

Catalogue of American Amphibians and Reptiles.

THORBJARNARSON, JOHN B. AND RICHARD FRANZ. 1987. *Crocodylus intermedius*.

***Crocodylus intermedius* (Graves)
Orinoco Crocodile**

Crocodylus intermedius Graves, 1819:344. Type locality unknown. Holotype, Museum National d'Histoire Naturelle, Paris 7512 (Not examined by authors).

Crocodylus journei Bory de St. Vincent, 1824:111. Diagnosis was verbatim from Graves (1819) and based solely on the description of *C. intermedius* Graves.

Mecistops journei Gray, 1844:58.

Mecistops bathyrhynchus Cope, 1860:550.

Molina intermedia Gray, 1862:272.

Crocodylus intermedius Schmidt, 1924:83.

Champsie intermedia Werner, 1933:14.

● CONTENT. No subspecies are recognized.

● DEFINITION. A large crocodile with a maximum reported length of 6.78 m (3.45 m for females). The head is long and slender with a narrow snout 2–2.5 times as long as the basal snout width measured at the anterior edge of the orbits. The snout lacks a median elevation along its length, giving a concave appearance in profile. The mandibular symphysis extends to the level of the 6th or 7th mandibular tooth. Dental formula is $\frac{5 + 14}{15}$. The four most enlarged nuchal scutes generally form a square with two slightly smaller scutes positioned adjacent and lateral to the cranial pair. Four to six enlarged postoccipital scutes are located in a single transverse row cephalad to the nuchals. The dorsal scutes are more or less regularly aligned, containing 5–6 scutes in each of the 16–17 continuous precaudal transverse rows. Variable development of the normally detached enlarged flank scutes may add an additional scute in some rows. The dorsal armor is well separated from the enlarged nuchals by smooth skin. On the tail, both single and double caudal whorls number 17–19. There are 25–28 ventral scale rows between the cloaca and the ventral collar. The ventral scales lack osteoderms. There are three dorsal color phases (Medem, 1981): gray or grayish green with black spots; yellowish with dark spots and light brown or sand colored flanks; and a few reports of a melanistic

form, dark gray or blackish dorsally and on the flanks. Dark spots often form interrupted diagonal crossbands, usually most evident on the tail. The ventral color is a uniform white sometimes tinged with yellow.

● DESCRIPTION. Brazaitis (1973) provided a good summary of the characteristic features of this species. A detailed account of skull morphology with additional information on tooth arrangement, dorsal scalation, morphometrics, and coloration is found in Medem (1958). The skull description by Mook (1921) is erroneous, being based on a specimen of *Crocodylus cataphractus* (see REMARKS). Dorsal scale patterns in Ross and Mayer (1983), ventral scalation in King and Brazaitis (1971), description of commercial skins in Fuchs (1974). Brief general descriptions were given by Gray (1869), Werner (1933), Mertens (1943), Wermuth (1953), and Donoso-Barros (1966). Disselhorst (1904) described the copulatory organ.

● ILLUSTRATIONS. Black and white photographs of adults were published by Medem (1958, 1976a, 1980a, 1981) and Godshalk (1978). Medem (1981) illustrated the grayish and yellowish color phases. Black and white photographs of hatchlings are in Blohm (1972); and eggs and full term embryos in Medem (1958, 1981) and Godshalk (1978). Photographs of ventral scalation in Fuchs (1974) (tanned and untanned skins) and King and Brazaitis (1971) (tanned skin). A photograph of the skull of an adult is in Wermuth (1953). Skull and general scalation were illustrated by Medem (1958). A skull illustration by Mook (1921) later reproduced by Wermuth (1953) and Wermuth and Mertens (1961) is actually *Crocodylus cataphractus*. Donoso-Barros (1966) has drawings of the skull (lateral view) and head and neck (dorsal view). The skull was also illustrated by Brazaitis (1971). The photograph of a juvenile crocodile considered to be *Crocodylus intermedius* in Ditmars (1913) and subsequently reproduced in DeSola (1933) and Wermuth (1953) is actually of a *Crocodylus cataphractus*. (See REMARKS.)

● DISTRIBUTION. *Crocodylus intermedius* is confined to the Orinoco River basin of Venezuela and eastern Colombia. Records from Trinidad and Grenada are thought to represent migrant individuals from the Orinoco River delta of eastern Venezuela; there are apparently no populations established on either island. Important references include Medem (1981, 1983), and Godshalk (1982). *Crocodylus intermedius* is considered endangered throughout its range. It is totally protected in Colombia and Venezuela (Groombridge, 1982).

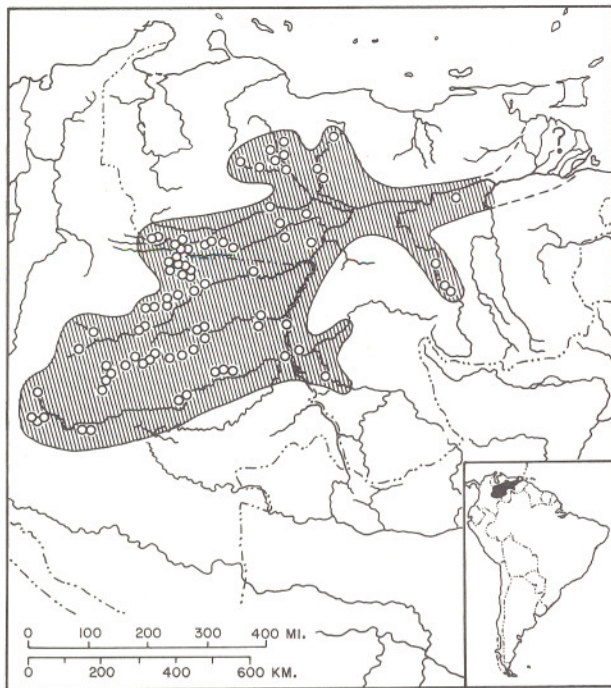
● FOSSIL RECORD. None.

● PERTINENT LITERATURE. The most complete accounts are those of Medem (1958, 1976a, 1981, and 1983) and Godshalk (1978). A brief general account is also given in Neill (1971). Other references include: nesting (Blohm, 1972), longevity in captivity (Flower, 1937), karyotype (Cohen and Gans, 1970), biochemical and immunological systematics (Densmore, 1983), captive rearing (Blohm, 1972, 1982; Ramirez and Castillo, 1977; Anon, 1980), and population status and conservation (Medem, 1971, 1974, 1976b, 1980a, 1980b; King, 1973; Godshalk, 1978, 1982; Groombridge, 1982; and Franz et al., 1985).

● REMARKS. Much confusion has existed in the literature regarding specimens of *C. intermedius*. As was first pointed out by Brazaitis (1971), the skull description of *C. intermedius* in Mook (1921) was actually based on a misidentified *C. cataphractus*. Mook's figure was later reproduced in Wermuth (1953) and Wermuth and Mertens (1961). Likewise the photographs in Ditmars (1923), DeSola (1933), and Wermuth (1953) are of a juvenile *C. cataphractus*. Both these errors originated from misidentified specimens obtained from the New York Zoological Society. In *C. intermedius* from Colombia the nasal bones extend the length of the snout and form part of the posterior margin of the external nares, but they do not in *C. cataphractus*. Based on this character, the key of Schmidt (1924) and the description of *Molina intermedia* by Gray (1869 p. 135) are also erroneous.

The name *Temsacus*, originally published in Gray (1802) as the common name for *C. intermedius*, was synonymized with the genus *Crocodylus* by Boulenger (1889) and later used by Romer (1956).

● ETYMOLOGY. Graves (1819) applied the specific epithet *intermedius* because the narrow snout made *C. intermedius* appear to be intermediate between the Crocodylidae and the narrow-snouted Gavialidae.



MAP 1. Records for *C. intermedius* taken from Medem 1976, 1983. Open circles represent records for migrant individuals.

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