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Galápagos Tortoise Nomenclature: Still Unresolved

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Pritchard recently reviewed the nomenclatural history of the Galápagos tortoises. His review (1996) provided an informative and valuable overview of the complexities of their nomenclature; however, he proposed a number of nomenclatural and taxonomic solutions that are inappropriate, potentially enlarging the current nomenclatural morass associated with these tortoises. Further, his proposals were not supported by a systematic analysis of any population of Galápagos tortoises. I wish to note a few of his proposals here and will address additional ones in the future.

First, Pritchard considered himself a first reviser (e.g., 1996:48) on several nomenclatural issues. This assumption is incorrect. As noted most recently by Myers and Böhme (1996), it is inadvisable to make nomenclatural decisions on name assignment and restriction of type-localities without populational analyses. Pritchard examined specimens, but nowhere in his Nomenclatural Status section nor in the preceding ones did he present data on and perform analyses of intra- and interpopulational variation of tortoise morphology or morphometry. He also did not provide an analysis of type-specimens, particularly those of uncertain provenance, to populational samples. A statement on the proportional height and width difference of the carapaces of Indefatigable and James Island tortoises was his most detailed morphometric comparison. The lack of subspecies and/or species diagnoses highlights the content of his text as a historical review of nomenclature and not as a systematic analysis of populations allowing data-supported decisions on nomenclature. This historical review does not accord the status of first reviser. If first reviser status is to be assigned,

either Rothschild or Van Denburgh obtained that title nearly a century ago.

The recognition of *Testudo nigra* Quoy and Gaimard, 1824b, as the valid senior synonym of all Galápagos tortoise populations is a questionable action. Pritchard first suggested this name change in an endnote of a popular article (1984) on “Lonesome George.” Although his suggestion has been followed by others (e.g., King and Burke, 1989; David, 1994), neither Pritchard nor the other users of *nigra* have critically examined the nomenclatural issue from a data-based analytical perspective. As Pritchard correctly noted (1996:42), *Testudo californiana* Quoy and Gaimard, 1824a, is the older name. He argued that it is a *nomen oblitum*, which it is not or at least it is no more of a forgotten name than *nigra* was when he resurrected it in 1984. The resurrection of *nigra* and its subsequent use misinterprets the intent of the International Commission of Zoological Nomenclature Code’s Article 23b requirement “to maintain existing usage and refer the case to the Commission for a ruling” if the replacement of the current name will disturb nomenclatural stability. Although Pritchard (1984 and subsequently) apparently did not consider the application of the Principal of Priority to disturb nomenclatural stability in the use of specific names, his action has and continues to cause confusion with *elephantopus* appearing regularly in the general biological literature and sometimes *nigra* in the specialized chelonian literature. The wide and common use of the name *Geochelone elephantopus* (or *Testudo elephantopus*) for the past 50+ years argues for its continued use until the matter is referred to the Commission, and the Commission decides otherwise.

I offer the preceding comments to draw attention to the unresolved status of major nomenclatural issues in the Galápagos tortoises and to emphasize that within the intent of the Code the proper name remains *Geochelone elephantopus* for all Galápagos tortoises if the various populations are recognized as subspecies, and likely for the Cerro Azul, Isabela (Albemarle) population, if different populations are recognized as species (*vide* Pritchard, 1979).

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Galápagos Tortoise Nomenclature: A Reply

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In my Galápagos tortoise book (Pritchard, 1996), I undertook to examine the names that have been proposed for Galápagos tortoises, to determine their legitimacy according to the Rules of Nomenclature and the known, probable, possible, or unknown provenance of the type specimens, as well as to identify those populations that did not have scientific names but that might ultimately be found worthy of them. In that I did not erect a single new name, I reject the criticism by Zug (1997) that I have potentially "enlarged the current nomenclatural morass associated with these tortoises." I did identify several decisions that will require petition to the ICZN for resolution, but those will be the Commission's decisions, not mine.

I considered myself to be "first reviser" of the early proposal (by Van Denburgh, Rothschild, etc.) that all of the Albemarle tortoise populations (except for the Volcan Wolf form) were taxonomically distinct. This self-designation was offered simply to resolve the dilemma of

which name to use when these various forms were synonymized, in that *vicina* and *microphyes* were proposed simultaneously, and *elephantopus* was unidentifiable, at least at the subspecific level. In this context, the authors cited by Zug (1997) would not qualify because they were actually proponents of the "full species" nomenclature for the Galápagos tortoise populations rather than revisers of that concept, and they did not elect to synonymize these forms. The dilemma that I sought to resolve (use of *microphyes* vs. *vicina*) did not exist at the time when the forms were both considered valid and distinct. Nevertheless, I concede that Mertens and Wermuth (1961) could be considered to be the first proposers of the synonymization of the Albemarle forms, although they presented no detailed justification and also included the distinctive form *becki* within their single named Albemarle population.

Zug (1997) criticized me for my lack of subspecies/species diagnoses, and suggested that this omission emphasized that my book was merely an historical review of Galápagos tortoise nomenclature rather than a systematic review of populations. I do not deny the charge (indeed, see the title of my book!), and my failure to provide the diagnoses reflected not only that other authors, from Van Denburgh (1914) to Ernst and Barbour (1989), have already offered such diagnoses, but also reflected that my own extensive field experience with all surviving populations has led me to the conclusion that these diagnoses and keys rarely lead to an accurate identification. I intend no disparagement of Van Denburgh's excellent work, but he himself did not see the tortoises in the wild, whereas I have had the advantage of access to large series of live wild specimens, including good to excellent series of some populations (e.g., Alcedo, Chatham, Hood) for which Van Denburgh had extremely small series. I specifically examined contemporary specimens (live and recently dead) for such alleged key characters as the form of the eighth marginal and the contact between the pectoral scutes, and found them to be too variable to be appropriate for use in keys.

While one might be able to develop a key to identify large adult males of the more divergent populations, my emphasis was the opposite of this: that one cannot identify juveniles, most subadults, and many adults without knowing where they came from, and this is a strong argument that speciation, while conceivably in process, is not complete. Thus, it is clear to anyone who has spent time with them that the Galápagos tortoises do not fit cleanly into any particular systematic arrangement, and that there is a considerable element of subjectivity in the question of whether any given island population should be considered a species, a subspecies, or just a taxonomically unrecognizable morphotype or an isolated but essentially undifferentiated population. The forthcoming genetic analysis of the various populations by Ed Louis (*pers. comm.*) will be immensely useful, but the relation-