

Pacific Tanaidacea (Crustacea): Revision of the Genus *Agathotanis* with Description of Three New Species

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ABSTRACT. New Pacific material of the cosmopolitan genus *Agathotanis* Hansen, 1913 has made a generic revision possible. Newly discovered character states for the antenna have made it necessary to modify the generic diagnosis. Three new species—*A. manganicus* and *A. ahyongi* from the central Pacific and *A. spinipoda* from the continental shelf and slope off southeastern Australia—are described, they increase the number of species in the genus to eight. A key to the females of *Agathotanis* species is provided. Sexual dimorphism is generally restricted to the presence of pleopods in the male. The characters defining *Agathotanis* are considered apomorphic within the Tanaidomorpha. The distribution pattern of *Agathotanis* is discussed.

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The vast abyssal plain of the Pacific Ocean is practically unexplored. Within the Pacific, the Australian region represents an area of particular interest since Australia was the last landmass to separate from Antarctica. The Australian crustacean fauna is considered both archaic and diverse (Poore & Wilson, 1993). The southern region of Australia contains elements derived from the Tertiary circumpolar Weddellian fauna (Poore, 1994). Because of the long period of isolation, Australia has a high degree of endemism (e.g., about 90% for isopod crustaceans, N.L. Bruce, pers. comm.). This region has, therefore, the greatest potential for discovery of new invertebrates (Poore *et al.*, 1994).

Hansen erected the genus *Agathotanis* in 1913 for the species *Agathotanis ingolfi*. The latter is found in large numbers throughout the deep North Atlantic (Hansen, 1913; Lang, 1971b; Bird & Holdich, 1988; Larsen, in press). Subsequently, four closely related species have been described. *Agathotanis splendidus* Kudinova-Pasternak, 1970 from the northwest Pacific (2 specimens), *A. hanseni* Lang, 1971b from the Central American Pacific slope (5 specimens), *A. ghilarovi* Kudinova-Pasternak, 1989 from the Indian Ocean (29 specimens) and *A. brevis* Kudinova-Pasternak, 1990 from the South Atlantic (1 specimen). The genus is represented in all oceanic regions of the world.