

Studies on the Family Cichlidae:

**9. *Haplochromis electra*
A New Species of Cichlid from the
Waters Around Likoma Island, Lake Malawi**

by Dr. Warren E. Burgess

In recent months a new import from Lake Malawi has become one of the most popular African Lake cichlids in the aquarium hobby field. Unlike many of the unfamiliar species or varieties (morphs) that have entered the market, this fish was not given a pseudoscientific name but has gone under the title of "deep-water hap." The deep-water hap belongs to the genus *Haplochromis* as indicated, but comes from depths of only about 20 to 30 meters, certainly not deep when compared to the 700+ meter greatest depth of the lake or even the 100 m depth recorded for the deepest living Malawi cichlids (Greenwood, 1974).

A survey of the literature has not turned up a species of *Haplochromis* with the characteristics of the deep-water hap, and close comparison with the species of *Haplochromis* in Lake Malawi indicates that this is an undescribed species. Thanks are due to Hans Mayland and John Lombardo for supplying the specimens.

***Haplochromis electra*, new species**

Holotype.—USNM 219534, male, 110.5 mm SL, donated by Hans Mayland from specimens collected "near Likoma Island at a depth of about 75 feet," Lake Malawi, Malawi.

Paratypes.—13 specimens, 69.8-115.3 mm SL, same data as holotype, distributed as follows: 5 (2 males, 2 females, 1 undetermined) National Museum of Natural History (USNM 219535); 4 (2 males, 2 females) American Museum of Natural History; 4 (2 males, 2 females) British Museum

(Natural History). Eight specimens (3 males, 5 females), 68.7-104.0 mm SL, donated by John Lombardo of African Fish Imports, have been deposited in the National Museum of Natural History, USNM 219536. Specific collecting data, other than Lake Malawi, was not available for these specimens.

Diagnosis.—D. XVI-XVII, 10-12; A. III, 9-10; P.13; L1 24-32 + 12-18; GR 14-17. *Haplochromis electra* has a unique color pattern in which there are five to seven vertical bars crossing the body, with the first or first and second bars much darker than the succeeding ones. A blackish band from the lower edge of the eye and extending past the corner of the mouth ends on the chin. These dark markings are seen in both living and preserved examples of this fish. The teeth are in three rows, the two inner rows tricuspid and the outer row bicuspid in all but the largest males where the inner and outer rows are unicuspid.

Description.—Proportional measurements (data from holotype in italic type): Depth 2.8, 2.8-3.3 (30.3-35.7%) in standard length (SL); head 3.1, 2.9-3.2 (31.3-34.5%) in SL; eye diameter 3.4, 2.7-3.6 (27.7-37.0%) in head length (HL); snout length 2.6, 2.5-3.1 (32.3-40.0%); in HL; interorbital width (bony) 4.3, 4.1-6.1 (16.5- 24.4%) in HL; upper jaw length 2.9, 2.8-3.9 (25.4-35.7%) in HL; lower jaw length 3.0, 2.7-4.1 (24.4-37.0%) in HL; length of preorbital bone 4.7, 4.3-6.1 (16.5-23.3%) in HL; depth of caudal peduncle 8.2, 8.2-9.8 (10.1-12.2%) in SL; predorsal length 2.6, 2.5-2.8 (35.7-



Haplochromis electra male with intensified colors prior to spawning. Photo by Dr. Herbert R. Axelrod.

Haplochromis electra showing dark barring. Photo by G. Meola, African Fish Imports.



40.0%) in SL; pectoral fin length 3.1, 2.8-4.4 (22.7-35.7%) in SL; pelvic fin length 3.3, 3.1-4.4 (22.7-32.3%) in SL; pelvic fin spine length 7.4, 6.7-9.1 (11.0-14.9%) in SL; and dorsal fin base 1.8, 1.7-1.9 (53.6-57.3%) in SL.

Fins: Dorsal fin XVI-XVII (mostly XVII), 10-12 (mostly 12); anal fin III, 9-10; pectoral fin (all elements counted except short splinter at upper edge) 13-14 (only one had 14); caudal fin emarginate to forked.

Scales: Lateral line scales 24-32 (usually 27-29) + 12-18 (one or two pored scales may continue on to caudal fin base); scales in a longitudinal line from upper edge of opercle to base of caudal fin 32-34. Caudal fin scaled to at least $\frac{3}{4}$ of its length, dorsal and anal fins not scaled.

Gill rakers: 14-17 (3 or 4 + 1 + 10-12) on first gill arch.

Teeth: Teeth in both jaws in three rows, teeth of second and third rows

smaller than those of outer row and usually tricuspid (reduced to unicuspid condition by loss of lateral cusps in largest males). Teeth of first row bicuspid-except in largest males, in which they have become unicuspid through loss of lateral cusp. The unicuspid teeth are fewer in number than the bicuspid teeth and are spaced out along the jaws. Some specimens are intermediate and have a mixture of both forms of teeth. Approximately 42-51 bicuspid teeth are present in the outer row, and 24-34 unicuspid teeth. The lower pharyngeal teeth are small, weak, not densely crowded with the median row and last tooth in each row posteriorly slightly enlarged. The posterior enlarged teeth number about 38. The dentigerous area of the lower pharyngeals about twice as broad as long.

Internal anatomy: The specimens were examined to confirm the sex determinations, and the lower pharyngeals were removed from several specimens. The

median row enlarged, submuciform

Haplochromis johnstonii, one of the vertically barred cichlids from Lake Malawi. Photo by G. Meola, African Fish Imports.



peritoneum is black and the mouth behind the teeth of the lower jaw and tongue has obvious dark pigment spots.

Coloration: Male—body pale, crossed by about six or seven vertical bars, the first or first and second much darker than succeeding ones. The upper and sometimes also the lower ends of these especially dark bars may be faded leaving more of an elongate blotch than a discrete bar. A dark bar extending from lower edge of eye past corner of mouth to chin (this dark area expands to cover almost entire ventral part of male from chin to pelvic fins in breeding phase). Dorsal fin dusky with outer edge white and submarginal black stripe ending in soft portion; soft portion of fin with light spots (edged with a black line?). Anal fin dusky to dark with light edge; base and last rays sometimes pale; none, one or two (rarely more) ocellated spots near the posterior end of the fin. Caudal fin with light spots on pale central rays, the upper and lower ones dark (lower dark border broader than upper one). Pectoral fins pale; pelvic fins dark. Female—Similar to male but generally lighter in color (shoulder bar(s), submarginal dorsal fin stripe and eye bar more noticeable because of stronger contrast). Color in life silvery or white with grayish bars, shoulder and eye bars black. Body and head with bluish reflections. Extreme edges of dorsal and anal fins yellow with submarginal white stripe followed by black stripe. Breeding male with more intense blue over body and fins, body bars bluish, anterior one and eye bar deep blue to black; dorsal and caudal fins bluish, anal and pelvic fins blackish. Spots in dorsal and caudal fins orange, possibly edged with black line. Anal fin spots, when present, orange or orange-yellow.

Sexual Differences.—Aside from the color differences mentioned above and the method of sexing outlined in a previous article (Burgess, 1975), sexes can be distinguished by fin shape, the males having more pointed and elongate

dorsal, anal, and pelvic fins. The females also tend to be smaller than the males.

Comparison.—*Haplochromis electra* differs from all other Lake Malawi species of *Haplochromis* in color pattern. Vertical barring is present in only a few species, and six vertical bars can be found in only *H. johnstonii*. *H. johnstonii* has all six bars well evident and will often show traces of a horizontal stripe above the lateral line. *H. electra* has the anterior bars much darker than succeeding ones and does not show a horizontal stripe. *H. electra* also differs from *H. johnstonii* by having a larger eye and fewer rows of teeth (3 in *electra* and 4-5 in *johnstonii*). The dorsal fin of *H. johnstonii* is provided with XV-XVI spines, that of *H. electra* with XVII spines. *H. johnstonii* is typically associated with *Vallisneria* along the sandy shores of the main lake (Jackson, 1961) while *H. electra* is known from deeper water (20-30 meters) around Likoma Island.

Etymology.—*Electra* from the Greek *Elektron*, meaning amber or (occasionally) splendor, thus something bright, used in reference to the bright blue of breeding males.

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W.K. Oliver



Cover:
The black
phantom tetra,
*Megalampodus
megalopterus*.
Photo by
H.J. Richter

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