

INTISARI

STUDI FENOTIP DAN GENOTIP ULAR SANCA BATIK (*Malayopython reticulatus*) ASAL INDONESIA

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Ular sanca batik (*Malayopython reticulatus*) spesies Indonesia banyak dijadikan hewan peliharaan. Data ilmiah sebagai acuan pemeriksaan fenotip dan genotip *M. reticulatus* spesies Indonesia sampai saat ini belum ada. Penelitian ini bertujuan untuk mengetahui data fenotip formasi sisik dorsal, ventral dan subkaudal, serta data genotip frekuensi nafas, pulsus, hematologi darah rutin dan kimia darah khususnya kalsium dan fosfor serta filogenetik berdasar sekuen gen sitokrom b pada ular sanca batik (*M. reticulatus*) asal Indonesia. Limapuluh (50) ekor ular sanca batik (*M. reticulatus*) jantan dan betina dewasa sehat dari lokal Sumatra, Jawa, Bali, Kalimantan dan Sulawesi digunakan dalam penelitian ini. Semua ular penelitian diamati parameter fenotip meliputi ukuran panjang tubuh, penghitungan jumlah sisik dorsal, ventral dan subkaudal, frekuensi nafas dan pulsus serta parameter hematologi dan analisis gen sitokrom b dengan metode PCR dilanjutkan sekuensing dan analisis filogenetik. Hasil pemeriksaan ukuran, formasi sisik tubuh, data fisiologis dan hematologi dianalisis secara deskriptif. Hasil sekuensing gen sitokrom b dilakukan analisis filogenetik menggunakan *Neighbor joining* (MEGA v. 5.0). Hasil penelitian diperoleh data *M. reticulatus* asal Indonesia memiliki panjang tubuh 168-282 cm, panjang ekor 11-44 cm, jumlah sisik dorsal 43-94, sisik ventral 285-330 dan sisik subkaudal 65-98 sisik, frekuensi nafas berkisar 12-26 kali/menit dan pulsus 38-50 kali/menit, jumlah eritrosit $1,10-1,96 \times 10^6$ sel/mm³, leukosit $2.350-5.750$ sel/mm³, hemoglobin 8,8-12,6 g%, TPP 6,2-12,4 g%, hematokrit/PCV 24-35%, MCV 133-287 fL, MCH 48-98 pg, MCHC 31-50 g/dL, heterofil $1,08-3,18 \times 10^3$ μ L, limfosit $0,59-2,19 \times 10^3$ μ L, monosit $0,21-0,58 \times 10^3$ μ L, azurofil $0-0,27 \times 10^3$ μ L, dan basofil $0-0,05 \times 10^3$ μ L. Kadar kalsium dan fosfor darah berkisar 10,6-20,2 mg/dL dan kadar fosfor darah berkisar 3,85-8,83 mg/dL, sekuen gen sitokrom b dengan panjang *band* 800 bp dan analisis filogenetik memiliki keseragaman genetik yang tinggi dengan jarak genetik yang kecil (1,1-1,7%). Tidak ada perbedaan signifikan ($P > 0,05$) antara ukuran fisik, jumlah sisik, frekuensi nafas, pulsus, gambaran darah dan sekuensing DNA antar pulau. Dapat disimpulkan bahwa *M. reticulatus* asal Indonesia dari pulau Sumatra, Jawa, Bali, Kalimantan dan Sulawesi secara fenotip dan genotip adalah sama.

Kata kunci: *Malayopython reticulatus*, fenotip, genotip, Indonesia

ABSTRACT

STUDY PHENOTYPE AND GENOTYPE OF RETICULATED PYTHON (*Malayopython reticulatus*) INDONESIA ORIGIN

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Reticulated python (*Malayopython reticulatus*) Indonesia origin common rearing as pet animal. Scientific data of *M. reticulatus* Indonesia origin as reference for phenotype and genotype examination were unavailable yet. This research was aim for studying the phenotype and genotype character of reticulated python Indonesia origin especially the dorsal, ventral and subcaudal scales, respiratory and pulse rates, hematological figure, blood chemical of calcium and phosphorus level, and the phylogenetic based on cytochrome b gene sequence. Fifty (50) physically healthy adult males and females *M. reticulatus* from Sumatra, Java, Kalimantan, Bali and Sulawesi were used in this study. Each snake was examined physically, counted the dorsal, ventral and subcaudal scales, respiratory and pulse rate and blood samples for hematological and cytochrome b gene sequence analysed using PCR methods, followed DNA sequencing and phylogenetic analyses using *Neighbor joining* (MEGA v. 5.0) methods. The results show that *M. reticulatus* has the snout vent lenght (SVL) of 168-282 cm, vent tail length (VTL) 11-44 cm, the number of dorsal scales ranged 43-94 scales, ventral scales 285-330 and subcaudal scales 65-98, respiratory rate ranged 12-26 breaths/minute and pulse rate ranged 38-50 beats/minute, the number of erythrocyte ranged $1.10-1.96 \times 10^6$ cell/mm³, leucocyte ranged 2.350-5.750 cell/mm³, haemoglobin ranged 8.8-12.6 g%, TPP 6.2-12.4 g%, PCV 24-35%, MCV 133-287 fL, MCH 48-98 pg, MCHC 31-50 g/dL, heterophyl $1.08-3.18 \times 10^3$ μ L, lymphocyte $0.59-2.19 \times 10^3$ μ L, monocyte $0.21-0.58 \times 10^3$ μ L, azurophyl $0-0.27 \times 10^3$ μ L and basophyl $0-0.05 \times 10^3$ μ L. The blood calcium and phosphorus level were 10.6-20.2 mg/dL and 3.85-8.83 mg/dL respectively. The cytochrome b gene sequence of *M. reticulatus* having band's length of 800 bp and phylogenetically having high genetic uniformity with small genetic distance (1.1-1.7%). There were no significant differences ($P > 0.05$) between SVL, VTL, the number of scales, respiratory rate, pulse rate, blood profile and DNA sequencing of *M. reticulatus* between islands. It could be concluded that *M. reticulatus* Indonesia origin from Sumatra, Jawa, Bali, Kalimantan and Sulawesi were the same in phenotype and genotype.

Key words: *Malayopython reticulatus*, phenotype, genotype, Indonesia