

---

**Hollardia hollardi POEY, 1861: FIRST RECORD OF FAMILY  
TRIACANTHODIDAE (Actinopterygii: Tetraodontiformes) FROM  
BRAZILIAN MARINE WATERS**

---

Paulo Roberto Duarte Lopes, Jailza Tavares de Oliveira-Silva, Camilla da Cruz Martins  
and George Olavo

**SUMMARY**

The first record of the Triacanthodidae family (Actinopterygii: Tetraodontiformes) from Brazil is documented, based on two specimens (111.0-128.4mm SL) of *Hollardia hollardi* Poey, 1861, collected off the coast of Bahia, Brazil (13°21.119'S, 38°38.896'W

and 20°27.667'S, 39°38.101'W) at depths of 518 and 1680m in June and July, 2000. The two specimens are described and compared with other published records.

**Hollardia hollardi POEY, 1861: PRIMER REGISTRO DE LA FAMILIA TRIACANTHODIDAE (Actinopterygii: Tetraodontiformes) EN AGUAS MARINAS BRASILEÑAS**

Paulo Roberto Duarte Lopes, Jailza Tavares de Oliveira-Silva, Camilla da Cruz Martins y George Olavo

**RESUMEN**

Se documenta el primer registro de la familia Triacanthodidae (Actinopterygii: Tetraodontiformes) en el Brasil, con base en dos ejemplares de *Hollardia hollardi* Poey, 1861 de 111,0 y 128,4mm de longitud patrón capturados en el litoral del esta-

do de Bahia, nordeste del Brasil (13°21,119'S; 38°38,896'W y 20°27,667'S; 39°38,101'W) entre 518 y 1680m de profundidad en junio y julio del 2000. Ambos especímenes son descritos y comparados con otros registros reportados.

**Hollardia hollardi POEY, 1861: PRIMEIRO REGISTRO DA FAMÍLIA TRIACANTHODIDAE (Actinopterygii: Tetraodontiformes) PARA ÁGUAS MARINHAS BRASILEIRAS**

Paulo Roberto Duarte Lopes, Jailza Tavares de Oliveira-Silva, Camilla da Cruz Martins e George Olavo

**RESUMO**

É apresentado o primeiro registro da família Triacanthodidae (Actinopterygii: Tetraodontiformes) para o Brasil com base em dois exemplares de *Hollardia hollardi* Poey, 1861 medindo 111,0 e 128,4mm de comprimento padrão coletados em 13°21,119'S,

38°38,896'W e 20°27,667'S, 39°38,101'W (litoral do estado da Bahia, nordeste do Brasil) entre 518 e 1680m de profundidade em junho e julho de 2000. Ambos os exemplares são descritos e comparados com outros registros citados.

**Introduction**

The members of the Triacanthodidae family (order Tetraodontiformes), known as “spikefishes” or “espina-zos”, are small fishes (rarely exceeding 20cm in length), occurring in the tropical and subtropical western Atlantic

and Indo-Pacific seas. Triacanthodids are not usually utilized as food but sometimes are part of the bi-catch of commercial bottom trawls. The family is comprised of 11 genera and about 21 species (Robins *et al.*, 1986; Tyler *in* Smith and Heemstra (1986); Cervigón *et al.*, 1992;

Cervigón, 1996; Matsuura *in* Carpenter, 2002; Nelson, 2006). There are no previous records from Brazil.

**Materials and Methods**

This study is based on two specimens collected by the French “R/V *Thalassa*” dur-

ing the Campanha Bahia-2 (2000) as part of the Programa de Avaliação do Potencial Sustentável de Recursos Vivos na Zona Econômica Exclusiva Brasileira - Programa REVIZEE/SCORE Central (SECIRM/MMA/Bahia Pesca). The fish are kept at the Laboratório de Ictiologia

---

**KEYWORDS / Brazil / *Hollardia hollardi* / Marine Teleost / Triacanthodidae /**

---

Received: 03/15/2008. Modified: 02/10/2009. Accepted: 02/13/2009.

**Paulo Roberto Duarte Lopes.** Magister, Universidade Federal do Rio de Janeiro (Museu Nacional), Brazil. Professor, Universidade Estadual de Feira de Santana (UEFS), Brazil. Address: Laboratório de Ictiologia,

Departamento de Ciências Biológicas. C campus universitário, km 03 (BR-116), Feira de Santana - Bahia, Brasil. 44031-460. e-mail: andarilho40@yahoo.com.br,

**Jailza Tavares de Oliveira-Silva.** Magister, Universidade Federal da Bahia, Brazil. Biologist, UEFS, Brazil. e-mail: jtosilva@yahoo.com.br

**Camilla da Cruz Martins.** Biologist, UEFS, Brazil. Professor.

e-mail: millamartins@hotmail.com.br

**George Olavo.** Doctor, Universidade Federal de Pernambuco, Brazil. Professor, UEFS, Brazil. e-mail: georgeolavo@uol.com.br

(Departamento de Ciências Biológicas), Universidade Estadual de Feira de Santana (LIUEFS).

## Results

### Material examined

*LIUEFS 4820*: collected, possibly, at station E-518 (Campanha Bahia-2 - demersal fishing prospection campaign on the continental slope of central Brazilian coast on board of "R/V Thalassa"), initial latitude of trawling: 13°21.119'S, initial longitude of trawling: 38°38.896'W, on June 19, 2000, at 19:40 and 518m in depth; found inside the bottom-trawling net.

Total length (TL): 145.0mm, standard length (SL): 111.0mm, head length (HL): 45.1mm, snout length (SL): 16.1mm, pre-dorsal length (PDL): 72.9mm, orbital diameter (OD): 15.7mm, post-orbital length (POL): 14.3mm, interorbital width (IW): 4.7mm, body depth (BD): 73.0mm, length of 1st dorsal fin spine (LDS): 28.6mm, caudal peduncle length (CPL): 19.8mm, pelvic length (PL): 33.2mm, pelvic width (PW): 8.9mm, 6 spines, 17 rays in dorsal fin, 12 rays in caudal fin, 14 rays in anal fin, 14 rays in pectoral fins, 1 spine, 1 ray in pelvic fins.

*LIUEFS 4925*: collected at station E-538 (Campanha Bahia-2 - demersal fishing prospection campaign on the continental slope of central Brazilian coast on board of "R/V Thalassa"), initial latitude of trawling: 20°27.667'S, initial longitude of trawling: 39°38.101'W, on July 2, 2000, at 18:06 and 1680m in depth.

TL: 151.0mm, SL: 128.4mm, HL: 51.6mm, SL: 17.7mm, PDL: 72.9mm, OD: 19.7mm, POL: 17.5mm, IW: 6.0mm, BD: 77.3mm, LDS: 33.8mm, pelvic spine length (PSL): 37.6mm, CPL: 22.9mm, PL: 33.1mm, PW: 9.4mm, 6 spines, 16 rays in dorsal fin, 12 rays in caudal fin, 14 rays in anal

fin, 14 rays in pectoral fins, 1 spine, 1 ray in pelvic fins.

### Description

Deep body, somewhat compressed laterally, greatest depth at a line just anterior to the base of first dorsal fin spine; well-developed eye; small mouth; body surface covered by small plates, wrinkled to the touch; dorsal fin origin in a position posterior to the gill opening and in the same direction as the superior base of pectoral fin; dorsal fin spines decreasing in size from first to last; pelvic fins spines surpassing a vertical line which passes by the origin of anal fin (except in the specimen LIUEFS 4820 where the spines are broken); spines of dorsal and pelvic fins with denticles; first spine of dorsal fin in the same direction of the base of spine of pelvic fins.

Coloration (in 70% ethanol): general coloration of body is yellowish; dark, undulating lines, more distinct on the upper and middle-superior and median parts of body, or forming reticulations, between the eye and the first spine of the dorsal fin.

### Discussion

Carvalho Filho (1999), Figueiredo and Menezes (2000), Figueiredo *et al.* (2002), Menezes *et al.* (2003), Bernardes *et al.* (2005), and Bonecker and Castro (2006)



Figure 1. *Hollardia hollardi* Poey, 1861 (LIUEFS 4925).

do not cite the occurrence of adults or larvae of Triacanthodidae in Brazil. The closest known specimens to Brazil were identified as *Hollardia hollardi* and were collected between Suriname and French Guiana (Matsuura, 1983) and off Venezuela (Cervigón, 1996).

Matsuura (2002) cites five species of Triacanthodidae in FAO Fishing Area 31 which extends south in western Central Atlantic to off the northernmost part of Brazil's EEZ, namely *H. hollardi*, *H. meadi*, *Johnsonina eriomma* Myers, 1934, *Parahollardia schmidti* Woods, 1959 and *P. lineata*.

*H. hollardi* reaches 18-20cm in length and occurs from Bermuda and Florida (USA) throughout the Caribbean to the southern Gulf of Mexico and northern South America

(Matsuura, 2002; Cervigón, 1996) at average depths usually below 200m down to at least 915m.

Differences and overlaps were observed between the LIUEFS specimens with body proportions of *H. hollardi* and *H. meadi* specimens examined by Tyler (1966), and they are presented in Table I. However, body proportions related to head length, body depth, orbital diameter, and snout length in Cervigón (1996) do not coincide with those of the LIUEFS specimens. The ratio between pelvic width and length is 3.5 and 3.7 in the LIUEFS specimens which is closest to the measurements given by Matsuura (2002), 6-7 times in *H. meadi* and 4-5 times in *H. hollardi*.

In addition, the color pattern agrees with Tyler (1966) for *H.*

TABLE I  
BODY PROPORTIONS IN RELATION TO STANDARD LENGTH FOR LIUEFS 4820 AND LIUEFS 4925 AND COMPARISON WITH SPECIMENS OF *H. hollardi* AND *H. meadi* EXAMINED BY TYLER (1966)

Body proportion	% SL	Situation
Head length	40.2-40.6%	Overlaps in both species
Snout length	13.8-14.5%	Coincides with <i>H. meadi</i>
Pre-dorsal length	56.8-65.7%	Overlaps in both species, coincides more with <i>H. hollardi</i>
Orbital diameter	14.1-15.3%	Coincides with <i>H. hollardi</i>
Post-orbital length	12.9-13.6%	Coincides with <i>H. hollardi</i>
Interorbital width	4.2-4.7%	Does not coincide but is nearest to <i>H. hollardi</i>
Body depth	60.2-65.8%	Overlaps in both species
Length of 1 <sup>st</sup> dorsal fin spine	25.8-26.3%	Overlaps in both species, coincides more with <i>H. hollardi</i>
Length of pelvic fin spine	29.3%	Does not coincide but is nearest to <i>H. hollardi</i>
Length of caudal peduncle	17.8%	Does not coincide but is nearest to <i>H. hollardi</i>
Pelvic length	25.8-29.9%	Overlaps in both species, coincides more with <i>H. hollardi</i>
Pelvic width	7.3-8.0%	Coincides in part with <i>H. hollardi</i>

*hollardi* but not for *H. meadi*. In the LIUEFS specimens the dark and undulated lines in the upper anterior part of the body in the specimen LIUEFS 4820, and both in the anterior and posterior regions of the upper part of the body in LIUEFS 4925, are better defined than the specimen described by Cervigón (1996).

This study confirms the occurrence of Triacanthodidae and *H. hollardi* for the first time for the Brazilian coast. Any observed differences can be attributed to intraspecific variations not yet known for *H. hollardi*. In addition, the described LIUEFS specimens contribute to a better knowledge of character variation in *H. hollardi*, and emphasize the need for a better character definition to allow for differentiation between *H. meadi* and *H. hollardi*.

#### ACKNOWLEDGEMENTS

The authors thank the support of Bahia Pesca S.A. and the Universidade Estadual de Feira de Santana (UEFS) for boarding P.R.D. Lopes and G.

Olavo in the "R.V. Thalassa" and incorporating the collected material to the fish collection of UEFS, to the crew of the "R.V. Thalassa" for the aid on board, to the REVIZEE Program/Central SCORE coordination and Gustavo W. Nunan (Universidade Federal do Rio de Janeiro, Museu Nacional, Rio de Janeiro, Brazil) for allowing the release of the material utilized in this study, and to Mauro J. Cavalcanti (Universidade Federal do Rio de Janeiro) for the English translation of the text.

#### REFERENCES

Bernardes RÁ, Figueiredo JL, Rodrigues AR, Fischer LG, Vooren CM, Haimovici M, Rossi-Wongtschowski CLDB (2005) *Peixes da Zona Econômica Exclusiva da Região Sudeste do Brasil. Levantamento com Armadilhas, Pargueiras e Rede de Arrasto de Fundo*. Universidade de São Paulo. Brazil. 295 pp.

Bonecker ACT, Castro MS (Eds.) (2006) *Atlas de Larvas de Peixes da Região Central da Zona Econômica Exclusiva Brasileira*. Série Livros/Documentos REVIZEE Score Central 19. Museu Nacional da

Universidade Federal do Rio de Janeiro. Brazil. 214 pp.

Carvalho Filho A (1999) *Peixes da Costa Brasileira*. 3ª ed. Melro. São Paulo, Brazil. 318 pp.

Cervigón F (1996) *Los Peces Marinos de Venezuela*. Vol. IV. 2ª ed. Fundación Científica Los Roques. Caracas, Venezuela. 255 pp.

Cervigón F, Cipriani R, Fischer W, Garibaldi L, Hendrickx M, Lemus AJ, Márquez R, Poutiers JM, Robaina G, Rodríguez B (1992) *Guía de Campo de las Especies Comerciales Marinas y de Aguas Salobres de la Costa Septentrional de Sur América*. Organización de las Naciones Unidas para la Agricultura y la Alimentación. Rome. Italy. 513 pp.

Figueiredo JL, Menezes NA (2000) *Manual de Peixes Marinhos do Sudeste do Brasil. VI. Teleostei (5)*. Museu de Zoologia da Universidade de São Paulo. Brazil. 116 pp.

Figueiredo JL, Santos AP, Yamaguti N, Bernardes RÁ, Rossi-Wongtschowski CLDB (2002) *Peixes da Zona Econômica Exclusiva da Região Sudeste do Brasil. Levantamento com Rede de Meia Água*. Universidade de São Paulo, Imprensa Oficial do Estado do São Paulo. Brazil. 242 pp.

Matsuura K (1983) Triacanthodidae. In Uyeno T, Matsuura K, Fujii E (Eds.) *Fishes Trawled off*

*Suriname and French Guiana*. Japan Marine Fishery Resource Research Center. Tokyo, Japan. 519 pp.

Matsuura K (2002) Triacanthodidae. In Carpenter KE (Ed.) *The living marine resources of the Western Central Atlantic. Volume 3: Bony fishes part 2 (Opistognathidae to Molidae), sea turtles and marine mammals*. FAO Species Identification Guide for Fishery Purposes and American Society of Ichthyologists and Herpetologists. Special Publication N° 5. Rome, Italy. pp. 1960-1962.

Menezes NA, Buckup PA, Figueiredo JL, Moura RL (Eds) (2003) *Catálogo das Espécies de Peixes Marinhos do Brasil*. Museu de Zoologia da Universidade de São Paulo. Brazil. 160 pp.

Nelson JS (2006) *Fishes of the World*. 4th ed. Wiley. New York, EEUU 601 pp.

Robins CR, Ray GC, Douglass J (1986) *A Field Guide to Atlantic Coast Fishes of North America*. Houghton Mifflin. Boston, Massachusetts, USA. 354 pp.

Tyler JC (1966) A new species of triacanthodid plectognath fish from the Caribbean, *Hollardia meadi*. *Notulae Naturae* 382: 1-8.

Tyler JC (1986) Family N° 265: Triacanthodidae. In Smith MM, Heemstra PC (Eds.) *Smiths' sea Fishes*. Springer. Berlin, Germany. pp. 887-890.