pathology in sparsely rakered whitefish was greatest with a negative impact on the population structure. *ASIH Symposium: Northern Fish Biology, invited paper, Monday, June 19, 11:00, V-Wing 120 (Session 31)*

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# 204

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## Taxomonic revision of the genus *Pungitius* with emphasis on *P. hellenicus* (Teleostei: Gasterosteidae)

The taxonomic status of species of the genus *Pungitius* is uncertain; while some workers recognize two species, others recognize more. I examined the seven nominal species (*P. pungitius*, *P. occidentalis*, *P. sinensis*, *P. tymensis*, *P. platygaster*, *P. laevis* and *P. hellenicus*) to determine their taxonomic status and to hypothesize their systematic relationship within the genus. I used osteological, meristic and morphometric characters as well as truss distances to study these species. Although *P. hellenicus* and *P. laevis* share a reduced ectocoracoid, the lack of a caudal peduncle keel and the low number of vertebrae suggest that *P. platygaster* is the closest relative to *P. hellenicus*. A phylogenetic analysis of the species is presented. *ASIH competitor for Storer Award in Ichthyology. ASIH contributed poster, Saturday - Monday, June 16 - 19, CAB second floor, presenters in front of posters Sunday, June 18, 13:00 - 15:00, Poster #26*

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# 205

Kellogg, Karen A.[1], Markert, J. A.[2], Stauffer, J. R.[1], and Kocher, T. D.[2]
1. The Pennsylvania State University, Rm. 9, Ferguson Bldg., University Park, Pennsylvania 16802 USA
2. Department of Zoology, University of New Hampshire, Durham, New Hampshire 03824 USA

## Microsatellite analyses reveal multiple paternity in the cichlid fishes of Lake Malawi, Africa

The genotypes of two microsatellite loci were determined for the mouthbrooded progeny of 13 females, representing 7 species of both rock- and sand-dwelling Lake Malawi cichlid fishes. High levels of multiple paternity are demonstrated for all but two broods. Heterozygosity of these two microsatellite loci in a sample of 18 male *Copadichromis cyclicos* was 89 and 83 percent, respectively. Each locus displayed 16 alleles among the 18 males. The expected average exclusion probability using these two loci, given a known mother/offspring pair, is 0.968. These results suggest that microsatellite variation will be useful for quantifying mate choice, as well as providing insight into the genetic history of these populations. *ASIH contributed paper, Sunday, June 18, 15:30, V-Wing 128 (Session 27)*

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# 206

Keogh, J. Scott
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## Elapids in Australia: phylogenetics of a diverse lineage

Elapid snakes are distributed across virtually all of the tropical and sub-tropical world. In Australia, terrestrial elapids are especially diverse and show a high degree of endemism with approximately 85 currently recognized species, 39 of which are live-bearing. Although our understanding of the evolutionary relationships among Australian elapids has improved greatly during the last 15 years, many uncertainties remain. Previous phylogenetic studies have shown that the group is probably monophyletic, with the possible exception of the whip snakes (*Demansia*). The discrepencies between alternative hypotheses, however, have been great and thus there is no one satisfactory phylogenetic hypothesis on which to base a stable classification. The taxonomic history of the Australian elapids therefore has been extremely convoluted due the lack of a comprehensive data set by which monophyletic groups can be recognized. I have assembled data on a number of morphological character systems including hemipenes, squamation, visceral anatomy, and dentition and cladistically analyzed these data using non-Australian elapid species as outgroups. Some basic divisions in the Australian elapid radiation resulting from this analysis are supported by previous phylogenetic studies, such as the basal split between the egg layers and live bearers (with the exception of *Pseudechis porphyriacus*) and some of the intergeneric association; however, other higher level relationships have not been previously identified. *ASIH competitor for Stoye Award in General Herpetology. ASIH Symposium: Snake Phylogeny, invited paper, Saturday, June 17, 13:30 V-Wing 128 (Session 13)*

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