



Assessment of microsatellites in estimating inter- and intraspecific variation among Neotropical *Crocodylus* species

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ABSTRACT. We tested microsatellites that were developed for the saltwater crocodile (*Crocodylus porosus*) for cross-species amplification and to provide an estimate of inter- and intraspecific variation among four species of Neotropical crocodiles (*C. rhombifer*, *C. intermedius*, *C. acutus*, and *C. moreletii*). Our results indicated that with the exception of 2 loci in *C. intermedius*, all 10 microsatellite loci were successfully amplified in the 4 species, producing a set of variably sized alleles that ranged in number between 2 and 14 alleles per locus. Similarly, private alleles (i.e., unique alleles) also were reported in all 4 species for at least 3 loci. The mean observed and expected heterozygosities (averaged across species for all 10 loci combined) ranged from 0.39 to 0.77 and from 0.44 to 0.78, respectively. In addition to this, we evaluated these microsatellites in 2 populations of *C. acutus* and *C. moreletii* to assess their utility in estimating intraspecific levels of polymorphisms. These

microsatellites also showed considerable allelic variation in population level analysis. The set of 10 microsatellite loci in our study had the potential to be used as a tool in population and conservation genetic studies of Neotropical crocodiles.

Key words: Microsatellites; Crocodiles; Cross-species amplification; Neotropical crocodiles