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An annotated checklist of the fishes of the Northern Territory, Australia

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ABSTRACT

There are 1474 fish species now known from the Northern Territory, in 195 families, with a number of these species still undescribed. The 1474 species include 120 new records for the NT and three for Australia, while nine non-native species exist as small feral populations.

The most speciose family is the Gobiidae (gobies), with 150 recognised species, and is the main fish group inhabiting coral reef and mangrove areas. The fish fauna of the Northern Territory occupies several biogeographical regions, which include the internal river drainages of Australia and the Sahul Shelf adjoining New Guinea and Indonesia. The Northern Territory's fish fauna most closely resembles that of north-western Western Australia, and many species are shared with this region. Among the Northern Territory's fish fauna are 55 species considered to be threatened under various listings (ASFB, EPBC), with the poor state of knowledge of the NT's fish populations and their true distributions hindering assessment. Many sampling gaps remain and the basic biology of most species is unknown.

Key words: Australia, Northern Territory, checklist, fishes, marine, freshwater, estuarine, threatened species.

INTRODUCTION

The Northern Territory is one of Australia's most distinctive and diverse regions, and its coastline is at the top of the continent half-way between the Indian and Pacific Oceans. It is significant in that it shares its marine border with another country, Indonesia, and shares geological, biological and cultural links with Indonesia and New Guinea (National Oceans Office 2003). It is also the poorest-known Australian region with regard to its fauna, especially offshore in the Arafura and Timor Seas and in remote arid areas (Duguid *et al.* 2005; Russell & Houston 1989).

Geography

The Northern Territory (NT) coast lies largely within the Arafura Sea region of the wet-dry tropics of northern Australia (Russell and Smit 2007) (Fig. 1). Inland, the NT extends into the central arid zone of Australia, down to 26° latitude. The "Top End" includes the monsoonal (wetter) northern region of the NT, characterised by lowlands interspersed with large river systems and dissected plateaus to the north and north-west. The arid zone begins at about 18° (near Elliot) and includes extensive plains as well as dunefields, isolated river drainages, salt lakes and mountain ranges, described in detail in Duguid *et al.* (2005).

The fish fauna of the Northern Territory occupies several biogeographical regions, which include the internal river drainages of Australia and the Sahul Shelf adjoining New Guinea and Indonesia. The marine component of the region shows changes at the Torres Strait and north-western Western Australia. Many sampling gaps remain and the basic biology of most species is unknown.

The offshore shelf region of the NT is relatively shallow and flat (50–200 m), with scattered troughs, shoals and banks and the remains of a large drowned lake (Lake Carpentaria) and river systems (Anderson *et al.* 2011; Heyward *et al.* 1997). Northern Australia and southern New Guinea have been linked several times during their geologic history, with Lake Carpentaria being a prominent feature during the late Pleistocene, possibly 500 kilometres long and 250 km deep (Jones & Torgersen 1988).

Inland, the arid centre of the NT was shaped by water and erosion over time, such as the wide marine Amadeus Sea, which existed 850–750 million years ago around what is now the Alice Springs area (Duguid *et al.* 2005). The mostly flat landscape contains ancient folded and eroded mountains, dunefields, salt pans, waterholes and river systems.