]

Barrientos-Muñoz KG, Ramirez-Gallego C, Rivas L. 2013. First report of nesting of the Black Sea Turtle (*Chelonia mydas*) on the north Pacific coast of Colombia. *Marine Turtle Newsletter* 138: 19–21.

Barrientos-Muñoz KG, Ramirez-Gallego C, Páez VP. 2014. Nesting ecology of the Olive Ridley Sea Turtle (*Lepidochelys olivacea*) (Cheloniidae) at El Valle Beach, northern Pacific, Colombia. *Acta Biológica Colombiana* 19(3): 437–445.

Barrientos-Muñoz KG, Ramírez-Gallego C, Páez VP. 2015a. *Eretmochelys imbricata* (Linnaeus, 1766). Pp. 127–131 In: *Libro Rojo de Reptiles de Colombia* (*2015*). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Barrientos-Muñoz KG, Ramírez-Gallego C, Páez VP. 2015b. *Lepidochelys olivacea* (Eschscholtz, 1829). Pp. 161–165 In: *Libro Rojo de Reptiles de Colombia* (*2015*). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Barrientos-Muñoz KG, Valencia M, Hinojosa CA, Valencia-González S, Diazgranados MC, Sevilla EL, Ramírez-Gallego C. 2020. Primer registro de una hembra de tortuga carey, *Eretmochelys imbricata*, en el Mosaico de Conservación Bahía Málaga, Pacífico colombiano. *Boletín de Investigaciones Marinas y Costeras* 49(Suplemento Especial): 289–294.

Barrientos-Muñoz KG, Heidemeyer M, Ortega-Gordillo LF, Valencia-Díaz M, Hinojosa-Romero CA, Valencia-González S, Montaño HJ, Diazgranados MC, Caldas JP, Ramírez-Gallego C. 2022. Tortugas marinas en el mosaico de conservación Bahía Málaga, Pacífico colombiano. *Boletín de Investigaciones Marinas y Costeras*. [In Press].

Bernhard R, de la Ossa-Velásquez J, Vogt RC, Morales-Betancourt MA, Lasso CA. 2012. *Podocnemis erythrocephala* (Spix 1824). Pp. 360–366 In: *V. Biología y Conservación de las Tortugas*

Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia. Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Bertolero A, Busack SD. 2017. *Mauremys leprosa* (Schweigger, 1812), Mediterranean Stripe-necked Terrapin. *Chelonian Research Monographs* 5: 102.1–102.19.

Berry JF, Iverson JB, Forero-Medina G. 2012. *Kinosternon scorpioides* (Linnaeus 1766). Pp. 340–348 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Blanco-Torres A, Báez L, Patiño-Flores E, Renjifo-Rey JM. 2013. Herpetofauna del valle medio del río Ranchería, La Guajira, Colombia. *Revista de Biodiversidad Neotropical* 3(2): 113–122.

Blanco-Torres A, Durán-Prieto C, Acosta-Galvis AR. 2019. Herpetofauna. Pp. 163–187 In: *Biodiversidad en el Departamento de Arauca.* Editors, Trujillo F, Anzola F. Gobernación de Arauca, Fundación Omacha y Fundación Ecollano, Bogotá, Colombia. 384 p.

Bock BC, Páez VP, Daza JM. 2012a. *Trachemys callirostris* (Gray, 1856). Pp. 283–291 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Bock BC, Páez VP, Castaño-Mora OV. 2012b. *Trachemys venusta* (Gray, 1856). Pp. 292–297 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Bock BC, Páez VP, Córtes-Duque J. 2015. Hicotea. *Trachemys callirostris* (Gray, 1856). Pp. 166–171 In: *Libro Rojo de Reptiles de Colombia* (*2015*). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Bock BC, Páez VP. 2017. An analysis of the history of the study of freshwater turtles and tortoises of Colombia. *Acta Biológica Colombiana* 22(1): 67–76.

Bolton AB, Martins HR. 1990. Kemp's Ridley captured in the Azores. *Marine Turtle Newsletter* 48: 23.

Borrero WJ, Patiño EA, Guerra ML, Gouriyu WA. 2013. New evidence of nesting *Dermochelys coriacea* (Tortuga Achepo) at Iporoimao-Utareo beaches, Guajira, Colombia. *Marine Turtle Newsletter* 137: 13–14.

Bour R, Pauler I. 1987. Indentité de *Phrynops vanderhaegei* Bour, 1973 et des espèces affines. *Mésogée* 47: 3–23.

Brown ED, Williams BK. 2018. The potential for citizen science to produce reliable and useful information in ecology. *Conservation Biology* 33(3): 561–569.

Cáceres-Martínez CH, Acevedo-Rincón AA, Sierra-Leal JA, González-Maya JF. 2017. *Kinosternon scorpioides scorpioides* (Testudines: Kinosternidae): nuevo reporte en el nororiente de Colombia. *Acta Biológica Colombiana* 22(2): 242–245.

Camacho-Mosquera L, Amorocho DF, Mejía-Ladino LM, Palacio-Mejía JD, Rondón-González F. 2008. Caracterización genética de la colonia reproductiva de la tortuga marina golfina, *Lepidochelys olivacea*, en el Parque Nacional Natural Gorgona (Pacífico colombiano) a partir de secuencias de ADN mitocondrial. *Boletín de Investigaciones Marinas y Costeras* 37(1): 77–92.

Cañas-Uribe M, Payán LF, Amorocho DF, Páez VP. 2020. Tasas de crecimiento somatico de tortuga carey, *Eretmochelys imbricata*, en el Parque Nacional Natural Gorgona, Colombia, entre 2004 y 2018. *Boletín de Investigaciones Marinas y Costeras* 49(Suplemento Especial): 13–30.

Cardeñosa D, Chapman DD, Robles YL, Ussa DA, Caballero S. 2021. Rapid species and river-of-origin determination for Matamata turtles (*Chelus* sp.) using real-time PCR: facilitating rapid return of trafficked specimens back to the wild. *Aquatic Conservation: Marine and Freshwater Ecosystems* 31(9): 1–8.

Carr JL, Giraldo A, Garcés-Restrepo M. 2012. *Rhinoclemmys nasuta* (Boulenger, 1902). Pp. 315–322 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Carvajal-Cogollo JE. 2019. Capítulo III. Taxonomía, sistemática, y zoogeografía de reptiles. Pp. 97–161 In: *Biología de los Anfibios y Reptiles en el Bosque Seco Tropical del Norte de Colombia*. Editors, Vargas-Salinas F, Muñoz-Ávila JA, Morales-Puentes ME. Editorial Universidad Pedagógica y Tecnológica de Colombia, Tunja, Colombia. 484 p.

Carvalho VT. 2016. Revisão taxonômica e sistemática filogenética de *Phrynops geoffroanus* (Schweigger, 1812) (Testudines: Chelidae). Ph.D. Dissertation, Universidad Federal do Amazonas, Manaus, Brazil. 124 p.

Carvalho VT, Martínez JG, Hernández-Rangel SM, Astolfi-Filho S, Vogt RC, Farias IP, Hrbek T. 2016. Giving IDs to turtles: SNP markers for assignment of individuals to lineages of the geographically structured *Phyrnops geoffroanus* (Chelidae: Testudines). *Conservation Genetic Resources* 9: 157–163.

Castaño-Mora OV. (Editor). 2002a. *Libro Rojo de Reptiles de Colombia. Libros Rojos de Especies Amenazadas de Colombia*. Instituto de Ciencias Naturales-Universidad Nacional de Colombia, Ministerio del Medio Ambiente, Conservación Internacional-Colombia, Bogotá, Colombia. 160 p.

Castaño-Mora OV. 2002b. *Chelydra serpentina acutirostris*. Pp. 123 In: *Libro Rojo de Reptiles de Colombia. Libros Rojos de Especies Amenazadas de Colombia*. Editor, Castaño-Mora OV. Instituto de Ciencias Naturales-Universidad Nacional de Colombia, Ministerio del Medio Ambiente, Conservación Internacional-Colombia, Bogotá, Colombia. 160 p.

Castaño-Mora OV. 2002c. *Podocnemis erythrocephala*. Pp. 109–111 In: *Libro Rojo de Reptiles de Colombia. Libros Rojos de Especies Amenazadas de Colombia.* Editor, Castaño-Mora OV. Instituto de Ciencias Naturales-Universidad Nacional de Colombia, Ministerio de Medio Ambiente, Conservación Internacional-Colombia, Bogotá, Colombia. 160 p.

Castaño-Mora OV, Lugo-Rugeles M. 1981. Estudio comparativo de dos especies de morrocoy: *Geochelone carbonaria* y *Geochelone denticulata* y aspectos comparables de su morfología externa. *Cespedesia* 10(37–38): 55–122.

Castaño-Mora OV, Medem F. 2002a. *Podocnemis lewyana*. Pp. 92–94 In: *Libro Rojo de Reptiles de Colombia. Libros Rojos de Especies Amenazadas de Colombia.* Editor, Castaño-Mora OV. Instituto de Ciencias Naturales-Universidad Nacional de Colombia, Ministerio de Medio Ambiente, Conservación Internacional-Colombia, Bogotá, Colombia. 160 p.

Castaño-Mora OV, Medem F. 2002b: *Trachemys scripta callirostris*. Pp. 118–119 In: *Libro Rojo de Reptiles de Colombia. Libros Rojos de Especies Amenazadas de Colombia.* Editor, Castaño-Mora OV. Instituto de Ciencias Naturales-Universidad Nacional de Colombia, Ministerio de Medio Ambiente, Conservación Internacional-Colombia, Bogotá, Colombia. 160 p.

Castaño-Mora OV, Medem F. 2002c. *Batrachemys dahli*. Pp. 77–79 In: *Libro Rojo de Reptiles de Colombia. Libros Rojos de Especies Amenazadas de Colombia.* Editor, Castaño-Mora OV. Instituto de Ciencias Naturales-Universidad Nacional de Colombia, Ministerio de Medio Ambiente, Conservación Internacional-Colombia, Bogotá, Colombia. 160 p.

Castaño-Mora OV, Medem F. 2002d. *Batrachemys raniceps*. Pp. 130 In: *Libro Rojo de Reptiles de Colombia. Libros Rojos de Especies Amenazadas de Colombia.* Editor, Castaño-Mora OV. Instituto de Ciencias Naturales-Universidad Nacional de Colombia, Ministerio de Medio Ambiente, Conservación Internacional-Colombia, Bogotá, Colombia 160 p.

Castaño-Mora OV, Medem F. 2002e. *Rhinemys rufipes*. Pp. 98–99 In: *Libro Rojo de Reptiles de Colombia. Libros Rojos de Especies Amenazadas de Colombia.* Editor, Castaño-Mora OV. Instituto de Ciencias Naturales-Universidad Nacional de Colombia, Ministerio de Medio Ambiente, Conservación Internacional-Colombia, Bogotá, Colombia. 160 p.

Castaño-Mora OV, Medem F. 2002f. *Podocnemis expansa*. Pp. 61–64 In: *Libro Rojo de Reptiles de Colombia. Libros Rojos de Especies Amenazadas de Colombia.* Editor, Castaño-Mora OV. Instituto de Ciencias Naturales-Universidad Nacional de Colombia, Ministerio de Medio Ambiente, Conservación Internacional-Colombia, Bogotá, Colombia. 160 p.

Castaño-Mora OV, Medem F. 2002g. *Podocnemis unifilis*. Pp. 65–67 In: *Libro Rojo de Reptiles de Colombia. Libros Rojos de Especies Amenazadas de Colombia.* Editor, Castaño-Mora OV. Instituto de Ciencias Naturales-Universidad Nacional de Colombia, Ministerio de Medio Ambiente, Conservación Internacional-Colombia, Bogotá, Colombia. 160 p.

Castaño-Mora OV, Medem F. 2002h. *Podocnemis vogli*. Pp. 121 In: *Libro Rojo de Reptiles de Colombia. Libros Rojos de Especies Amenazadas de Colombia.* Editor, Castaño-Mora OV. Instituto de Ciencias Naturales-Universidad Nacional de Colombia, Ministerio de Medio Ambiente, Conservación Internacional-Colombia, Bogotá, Colombia. 160 p.

Castaño-Mora OV, Galvis-Peñuela PA, Molano JG. 2003. Reproductive ecology of *Podocnemis erythrocephala* (Testudines: Podocnemididae) in the Lower Inírida River. *Chelonian Conservation and Biology* 4(3): 664–670.

Castaño-Mora OV, Cárdenas G, Hernández EJ, Castro-Herrera F. 2004. Reptiles en el Chocó biogeográfico. Pp. 599–631 In: *El Chocó Biogeográfico/Costa Pacífica: Colombia. Diversidad Biótica IV*. Editor, Rangel-Churio JO. Universidad Nacional de Colombia, Bogotá, Colombia. 866 p.

Castaño-Mora OV, Cárdenas-Arévalo G, Medina-Rangel GF, Carvajal-Cogollo JE, Forero-Medina GA, Gallego-García N, Ulloa-Delgado G, Rojas-Murcia LE, Gaitán-Guerrón J. 2015. *Chelonoidis carbonarius* Spix 1824. Pp. 172–175 In: *Libro Rojo de Reptiles de Colombia* (*2015*). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Castro-Herrera F, Vargas-Salinas F. 2008. Anfibios y reptiles en el departamento del Valle del Cauca, Colombia. *Biota Colombiana* 9(2): 251–277.

Ceballos-Fonseca CP. 2000. Tortugas (Testudinata)

marinas y continentales de Colombia. *Biota Colombiana* 1(2): 187–194.

Ceballos-Fonseca CP. 2004. Distribución de playas de anidación y áreas de alimentación de tortugas marinas y sus amenazas en el Caribe colombiano. *Boletín de Investigaciones Marinas y Costeras* 33(1): 79–99.

Ceballos-Fonseca CP, Hernández O, Morales-Betancourt MA, Trujillo F. 2012a. *Podocnemis expansa* (Schweigger, 1812). Pp. 367–374 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Ceballos-Fonseca CP, Iverson JB, Bernhard R. 2012b. *Podocnemis sextuberculata* (Cornalia, 1849). Pp. 382–386 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Ceballos-Fonseca CP, Brand WA. 2014. Morphology and conservation of the Mesoamerican Slider (*Trachemys venusta*, Emydidae) from the Atrato river basin, Colombia. *Acta Biológica Colombiana* 19(3): 483–498.

Clerici N, Armenteras D, Karieva P, Botero R, Ramírez-Delgado JP, Forero-Medina G, Ochoa J, Pedraza C, Schneider L, Biggs D, et al. 2020. Deforestation in Colombian protected areas increases during post-conflict periods. *Scientific Reports* 10: 4971.

Correa-Ayram CA, Díaz-Timoté J, Etter Rothlisberger A, Ramírez W, Corzo G. 2018. El cambio en la huella espacial humana como herramienta para la toma de decisiones en la gestión del territorio. In: *Biodiversidad 2018. Estado y Tendencias de la Biodiversidad Continental de Colombia*. Editors, Moreno OA, Andrade GI, Goméz MF. Instituto de Investigaciones de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. Unpaginated.

Costa HC, Guedes TB, Bérnils RS. 2022. Lista de répteis do Brasil: padrões e tendências. *Herpetologia Brasileira* 10(3): 110–279.

Covelo P, Nicolau P, López A. 2016. Four new records of stranded Kemp's Ridley Turtle *Lepidochelys kempi* in the NW Iberian Peninsula. *Marine Biodiversity Records* 9(1): 80.

Cunha FAG, Fernandes T, Franco J, Vogt RC. 2019. Reproductive biology and hatchling morphology of the Amazon Toad-headed Turtle (*Mesoclemmys raniceps*) (Testudines: Chelidae), with notes on species morphology and taxonomy of the *Mesoclemmys* group. *Chelonian Conservation and Biology* 18(2): 195–209.

Cunha FAG, Fagundes CK, Brito ES, Vogt RC, Maffei F, Pezzuti J, Félix-Silva D, Rojas-Runjaic FJM, Lasso CA, Morales-Betancourt MA, et al. 2021. Distribution of *Chelus fimbriata* and *Chelus orinocensis* (Testudines: Chelidae). *Chelonian Conservation and Biology* 20(1): 109–115.

Dávalos LM. 2001. The San Lucas Mountain range in Colombia: How much conservation is owed to the violence? *Biodiversity and Conservation* 10: 69–78.

de la Ossa-Velásquez J, Bernhard R, de la Ossa-Lacayo A. 2012a. *Platemys platycephala* (Schneider, 1792). Pp. 261–265 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

de la Ossa-Velásquez J, Vogt RC, de la Ossa-Lacayo A, Lasso CA. 2012b. *Peltocephalus dumerilianus* (Schweigger, 1812). Pp. 353–359 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

DeClerck FAJ, Chazdon R, Holl KD, Milder JC, Finegan B, Martínez-Salinas A, Imbach P, Canet L, Ramos Z. 2010. Biodiversity conservation in human-modified landscapes of Mesoamerica: past, present, and future. *Biological Conservation* 143(10): 2,301–2,313.

del Rio J, Zapata-Ciro J, Páez VP. 2018. *Podocnemis expansa* (Schweigger, 1812). *Catálogo de Anfibios y Reptiles de Colombia* 4(1): 52–59.

Duellman WE. 1978. The biology of an equatorial herpetofauna in Amazonian Ecuador. *Miscellaneous Publications of the University of Kansas Museum of Natural History* 65: 1–352.

Dueñez-Gómez F, Muñoz-Guerrero J, Ramírez-Pinilla MP. 2004. Herpetofauna del Corregimiento Botillero (El Banco, Magdalena) en la Depresión Momposina de la región Caribe Colombiana. *Actualidades Biológicas* 26(81): 161–170.

Echeverry-Alcendra AM, Guzmán-M A, Stevenson P, Cortés-Duque J. 2012. *Chelenoidis denticulata* (Linnaeus, 1766). Pp. 412–418 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Echeverry-Alcendra A. 2019. *Chelonoidis carbonarius*

(Spix, 1824). *Catálogo de Anfibios y Reptiles de Colombia* 5(1): 13–29.

Echeverry-García LP, Carr JL, Garcés-Restrepo MF, Galvis-Rizo CA, Giraldo A. 2012a. *Rhinoclemmys melanosterna* (Gray, 1861). Pp. 308–314 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Eckert K, Eckert A. 2019. *An Atlas of Sea Turtle Nesting Habitat for the Wider Caribbean Region*. WIDECAST Technical Report Number 19. Wider Caribbean Sea Turtle Conservation Network, Beaufort, North Carolina, USA. 232 p.

Escalona T, Conway-Gómez K, Morales-Betancourt MA, Arbeláez F, Antelo R. 2012. *Podocnemis unifilis* (Troschel, 1848). Pp. 387–398 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

ESRI. 2014. Environmental Systems Research Institute homepage. Available: http://esri.com/en-us/home [Accessed: 3 January 2021].

Ferrara CR, Fagundes CK, Morcatty TQ, Vogt RC. 2017. *Quelônios Amazônicos. Guia de Identificação e Distribuição*. Wildlife Conservation Society, Manaus, Brazil. 180 p.

Flórez-Jaramillo LA, Barona-Cortés E. 2016. Diversity of reptiles associated with three contrasting areas in a tropical dry forest (La Dorada and Victoria, Caldas). *Revista de Ciencias* 20(2): 109–123.

Forero-Medina G, Castaño-Mora OV. 2011. *Kinosternon scorpioides albogulare* (Duméril and Bocourt, 1870), White-throated Mud Turtle, Swanka Turtle. *Chelonian Research Monographs* 5: 064.1–064.5.

Forero-Medina G, Castaño-Mora OV, Cárdenas-Arévalo G, Medina-Rangel GF. 2012. *Mesoclemmys dahli* (Zangerl y Medem, 1958). Pp. 247–253 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Forero–Medina G, Yusti–Muñoz AP, Castaño–Mora OV. 2014. Distribución geográfica de las tortugas continentales de Colombia y su representación en áreas protegidas. *Acta Biológica Colombiana* 19(3): 415–426.

Forero-Medina G, Iverson JB, Carr JL, Castaño-Mora OV, Galvis-Rizo CA, Rentería-Moreno LE. 2015a. Tortuga cabeza de trozo. *Kinosternon dunni* (Schmidt, 1947). Pp. 180–182 In: *Libro Rojo de Reptiles de Colombia* (*2015*). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Forero-Medina G, Castaño-Mora OV, Pacheco A, Lasso CA. 2015b. Swanka. *Kinosternon scorpioides albogulare* (Duméril y Bocourt, 1870). Pp. 176–179 In: *Libro Rojo de Reptiles de Colombia* (*2015*). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Forero-Medina G, Castaño-Mora OV, Cárdenas-Arévalo G, Medina-Rangel GF, de la Ossa-Velásquez J, Vargas-Ramírez M, Gallego-García N. 2015c. Carranchina. *Mesoclemmys dahli* (Zangerl y Medem, 1958). Pp. 142–145 In: *Libro Rojo de Reptiles de Colombia* (*2015*). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Forero-Medina G, Páez VP, Garcés-Restrepo MF, Carr JL, Giraldo A, Vargas-Ramírez M. 2016. Research and conservation priorities for tortoises and freshwater turtles of Colombia. *Tropical Conservation Science* 9(4): 1–14.

Franco-Espinosa C, Hernández-Fernández J. 2017. Análisis de haplotipos de la tortuga cabezona *Caretta caretta* (Testudines: Cheloniidae) en dos playas del Caribe colombiano. *Revista Lasallista de Investigación* 14(2): 121–131.

Friol NR. 2014. Filogenia e evolucão das espécies do gênero *Phrynops* (Testudines: Chelidae). M.S. Thesis, Universidade de São Paolo, São Paolo, Brazil. 101 p.

Fritz U, Havass P. 2007. Checklist of chelonians of the world. *Vertebrate Zoology* 57(2): 149–368.

Fritz U, Stuckas H, Vargas-Ramírez M, Hundsdörfer AK, Maran J, Päckert M. 2012. Molecular phylogeny of Central and South American slider turtles: implications for biogeography and systematics (Testudines: Emydidae: *Trachemys*). *Journal of Zoological Systematics and Evolutionary Research* 50(2): 125–136.

Gallego-García N, Cárdenas-Arévalo G, Castaño-Mora OV. 2012. *Chelonoidis carbonaria* (Spix, 1824). Pp. 406–411 In: *Libro Rojo de Reptiles de Colombia* (*2015*). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Gaos AR, Abreu-Grobois FA, Alfaro-Shigueto J, Amorocho D, Arauz R, Baquero A, Briseño R, Chacón D, Dueñas C, Zárate P, et al. 2010. Signs of hope in the eastern Pacific: international collaboration reveals

encouraging status for a severely depleted population of Hawksbill Turtles, *Eretmochelys imbricata*. *Oryx* 44(4): 595–601.

Garcés-Restrepo MF, Giraldo A, Carr JL. 2013. Population ecology and morphometric variation of the Chocoan River Turtle (*Rhinoclemmys nasuta*) from two localities on the Colombian Pacific coast. *Boletín Científico. Centro de Museos. Museo de Historia Natural* 17(2): 160–171.

Garcés-Restrepo MF, Carr JL, Giraldo A. 2019. Long-term variation in survival of a neotropical freshwater turtle: habitat and climatic influences. *Diversity* 11(6): 1–12.

García N. 2005. Biología reproductiva y conservación de las tortugas charapa *Podocnemis expansa*, cupiso *Podocnemis sextuberculata* y taricaya *Podocnemis unifilis* en las playas aledañas al municipio de Puerto Nariño (Amazonas). Undergraduate Thesis, Pontificia Universidad Javeriana, Bogotá, Colombia. 209 p.

Gaston KJ. 2003. *The Structure and Dynamics of Geographic Ranges*. Oxford University Press, Oxford, United Kingdom. 280 p.

GBIF.org. 2021. Global Biodiversity Information Facility homepage. Available: https//www.gbif.org [Accessed: 3 January 2021].

Giraldo A, Carr JL, Garcés-Restrepo MF. 2012a. *Rhinoclemmys annulata* (Gray, 1860). Pp. 300–304 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Giraldo A, Garcés-Restrepo MF, Carr JL. 2012b. Tamaño y estructura poblacional de la tortuga sabaletera (*Rhinoclemmys nasuta*, Testudines: Geoemydidae) en un ambiente insular del Pacífico colombiano. *Caldasia* 34(1): 109–125.

Giraldo A, Garcés-Restrepo MF, Carr JL. 2012c. *Kinosternon leucostomum* (Duméril y Bibron). Pp. 332–339 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Giraldo A, Garcés-Restrepo MF, Carr JL. 2013a. *Rhinoclemmys annulata* (Gray, 1860). *Catálogo de Anfibios y Reptiles de Colombia* 1(1): 31–34.

Giraldo A, Garcés-Restrepo MF, Carr JL. 2013b. *Kinosternon leucostomum* (Duméril y Bibron en Duméril y Duméril, 1851). *Catálogo de Anfibios y Reptiles de Colombia* 1(1): 45–49.

González-Avendaño LP. 2019. Correlación entre grupos genéticos y variaciones bioclimáticas en la especie de tortuga continental, *Rhinoclemmys melanosterna* (Testudines: Geoemydidae). Undergraduate Thesis, Departamento de Biología, Universidad Militar Nueva Granada, Bogotá, Colombia. 32 p.

Henao LD, Ruíz-Palma J. 1996. Estado actual de la tortuga bache (*Chelydra serpentina acutirostris*) en el Valle de Cauca: cacería y cautiverio en la comunidad de San Cipriano, Buenaventura. Pp. 157–160 In: *Investigación y Manejo de Fauna para la Construcción de Sistemas Sostenibles*. Editor, Osorio de la Cruz H. Centro para la Investigación en Sistemas Sostenibles de Producción Agropecuaria, Cali, Colombia. 239 p.

Heppell SS. 1998. Application of life-history theory and population model analysis to turtle conservation. *Copeia* 1998(2): 367–375.

Hernández-Obando LS. 2020. Caracterización de la playa Los Cocos sector Mendihuaca-Magdalena durante el seguimiento de la temporada de anidacion de tortugas marinas 2019. Undergraduate Thesis, Universidad Jorge Tadeo Lozano, Programa de Biología Marina, Santa Marta, Magdalena, Colombia. 102 p.

HerpNET. 2021. HerpNET Data Portal. Available: https//ecologicaldata.org/wiki/herpnet [Accessed: 3 January 2021].

Hurtado-Sepúlveda SN. 1973. *Algunos Aspectos Bioecológicos de Podocnemis lewyana* (*Dumeril, 1984*) (*Testudinata: Pleurodira: Pelomedusidae 1830*). *Biologia 1*. Centro de Investigaciones Biológicas Pesqueras del Río Magdalena, Caldas, Colombia. 34 p.

ICMBio (Instituto Chico Mendes de Conservação da Biodiversidade). 2018. *Livro Vermelho da Fauna Brasileira Ameaçada de Extinção. Volume IV. Répteis.* Instituto Chico Mendes de Conservação da Biodiversidade/Ministério do Meio Ambiente, Brasília, DF, Brazil. 253 p.

IDEAM. 2013. *Zonificación y Codificación de Unidades Hidrográficas e Hidrogeológicas de Colombia*. Instituto de Hidrología, Meteorología y Estudios Ambientales, Bogotá, Colombia. 46 p.

IGAC. 2021. Instituto de Geografía Agustín Codazzi website. Available: http://igac.gov.co [Accessed: 3 January 2021].

Ihlow F, Dambach J, Engler JO, Flecks M, Hartmann T, Nekum S, Rajaei H, Rödder D. 2012. On the brink of extinction? How climate change may affect global chelonian species richness and distribution. *Global Change Biology* 18(5): 1,520–1,530.

iNaturalist. 2021. iNaturalist website. Available: https://www.inaturalist.org [Accessed: 3 January 2021].

Insacco G, Spadola F. 2010. First record of Kemp's Ridley Sea Turtle, *Lepidochelys kempii* (Garman, 1880) (Cheloniidae), from the Italian waters (Mediterranean Sea). *Acta Herpetologica* 5(1): 113–117.

IUCN (International Union for the Conservation of Nature). 2012. *Guidelines for Application of the IUCN Red List Criteria at Regional and National Levels:*

Version 4.0. International Union for the Conservation of Nature, Gland, Switzerland. 41 p.

IUCN (International Union for the Conservation of Nature). 2013. *Guidelines for Reintroductions and Other Conservation Translocations. Version 1.0*. International Union for the Conservation of Nature, Gland, Switzerland. 57 p.

IUCN (International Union for the Conservation of Nature). 2018. *The IUCN Red List of Threatened Species. Version 2018-2*. Available at: http://www.iucnredlist.org [Accessed: 3 January 2021].

Iverson JB. 1992. *A Revised Checklist with Distribution Maps of the Turtles of the World*. Privately printed, Richmond, Indiana, USA. 363 p.

Jackson JT, Starkey DE, Guthrie RW, Forstner MRJ. 2008. A mitochondrial DNA phylogeny of extant species of the genus *Trachemys* with resulting taxonomic implications. *Chelonian Conservation and Biology* 7(1): 131–135.

Jensen EL, Govindarajulu P, Russello MA. 2014. When the shoe doesn't fit: applying conservation unit concepts to Western Painted Turtles at their northern periphery. *Conservation Genetics* 15(2): 261–274.

Karl SS, Bowen BW. 1999. Evolutionary significant units versus geopolitical taxonomy: molecular systematics of an endangered sea turtle (genus *Chelonia*). *Conservation Biology* 13(5): 990–999.

Lasso CA, Trujillo F, Morales-Betancourt MA, Amaya L, Caballero S, Castañeda B. 2018. Conservación y tráfico de la tortuga matamata, *Chelus fimbriata* (Schneider, 1783) en Colombia: un ejemplo del trabajo conjunto entre el Sistema Nacional Ambiental, ONG y academia. *Biota Colombiana* 19(1): 147–159.

Lasso CA, Trujillo F, Morales-Betancourt MA. (Editors). 2020. *VIII. Biodiversidad de la Reserva Natural Bojonawi, Vichada, Colombia: río Orinoco y Planicie de Inundación. Serie Editorial Fauna Silvestre Neotropical*. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt. Bogotá, Colombia. 556 p.

Laurance W, Useche DC, Rendeiro J, Kalka M, Bradshaw CJ, Sloan SP, Laurance SG, Campbell M, Abernethy K, Zamzani F. 2012. Averting biodiversity collapse in tropical forest protected areas. *Nature* 489(7415): 290–294.

Lehn C, Das I, Forstner MRJ, Brown RM. 2007. Responsible vouchering in turtle research: an introduction and recommendations. *Chelonian Research Monographs* 4: 147–156.

Leviton AE, Gibbs RH, Dawson CE. 1985. Standards in herpetology and ichthyology. Part I. Standard symbolic codes for institution resource collections in herpetology and ichthyology. *Copeia* 1985(3): 802–832.

Liévano-Latorre LF, Brum FT, Loyola R. 2021. How effective have been guerrilla occupation and protected areas in avoiding deforestation in Colombia? *Biological Conservation* 253: 108916.

Lovich JE, Ennen JR, Agha M, Gibbons JW. 2018. Where have all the turtles gone, and why does it matter? *BioScience* 68(10): 771–781.

MADS (Ministerio de Ambiente y Desarrollo Sostenible). 2015. *Decreto 1076 del 26 de mayo de 2015 [con fuerza de ley]. Por medio del cual se expide el Decreto Único Reglamentario del Sector Ambiente y Desarrollo Sostenible. 26 de mayo de 2015. D.O. No. 49523*. Available: https://www.minambiente.gov.co/images/normativa/decretos/2015/DECRETO_1076_DEL_26_DE_MAYO_DE_2015.pdf [Accessed: 3 January 2021].

MADS (Ministerio de Ambiente y Desarrollo Sostenible). 2016. *Decreto 1272 del 03 de agosto de 2016 [con fuerza de ley]. Por el cual se adiciona un capítulo al Título 9 de la Parte 2 del Libro 2 del Decreto 1076 de 2015, Decreto Único Reglamentario del Sector Ambiente y Desarrollo Sostenible, en lo relacionado con la tasa compensatoria por caza de fauna silvestre y se dictan otras disposiciones*. Available: http://es.presidencia.gov.co/normativa/normativa/DECRETO%201272%20DEL%2003%20DE%20AGOSTO%20DE%202016.pdf [Accessed: 3 January 2021].

Márquez R. 1990. FAO species catalogue, Volume 11. Sea turtles of the world: an annotated and illustrated catalogue of sea turtle species known to date. *FAO Fisheries Synopsis* 125(11): 1–81.

Martínez-Callejas SJ, Durán-Prieto C, Páez VP, Trujillo F, Trujillo-Pérez A. 2015. Charapa. *Podocnemis expansa* (Müller, 1935). Pp. 132–136 In: *Libro Rojo de Reptiles de Colombia* (*2015*). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Martínez-Ortega J, Hernández-Fernández J. 2013. Método Taguchi para optimizar marcadores RAPD-PCR y determinar diversidad genética: un modelo, la tortuga cabezona *Caretta caretta* (Testudines: Cheloniidae). *Mutis* 3(1): 49–68.

McCord WP, Joseph-Ouni M, Lamar WW. 2001. A taxonomic reevaluation of *Phyrnops* (Testudines: Chelidae) with the description of two new genera and a new species of *Batrachemys*. *Revista de Biología Tropical* 49(2): 715–764.

McCord WP, Joseph-Ouni M, Hagen C, Blank T. 2010. Three new subspecies of *Trachemys venusta* (Testudines: Emydidae) from Honduras, northern Yucatán (Mexico), and Pacific coastal Panama. *Reptilia* (*GB*) (*Barcelona*) 71: 39–49.

McCranie JR. 2018. The lizards, crocodiles, and turtles of Honduras. Systematics, distribution, and conservation. *Bulletin of the Museum of Comparative Zoology, Special Publications Series* 2: 1–666.

Medem F. 1958. Informe sobre reptiles colombianos (II). El conocimiento actual sobre la distribución

geográfica de las Testudinata en Colombia. *Boletín del Museo de Ciencias Naturales, Caracas* 2–3: 13–45.

Medem F. 1960. Datos zoogeográficos y ecológicos sobre los Crocodylia y Testudinata de los ríos Amazonas, Putumayo y Caquetá. *Caldasia* 8(38): 341–351.

Medem F. 1962. La distribución geográfica de los Crocodylia y Testudinata en el departamento del Chocó. *Revista de la Academia Colombiana de Ciencias Exactas, Físicas, y Naturales* 11(44): 279–303.

Medem F. 1968. El desarrollo de la herpetología en Colombia. *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales* 13(50): 160–163.

Medem F. 1969. Estudios adicionales sobre los Crocodylia y Testudinata del Alto Caquetá y río Caguán. *Caldasia* 10(48): 329–353.

Medem F. 1977. Contribución al conocimiento sobre la taxonomía, distribución geográfica y ecología de la tortuga "Bache" (*Chelydra serpentina acutirostris*). *Caldasia* 12(56): 41–101.

Medem F. 1983. Reproductive data on *Platemys platycephala* (Testudines: Chelidae) in Colombia. Pp. 249–234 In: *Advances in Herpetology and Evolutionary Biology*. Editors, Rhodin AGJ, Miyata K. Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA. 725 p.

Medina-Rangel GF. 2011. Diversidad alfa y beta de la comunidad de reptiles en el complejo cenagoso de Zapatosa, Colombia. *Revista de Biología Tropical* 59(2): 935–968.

Medina-Rangel GF, Cárdenas-Árevalo G. 2015. Relaciones espaciales y alimenticias del ensamblaje de reptiles del complejo cenagoso de Zapatosa, Departamento del Cesar (Colombia). *Papéis Avulsos de Zoologia* 55(10): 143–165.

Molina FB, Machado FA, Zaher H. 2012. Taxonomic validity of *Mesoclemmys heliostemma* (McCord, Joseph-Ouni, and Lamar, 2001) (Testudines: Chelidae) inferred from morphological analysis. *Zootaxa* 3575: 63–77.

Moll EO, Legler JM. 1971. The life history of a neotropical slider turtle, *Pseudemys scripta* (Schoepff), in Panama. *Bulletin of the Los Angeles County Museum of Natural History* 11: 1–102.

Moncada F, Romero S. 2015. Nota sobre los registros del género *Lepidochelys* (Cryptodira: Cheloniidae) en Cuba. *Solenodon* 12: 161–163.

Moncada F, Ramírez-Gallego C, Camero J, Gonzalez M, Nodarse G, Barrientos-Muñoz KG. 2019. A juvenile Loggerhead Turtle (*Caretta caretta*) tagged in Cuba is recaptured in Colombian waters. *Marine Turtle Newsletter* 156: 30–32.

Montes-Correa AC, Saboyá-Acosta LP, Páez VP, Vega K, Renjifo JM. 2014. Distribución de tortugas continentales del Caribe colombiano. *Acta Biológica Colombiana* 19(3): 341–350.

Montes-Correa AC, Saboyá-Acosta LP, Páez VP, Renjifo JM. 2017. *Kinosternon scorpioides* (Linnaeus, 1766). *Catálogo de Anfibios y Reptiles de Colombia* 3(1): 17–24.

Morales-Betancourt MA, Lasso CA. 2012a. *Rhinoclemmys diademata* (Mertens, 1954). Pp. 305–307 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Morales-Betancourt MA, Lasso CA. 2012b. *Chelus fimbriatus* (Schneider, 1783). Pp. 243–246 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Morales-Betancourt MA, Lasso CA. 2012c. *Mesoclemmys gibba* (Schweigger, 1812). Pp. 254–256 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Morales-Betancourt MA, Lasso CA. 2012d. *Mesoclemmys raniceps* (Gray, 1856). Pp. 259–260 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Morales-Betancourt MA, Lasso CA. 2015a. Conservación de grandes reptiles acuáticos continentales (tortugas y crocodílidos) en Colombia. Pp. 53–70 In: *Conservación de Grandes Vertebrados en Áreas no Protegidas de Colombia, Venezuela y Brasil. Serie Editorial Fauna Silvestre Neotropical*. Editors, Payán E, Lasso CA, Castaño-Uribe E. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 294 p.

Morales-Betancourt MA, Lasso CA. 2015b. Inguensa. *Rhinoclemmys diademata* (Mertens, 1954). Pp. 146–148 In: *Libro Rojo de Reptiles de Colombia* (*2015*). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Morales-Betancourt MA, Lasso CA. 2015c. Chipiro.

Podocnemis erythrocephala (Spix, 1824). Pp. 158–160 In: *Libro Rojo de Reptiles de Colombia* (*2015*). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Morales-Betancourt MA, Lasso CA, Trujillo F, de la Ossa J, Forero G, Páez VP. 2012a. Amenazas a las poblaciones de tortugas continentales de Colombia. Pp. 453–492 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Morales-Betancourt MA, Lasso CA, Páez VP. 2012b. *Rhinemys rufipes* (Spix, 1824). Pp. 269–271 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Morales-Betancourt MA, Lasso CA, Páez VP. 2012c. *Phrynops geoffroanus* (Schweigeger, 1812). Pp. 266–268 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Morales-Betancourt MA, Lasso CA, Trujillo F. 2012d. *Podocnemis vogli* (Müller). Pp. 399–403 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Morales-Betancourt MA, Múnera C, Lasso CA. 2012e. *Trachemys scripta elegans* (Wied, 1838). Pp. 252–255 In: *VI. Catálogo de la Biodiversidad Acuática Exótica y Transplantada en Colombia: Moluscos, Crustáceos, Peces, Anfibios, Reptiles y Aves. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia*. Editors, Gutiérrez F de P, Lasso CA, Baptiste MP, Sánchez-Duarte P, Díaz AM. Instituto de Investigación de los Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 170 p.

Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. 2015a. *Libro Rojo de Reptiles de Colombia* (*2015*). Instituto de Investigación de Recursos Biológicos Alexander von Humboldt (IAvH), Bogotá, Colombia. 258 p.

Morales-Betancourt MA, Lasso CA, Páez VP. 2015b. Terecay. *Podocnemis unifilis* (Troschel, 1848). Pp. 149–152 In: *Libro Rojo de Reptiles de Colombia* (2015). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Moreno R, Negrete E. 2012. Marco normativo de la fauna silvestre en Colombia con fines de seguridad alimentaria y consumo de subsistencia. Pp. 32–63 In: *Carne de Monte y Seguridad Alimentaria: Bases Técnicas para una Gestión Integral en Colombia.* Editor, Restrepo S. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 94 p.

Moreno-Munar Á, Ospina-Sánchez SC, Jáuregui-Romero GA, Álvarez-León R. 2014. Monitoreamiento de poblaciones de tortugas marinas en los sectores de Arrecifes y Cañaveral, Parque Nacional Natural Tayrona, Colombia. *Arquivos de Ciências do Mar* 47(2): 19–30.

Müller L. 1939. Über die Verbreitungdel Chelonier auf dem Sudamerikanischen Kontinent. *Physis* 16: 89–102.

Negret PJ, Allan J, Braczkowski A, Maron M, Watson JEM. 2017. Need for conservation planning in postconflict Colombia. *Conservation Biology* 31(3): 499–500.

Oksanen J, Blanchet FG, Friendly M, Kindt R, Legendre P, McGlinn D, Minchin PR, O'Hara RB, Wagner H, et al. 2007. Vegan: Community Ecology Package. R package version 24-0. Available: https://cran.r-project.org/web/packages/vegan/index.html [Accessed: 3 January 2021].

Ortíz-Yusty C, Restrepo A, Páez VP. 2014. Distribución potencial de *Podocnemis lewyana* (Reptilia: Podocnemididae) y su posible fluctuación bajo escenarios de cambio climático global. *Acta Biológica Colombiana* 19(3): 471–481.

Páez VP. 2015. Tortuga del río Magdalena. *Podocnemis lewyana* (Duméril, 1852). Pp. 137–140 In: *Libro Rojo de Reptiles de Colombia* (*2015*). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Páez VP, Bock BC, Estrada JJ, Ortega AM, Daza JM, Gutiérrez-Cárdenas PD. 2002. *Guía de Campo de algunas Especies de Anfibios y Reptiles de Antioquia.* MultiImpresos Ltda., Medellín, Colombia. 136 p.

Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. (Editors). 2012a. *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia*. Instituto de Investigación de los Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Páez VP, Restrepo-Isaza A, Vargas-Ramírez M, Bock BC, Gallego-García N. 2012b. *Podocnemis lewyana* (Duméril, 1852). Pp. 375–381 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Páez VP, Restrepo A, Vargas-Ramírez M, Bock BC, Gallego-García N. 2013. *Podocnemis lewyana* (Duméril, 1852). *Catálogo de Anfibios y Reptiles de Colombia* 1(1): 1–5.

Páez VP, Ramírez-Gallego C, Barrientos-Muñoz KG. 2015a. Caguama. *Caretta caretta* (Linnaeus, 1758). Pp. 118–121 In: *Libro Rojo de Reptiles de Colombia* (*2015*). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Páez VP, Ramírez-Gallego C, Barrientos-Muñoz KG. 2015b. Tortuga verde. *Chelonia mydas* (Linnaeus, 1758). Pp. 153–156 In: *Libro Rojo de Reptiles de Colombia* (*2015*). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Parham JF, Papenfuss TJ, Buskirk JR, Parra-Olea G, Chen J, Simison WB. 2015. *Trachemys ornata* or not *ornata*: reassessment of a taxonomic revision for Mexican *Trachemys*. *Proceedings of the California Academy of Science* 62: 359–367.

Patiño-Martínez J, Marco A, Quiñones L, Godley BJ. 2008. Globally significant nesting of the Leatherback Turtle (*Dermochelys coriacea*) on the Caribbean coast of Colombia and Panama. *Biological Conservation* 141(8): 1,982–1,988.

Pérez J, Alegría J. 2009. Evaluación morfométrica y dimorfismo sexual intra-poblacional de *Rhinoclemmys nasuta* (Boulenger, 1902) en una zona insular continental del Pacífico colombiano. *Revista Colombiana de Ciencia Animal* 1(2): 143–156.

Pinto-Erazo MA, Calderón-Espinosa ML, Medina-Rangel GF, Méndez-Galeano MA. 2020. Herpetofauna from two municipalities of southwestern Colombia. *Biota Colombiana* 21(1): 41–57.

Pritchard PCH. 2008. *Chelus fimbriata* (Schneider 1783), Matamata Turtle. *Chelonian Research Monographs* 5: 020.1–020.10.

Pritchard PCH, Trebbau P. 1984. *The Turtles of Venezuela*. Society for the Study of Amphibians and Reptiles, Oxford, Ohio, USA. 352 p.

R Core Team. 2016. R: a language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. Available: https://www.R-project.org [Accessed: 3 January 2021].

Ramírez-Gallego C, Barrientos-Muñoz KG, Páez VP. 2015. *Dermochelys coriacea* (Vandelli, 1761). Pp. 122–126 In: *Libro Rojo de Reptiles de Colombia* (*2015*). Editors, Morales-Betancourt MA, Lasso CA, Páez VP, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 258 p.

Ramírez-Gallego C, Barrientos-Muñoz KG. 2020a. Sea turtles at Serrana Island and Serranilla Island, Seaflower Biosphere Reserve, Colombian Caribbean. *Frontiers in Marine Science* 6: 1–5.

Ramírez-Gallego C, Barrientos-Muñoz KG. 2020b. Illegal Hawksbill trafficking: five years of records of the handicrafts and meat trades of the Hawksbill Turtle (*Eretmochelys imbricata*) in Cartagena de Indias, Colombia. *Journal of Aquaculture and Marine Biology* 9(3): 101–105.

Ramírez-Gallego C, Barrientos-Muñoz KG. 2021. Stopping illegal Hawksbill trafficking in Cartagena de Indias, Colombia. Pp. 141–148 In: *Sea Turtle Research and Conservation: Lessons from Working in the Field.* Editor, Nahill B. Elsevier Academic Press, Cambridge, Massachusetts, USA. 224 p.

Regalado-Tabares AC, Botero-Botero A, Muñera-Isaza C, Ortega-Guio AF, Restrepo-Isaza A. 2012. *Chelydra acutirostris*. Pp. 275–278 In: *V. Biología y Conservación de las Tortugas Continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia.* Editors, Páez VP, Morales-Betancourt MA, Lasso CA, Castaño-Mora OV, Bock BC. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 523 p.

Renjifo JM, Acosta-Galvis R. 2014. Anfibios y reptiles de la Estrella Fluvial Inírida. Pp. 131–153 In: *Biodiversidad de la Estrella Fluvial Inírida*. Editors, Trujillo F, Usma JS, Lasso CA. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia. 328 p.

Renjifo JM, Lasso CA, Morales-Betancourt MA. 2009. Herpetofauna de la estrella fluvial de Inírida (ríos Inírida, Guaviare, Atabapo, y Orinoco), Orinoquia colombiana: lista preliminar de especies. *Biota Colombiana* 10(1–2): 171–178.

Rentería-Moreno LE, Forero-Medina G, Garcés-Restrepo MF, Carr JL, Rueda Almonacid JV. 2012. Range extension of *Kinosternon dunni* Schmidt, 1947 (Reptilia, Testudines, Kinosternidae) in Chocó, Colombia. *Check List* 8(6): 1,310–1,312.

Restrepo-Bastidas E, Menoza-Mora A. 2018. *Guía Ilustrada de Anfibios y Reptiles de la Ciénaga de Palagua, Boyacá, Colombia*. Centro Pecuario y Agroempresarial SENA, La Dorada, Caldas, Colombia. 59 p.

Restrepo A, Páez VP, Bock BC, Daza JM, Díazgranados I. 2014. *Trachemys callirostris* (Gray, 1856). *Catálogo de Anfibios y Reptiles de Colombia* 2(2): 7–12.

Ripple WJ, Wolf C, Newsome TM, Hoffman M, Wirsing AJ, McCauley DJ. 2017. Extinction risk is most acute for the world's largest and smallest vertebrates. *Proceedings of the National Academy of Sciences of the United States of America* 114(40): 10,678–10,683.

Rivera-Gómez M, Calle-Bonilla IC, Cuéllar-Chacón A, Paredes-Mina F, Giraldo-López A. 2016. Registro de la tortuga caná (*Dermochelys coriacea*) en el Parque Nacional Natural Gorgona, Pacífico colombiano. *Biota Colombiana* 17(2): 163–166.

Rivera-Robles DL, Adames-Jiménez TA. 2021. *Lepidochelys olivacea* (Eschsholtz, 1829). *Catálogo de Anfibios y Reptiles de Colombia* 7(1): 30–38.

Rodríguez JP, García-Rawlins A, Rojas-Suárez F. (Editors). 2015. *Libro Rojo de la Fauna Venezolana*. Provita y Fundación Empresas Polar, Caracas, Venezuela. 287 p.

Rodríguez-Murcia JD, Giraldo A, Garcés-Restrepo MF, Sánchez F. 2014. Estructura poblacional y dimorfismo sexual de *Kinosternon leucostomum* (Testudines: Kinosternidae) en un sistema de charcas asociadas al río Purnió, Caldas, Colombia. *Investigación, Biodiversidad y Desarrollo* 33(2): 86–95.

RUNAP. 2018. Registro Único de Áreas Protegidas. Available: http://runap.parquesnacionales.gov.co/cifras [Accessed: 3 January 2021].

Sánchez-Villagra MR, Pritchard PCH, Paolillo A, Linares OJ. 1995. Geographic variation in the Matamata turtle, *Chelus fimbriatus*, with observations on its shell morphology and morphometry. *Chelonian Conservation and Biology* 1(4): 293–300.

Seidel ME. 2002. Taxonomic observations on extant species and subspecies of slider turtles, genus *Trachemys*. *Journal of Herpetology* 36(2): 285–292.

Sepúlveda-Seguro AM, Páez VP, Gómez-Rincón MA, Morales-Betancourt MA, Lasso CA. 2020. Assessment of population characteristics and habitat use of *Podocnemis vogli* (Müller, 1935) during a reproductive season at the Bojonawi Private Nature Reserve (Vichada Department, Colombia). *Revista Latinoamericana de Herpetología* 3(2): 49–60.

SERFOR. 2018. *Libro Rojo de la Fauna Silvestre Amenazada del Perú. 1 Edición.* Servicio Nacional Forestal y de Fauna Silvestre, Lima, Perú. 548 p.

SIAC. 2021. Sistema de Información Ambiental de Colombia. Available: http//siac.gov.co [Accessed: 3 January 2021].

SiB Colombia. 2021. Sistema de Información sobre Biodiversidad de Colombia. Available: http://sibcolombia.net [Accessed: 3 January 2021].

Sinovas P, Price B, King E, Hinsley A, Pavitt A. 2017. *Comercio de Vida Silvestre en los Países Amazónicos: Análisis del Comercio de Especies Listadas en CITES. Informe Técnico Preparado para el Programa Regional Amazonía* (*BMZ/DGIS/GIZ*). UN Environment, World Conservation Monitoring Centre, Cambridge, United Kingdom. 116 p.

Stephens PR, Weins JJ. 2003. Ecological diversification and phylogeny of emydid turtles. *Biological Journal of the Linnean Society* 79(4): 577–610.

Tiago P, Ceia-Hasse A, Marques TA, Capinha C, Pereira HM. 2017. Spatial distribution of citizen science casuistic observations for different taxonomic groups. *Scientific Reports* 7: 12832.

Tobón-López A, Amorocho DF. 2014. Estudio poblacional de la tortuga carey *Eretmochelys imbricata* (Cheloniidae) en el Pacífico sur de Colombia. *Acta Biológica Colombiana* 19(3): 447–459.

Torres-Carvajal O, Pazmiño-Otamendi G, Salazar-Valenzuela D. 2019. Reptiles of Ecuador: a resource-rich online portal, with dynamic checklists and photographic guides. *Amphibian & Reptile Conservation* 13(1) [General Section]: 209–229 (e178).

Trujillo-Arias N, Amorocho DF, López-Álvarez D, Mejía-Ladino LM. 2014. Phylogeographic relations of some feeding and nesting of Hawksbill Turtle rookeries (*Eretmochelys imbricata*) in the Caribbean and Pacific of Colombia. *Boletin de Investigaciones Marinas y Costeras* 43(1): 159–182.

TTWG – Turtle Taxonomy Working Group; Rhodin AGJ, Iverson JB, Bour R, Fritz U, Georges A, Shaffer HB, van Dijk PP. 2017. Turtles of the world: annotated checklist and atlas of taxonomy, synonymy, distribution, and conservation status (8th Edition). *Chelonian Research Monographs* 7: 1–292.

TTWG – Turtle Taxonomy Working Group; Rhodin AGJ, Iverson JB, Bour R, Fritz U, Georges A, Shaffer HB, van Dijk PP. 2021. Turtles of the world: Annotated checklist and atlas of taxonomy, synonymy, distribution, and conservation status (9th Edition). *Chelonian Research Monographs* 8: 1–472.

Uetz P, Freed P, Aguilar R, Hošek J. (Editors). 2021. The Reptile Database. Available: http://www.reptile-database.org [Accessed: 3 January 2021].

Vargas-Ramírez M, Maran J, Fritz U. 2010. Red- and Yellow-footed Tortoises, *Chelonoidis carbonaria* and *C. denticulata* (Reptilia: Testudines: Testudinidae), in South America's savannahs and forests: Do their phylogeographies reflect distinct habitats? *Organisms Diversity and Evolution* 10(2): 161–172.

Vargas-Ramírez M, Carr JL, Fritz U. 2013. Complex phylogeography in *Rhinoclemmys melanosterna*: conflicting mitochondrial and nuclear evidence suggests past hybridization (Testudines: Geoemydidae). *Zootaxa* 3670(2): 238–254.

Vargas-Ramírez M, del Valle C, Ceballos-Fonseca CP, Fritz U. 2017. *Trachemys medemi* n. sp. from northwestern Colombia turns the biogeography of South American slider turtles upside down. *Journal of Zoological Systematics and Evolutionary Research* 55: 326–339.

Vargas-Ramírez M, Caballero S, Morales-Betancourt MA, Lasso CA, Amaya L, Martínez JG, Silva-Viana

M das N, Vogt RC, Pires-Farias I, Hrbek T, Fritz U, et al. 2020. Genomic analyses reveal two species of the Matamata (Testudines: Chelidae: *Chelus* spp.) and clarify their phylogeny. *Molecular Phylogenetics and Evolution* 148: 106823.

Vásquez-Carillo C, Noriega-Hoyos CL, Hernández-Rivera L, Jáuregui-Romero GA, Sullivan Sealey K. 2020. Genetic diversity and demographic connectivity of Atlantic Green Sea Turtles at foraging grounds in northeastern Colombia, Caribbean. *Frontiers in Marine Science* 7(96): 1–12.

Wermuth H, Mertens R. 1961. *Schildkröten, Krokodile, Brückenechsen*. Gustav Fisher Verlag, Jena, Germany. 472 p.

Western D. 1989. Conservation without parks: wildlife in the rural landscape. Pp. 158–165 In: *Conservation for the Twenty-first Century*. Editors, Western D, Pearl M. Oxford University Press, Oxford, United Kingdom. 365 p.

Williams EE. 1956. *Pseudemys scripta callirostris* from Venezuela with a general survey of the *scripta* series. *Bulletin of the Museum of Comparative Zoology* 115(5): 145–160.

Zapata-Ciro J, Guevara G, Castaño-Villa GJ. 2016. Conocimiento popular y perspectivas de conservación sobre las tortugas continentales en la parte baja del río La Miel (Colombia). *Revista Luna Azul* 43: 15–28.

ZIMS. 2021. Zoological Information Management System. Available: https://zims.species360.org/Login.aspx [Accessed: 3 January 2021].

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