THE SUPRATEMPORAL SYSTEM AND THE PATTERN OF RAMIFICATION
OF CEPHALIC SENSORY CANALS IN DENTICEPS CLUPEOIDES
(DENTICIPITOIDEI, TELEOSTEI): ADDITIONAL EVIDENCE FOR
MONOPHYLY OF CLUPEIFORMES AND CLUPEOIDEI

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ABSTRACT

The cephalic portions of the latero-sensory canal system in Denticeps clupeoides are described and analyzed. The species, a small herring-like fish from relictual West African streams, is the most primitive living clupeomorph and sole recent representative of suborder Denticipitoidei. As sister group to over 360 species in Clupeoidei, Denticeps is a key taxon in understanding clupeomorph and lower teleostean relationships. Observations on recently-collected specimens of Denticeps clupeoides revealed comparatively-important and previously-unrecorded details of the cephalic latero-sensory canals which are relevant for understanding relationships at different levels in clupeomorph phylogeny. The infraorbital, supraorbital, preopercular, extrascapular and post-temporal canals of Denticeps have unbranched tubules in soft tissue, as in the hypothesized plesiomorphic condition for lower teleosts. Contrastingly, the presence of a complex network formed by a high order of branching of cephalic canals is hypothesized as a synapomorphy of the Clupeoidei. Denticeps and the Clupeoidei share an exclusive sensory branch that originates at the junction between the extrascapular bone and the recessus lateralis, here hypothesized as an additional synapomorphy of Clupeiformes. A supratemporal system is newly recorded in Denticeps, and the character is proposed as a synapomorphy of Clupeiformes, and not Clupeoidei as previously thought. The hypothesis that the supratemporal system is homologous to the supratemporal cavern is refuted, and the latter is corroborated as an autapomorphy of Denticeps. Another autapomorphy of Denticeps (or Denticipitoidei) is the presence of the postorbital bulla, a hitherto unrecorded specialization of the infraorbital canal associated with infraorbitals 4 and 5. Homologies of other tubules of the cephalic sensory canals in Denticeps are also discussed, with emphasis on their bearing on the recognition of homologies of infraorbital bones in Denticeps and other lower teleosts. In general, data from the cephalic latero-sensory system corroborate Denticeps as the sister group to all other Recent clupeomorphs, and provide additional support for the monophyly of Clupeoidei and Clupeiformes.

keywords: Clupeiformes, Denticeps clupeoides, latero-sensory system, lower teleosts, phylogenetic relationships, postorbital bulla, sensory biology.

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TWO NEW SPECIES OF TEREBRA (GASTROPODA, CONOIDEA) FROM COLOMBIA

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ABSTRACT

Two new species of the genus Terebra are described conchologically to the Atlantic coast of Colombia. The species are Terebra colombiensis and T. sterigmaoides. They are differentiable mainly because of their sculpture, protoconch and spire angle. They are part of a group of Western Atlantic terebrids informally called “T. doellojuradoi complex” and differ from the Brazilian species in having well-developed pair of folds at columella. This character approaches the species described here to the Argentinean T. doellojuradoi.

KEYWORDS: Terebra, Colombia, new species, taxonomy, Caenogastropoda.

INTRODUCTION

Recent studies of the Western Atlantic Terebridae revealed several new species, which have been the target of recent papers (Simone, 1999; 2000). The analysis of conchological characters alone, indicated a certain degree of endemism, particularly in deeper waters species. Additional evidence was uncovered when anatomical data was investigated.

This paper deals with samples collected in South Caribbean sea during the INVEMAR-Macrofauna and MARCORAL cruises, in the coast of Colombia, where additional undescribed species have been collected. The samples studied had shells only, so it’s the only aspect herein analysed. However, the shell has sufficient comparative information for a complete systematic analysis.

This paper focuses on terebrids and is part of an on-going project on the Western Atlantic caenogastropod revision.

MATERIAL AND METHODS

A list of studied material is presented under each species description, constituted mostly of types. Additionally, specimens from related species are studied, mostly mentioned in the given bibliography (Verissimo & Simone, 1994; Simone, 1999, 2000). Some samples were also examined in SEM in the “Laboratório de Microscopia Eletrônica do Museu de Zoologia da USP”. Due to the scarcity of specimens, the shells were not coated with gold.

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A new species of Suturoglypta from Colombia
(Caenogastropoda, Columbellidae)

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ABSTRACT

Suturoglypta procera, a new species of Columbellidae, is conchologically described for the Caribbean coast of Colombia. The generic attribution is mainly based on the presence of teeth at outer lip, the long siphon and the deep suture. The new species differs from the other congeners in being elongated, almost turiform, in lacking shell pigmentation, and by poorer sculpture. A syntype of the Caribbean Astyris verrilli Dall is also figured.

KEYWORDS: Suturoglypta procera new species, Colombia, taxonomy, Caenogastropoda.

INTRODUCTION

New insights to the very complex systematics of the Columbellidae have been brought to attention with some papers of the last decades (e.g., Radwin, 1968, 1977a, 1977b, 1978; deMaintenon, 1999; Costa, 2005), facilitating the analyses on the taxonomy of the family. Those papers are used as comparative basis for the present study.

This paper deals with samples collected in the southern Caribbean Sea during the INVEMAR-Macrofauna cruises, in the coast of Colombia, where additional undescribed species have been collected.

The genus Suturoglypta Radwin, 1968 [type species Columella pretext Duclos, 1846, OD, from Caribbean] is characterized by pointed, elongated spire, well sculptured teleoconch, deeply-incised sutural furrow and by teeth on the outer lip. Beyond the type species, other three species are reported to the West Atlantic, S. allenda (C.B. Adams, 1850); S. ianthi (Ravenel, 1861); and S. botettieriana (Orbigny, 1842) (Radwin, 1978; Rosenberg, 2005).

As the samples are composed only by shells, no additional anatomical information beyond it is reported. However, the shell brings sufficient comparative information for a systematic analysis. This paper is part of an ongoing project respect to revision of the Western Atlantic caenogastropods.

MATERIAL AND METHODS

A list of studied material is present in species description, constituted by types. Additionally, photos and specimens from related species are studied, mostly offered by Paulo Marcio S. Costa, specialist on the family. The specimen was also examined in SEM in the Laboratório de Microscopia Eletrônica do Museu de...
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TAXONOMIA ZOOLÓGICA NO BRASIL: ESTADO DA ARTE,
EXPECTATIVAS E SUGESTÔES DE AÇÕES FUTURAS

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ABSTRACT

Brazil is a megadiverse developing country and the knowledge on the current situation of Brazilian taxonomy is a necessary step to establish future policies to deal with biodiversity. Certainly, the most important issue for the understanding of biodiversity is the installing capacity of taxonomists. In fact, little is known concerning the number of taxonomists, scientific production, and the problems faced by taxonomists in each country. Once Brazilian biota is the richest of the world, it is undisputable that its knowledge is critical to understand world biodiversity patterns and to base conservation policies. We produced a technical report on Brazilian zoological taxonomy for the Brazilian Ministry of Science and Technology, which provided a more objective view upon the Brazilian biodiversity challenge. Brazil accounts for 6.67% of the total species described (ca. 100,000 out of 1.5 million), but we expect a significantly higher number of species to be described. Brazil has 542 taxonomists: 415 with permanent positions, publishing in all fields of zoology. Their average age is 45-50 years old, with the majority still expecting to be active for more than 15-20 years. PhD Theses in taxonomy decreased during the 1990s, reflecting the worlds lack of interest in the area. The majority of taxonomists are concentrated in South East (51.7%) and South (21.6%) Brazil, and extensive regions, including biomes like Pantanal, Cerrado (Savannah), Caatinga and the Amazonian Rainforest, count with continuously fewer experts. Taxa with the larger number of taxonomists are "fishes" (53), Crustacea (39), Diptera (28), and Mollusca (27) although no taxon is considered to have enough experts. Several groups are in a more critical situation. Poorly known ecosystems and biomes are deep waters, continental shelf, northern coastline, semi-arid Caatinga, Amazon rainforest, though no region is considered adequately known. 7,320 species were described (1978-1995, 430/year), a rhythm very slow for the present needs, especially because many wild habitats are disappearing. Brazilian researchers have important contributions to make for their taxonomical groups, intensively collaborating with foreign colleagues. However, basic taxonomic work is still to be done: only a few groups have catalogues or manuals, basic taxonomic revisions are restricted (especially lacking for marine groups), databaseing is needed for many museum collections. Brazilian researchers published 1801 papers (from ISI-Web of Knowledge, January/2000-March/2005), but only three states (São Paulo, Rio de Janeiro, Minas Gerais) were responsible for 70% of these. The largest and most representative zoological collections are concentrated in a few cities (São Paulo, Rio de Janeiro, Porto Alegre, Curitiba, Belém, Manaus). There are 22 graduate programs of Zoology, 14 of them

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REVALIDAÇÃO DE CHARMALLASPIS SMITHIANA (WHITE, 1850) E NOTAS EM BRADEROCHUS BUQUET, 1852 (COLEOPTERA, CERAMBYCIDAe, PRIONINAE)

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ABSTRACT

Revalidation of Charmallaspis smithiana (White, 1850) and notes on Braderochus Buquet, 1852 (Coleoptera, Cerambycidae, Prioninae). Charmallaspis smithiana (White, 1850) is removed from the synonymy of C. pulcherrima (Perty, 1832) and revalidated. The morphological variation in Braderochus salcedoi Bleužen, 1994, B. jolyi Bleužen, 1994 and B. retrospinosus (Lamere, 1916) are commented. The female of B. retrospinosus is described for the first time and the distribution of B. hovorei Santos-Silva & Martins, 2005 is widened.

KEYWORDS: Mallaspini; Prionini; South American; taxonomy.

INTRODUÇÃO

As espécies de Mallaspini são, na maioria, insetos vistosos, de tamanho médio a grande e de hábitos diurnos (Galileo & Martins, 1992). A tribo compreende atualmente 27 espécies e 2 subespécies (não incluída a espécie revalidada neste trabalho), distribuídas em 10 gêneros (Monné, 2006).

Galileo & Martins (l.c.), ao erigirem o gênero Charmallaspis, designaram Prionus pulcherrimus Perty, 1832 como espécie tipo e, acertadamente, alteraram a terminação do nome da espécie para concordar em gênero gramatical com o nome genérico. A terminação “aspis” (ασπις) é um substantivo nominativo singular feminino, que significa escudo. Audinet-Serville (1832) utilizou-a para formar o nome do gênero Mallaspis (μαλλας + ασπις; λά + escutelo). Monné (l.c.), equivocadamente, corrigiu o nome da espécie: C. pulcherrimus.

Algumas espécies de Braderochus Buquet, 1852, descritas por Bleužen (1994) são difíceis de reconhecer utilizando-se apenas a chave e as figuras incluídas naquele trabalho. As fêmeas da maioria das espécies desse gênero são morfologicamente muito semelhantes e, considerando-se a variação intra-específica dos caracteres, estabelecer a correlação entre os dois sexos de cada espécie é um processo complexo. As figuras e notas aqui apresentadas, são uma tentativa de facilitar o reconhecimento das espécies desse gênero que, nãotaramente, são polimórficas.

Os acrônicos utilizados no texto correspondem: AMNH, American Museum of Natural History, Nova York, Estados Unidos; BMNH, The Natural History Museum, Londres, Inglatera; FAUV, Facultad de Agronomía, Universidad Central de Venezuela, Maracay, Venezuela; MEFA, Museo Entomológico de la Facultad de Agronomía de la Universidad Nacional Colombia,
Morfoologia e histoquímica das glândulas de Duvernoy e supralabial de seis espécies de colubridos opistogligodontes (Serpentes, Colubridae)

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ABSTRACT

Since some colubrids can cause human envenomation, the importance of studies relating biological mechanisms to their venom apparatus is crucial. The present work dealt with morphological and histochemical characteristics of Duvernoy's gland of six opisthoglyphous colubrid species. The Duvernoy's gland of most species presented characteristics of a seromuscular gland, except that of Oxyrhopus guibei, which did not show positive reaction to proteins indicating a mucouserous feature. We found variation in the quantity of serous cells among the species. This variation may be related to the presence of substances rich in carbohydrates-protein complex, and consequently to the toxic function of the secretion.

KEYWORDS: Serpentes, Colubridae, Duvernoy's gland, morphology, histochemistry.

INTRODUÇÃO


A seccration tóxica presente nos colubridos opistogligodontes provém da glândula de Duvernoy, a