

Tanzanapseudes polynesiensis n.sp., first species
of Tanzanapseudinae from the Pacific
(Crustacea : Tanaidacea : Metapseudidae).

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Abstract : *Tanzanapseudes polynesiensis* n.sp., a coral-reef-inhabiting species of Tanaidacea from Bora Bora and Moorea (Society Islands, French Polynesia) is described. Its intrageneric affinities are discussed and notes on its habitat preference are provided. This is the first record of Metapseudidae : Tanzanapseudinae from the Pacific Ocean.

Résumé : Cette note décrit *Tanzanapseudes polynesiensis* n. sp., espèce de Tanaidacea colonisant la barrière de corail de Bora-Bora et Moorea (Iles de la Société, Polynésie française), précise ses affinités intra-génériques et donne des informations sur ses préférences d'habitat. C'est la première espèce de Tanzanapseudinae décrite dans l'océan Pacifique.

INTRODUCTION

Tanaidacea are one of the commonest benthic invertebrates inhabiting coral reefs. During a two-month investigation of crustaceans and pycnogonids from coral reefs at Bora Bora and Moorea, Society Islands, many specimens belonging to a new species of *Tanzanapseudes* were found. It is described in detail, with some notes on its affinities and habitat preference.

The monogeneric subfamily Tanzanapseudinae was previously known only from the tropical Indian Ocean containing three nominal species involved : *Tanzanapseudes langi* Bacescu, 1975 (Tanzania), *T. longiseta* Bacescu, 1975 (Tanzania) and *T. elegans* (Roman, 1976) (Madagascar). All members of *Tanzanapseudes* are characteristic in having their body extremely dorso-ventrally flattened and were found exclusively in shallow waters on coral reefs. No information on their biology and ecology is known to date.

Specimens are deposited in the following institutions : Museum d'Histoire Naturelle, Paris, France (MNHN), British Museum (Natural History), London, England (BMNH), National Museum of Natural History, Smithsonian Institution, Washington, U.S.A. (USNM), Senckenberg-Museum, Frankfurt, Germany (SMF), Zoölogisch Museum, Amsterdam, The Netherlands (ZMA) and in the Zoologisches Museum der Christian-Albrechts-Universität, Kiel, Germany (ZMK).

SYSTEMATIC ACCOUNT

Tanzanapseudes Bacescu, 1975*Tanzanapseudes polynesiensis* n.sp. (Figs. 1-23)

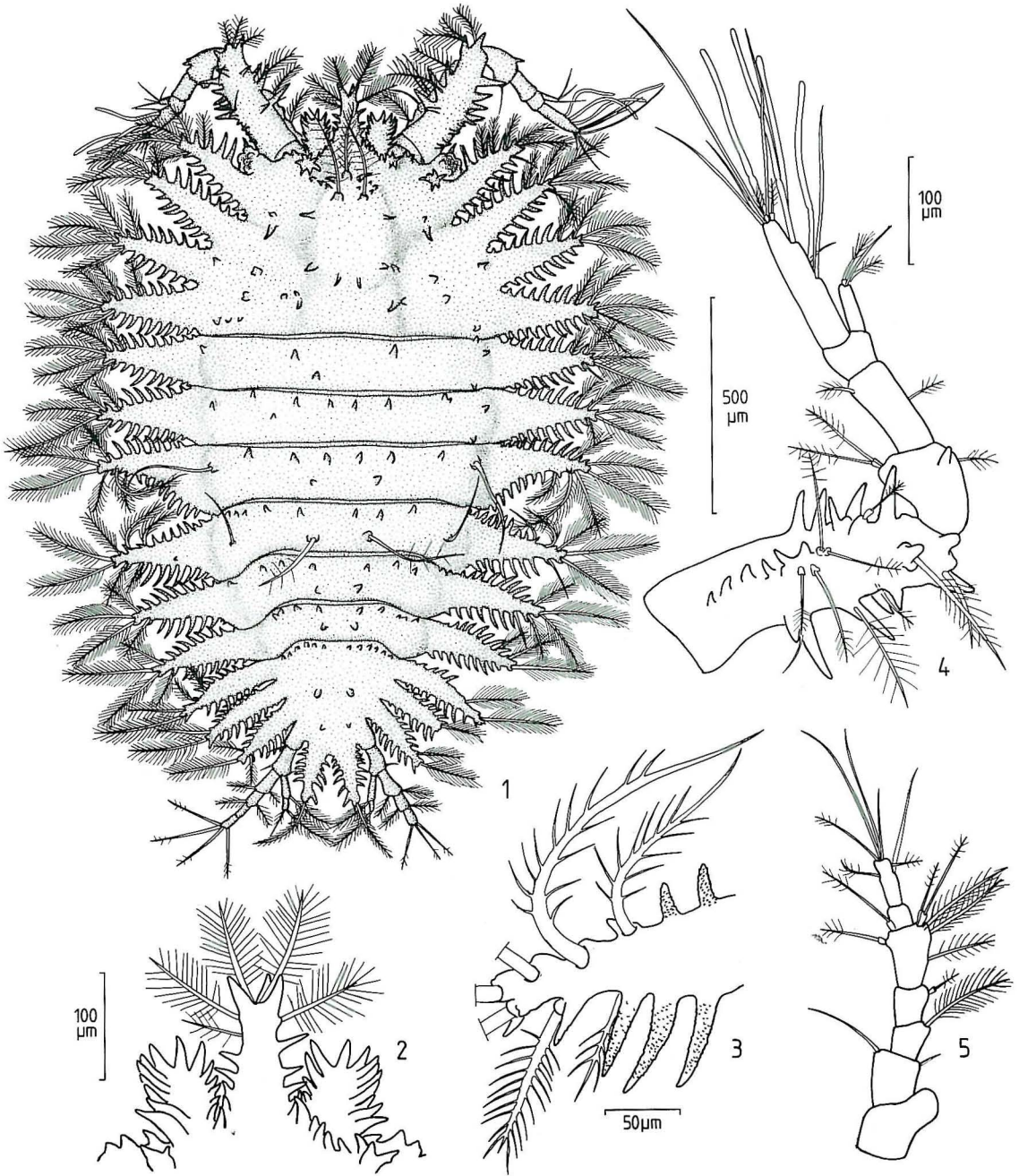
Holotype : ♂ (SMP 17719), Moorea ; Temae, the Islet Reef, north-east of airport ; dead corals in channel near beach, 2 m, 31 March 1988.

Paratypes : 21 ♂♂, 251 ♀♀ (48 ov.), 22 juv., deposited as follows : 16 ♂♂, 241 ♀♀ (41 ov.), 16 juv. (SMF 17720) ; 5 ♂♂, 10 ♀♀ (7 ov.), 6 juv. (ZMA) ; Bora Bora ; crest of fringing reef near Vaitape ; from dead corals covered with sponges and algae, 0.5-1 m, 27 February - 6 March 1988. 4 ♀♀ (2 ov.), 1 juv. (USNM), Moorea ; about 2.6 km west of airport, near Maharepa ; crest of barrier reef, dead corals with *Sargassum*, 0-0.5 m, 15 March 1988. 4 ♂♂, 37 ♀♀ (6 ov.), 4 juv. (MNHN), Moorea crest of Tiahura barrier reef, dead corals, 0.5-1 m, 25 March 1988. 27 ♂♂, 311 ♀♀ (55 ov.), 26 juv. (SMF 17721), Moorea ; slope of fringing reef near Afareaitu ; dead corals, 1-2 m, 26 March 1988. 1 ♂, 35 ♀♀ (5 ov.), 16 juv., deposited as follows : 1 ♂, 30 ♀♀ (4 ov.), 16 juv. (SMF 17722) ; 5 ♀♀ (1 ov.) BMNH, Moorea ; together with holotype. 2 ♂♂, 6 ♀♀ (2 ov.), 5 juv. (ZMK), Moorea ; about 2.6 km west of airport, near Maharepa ; dead corals in channel near beach, 0.5-1 m, March 1988. 14 ♂♂, 131 ♀♀ (13 ov.), 9 juv. (SMF 17723), Moorea ; about 2.6 km west of airport, near Maharepa ; crest of barrier reef, dead corals, 0.5 m, March 1988.

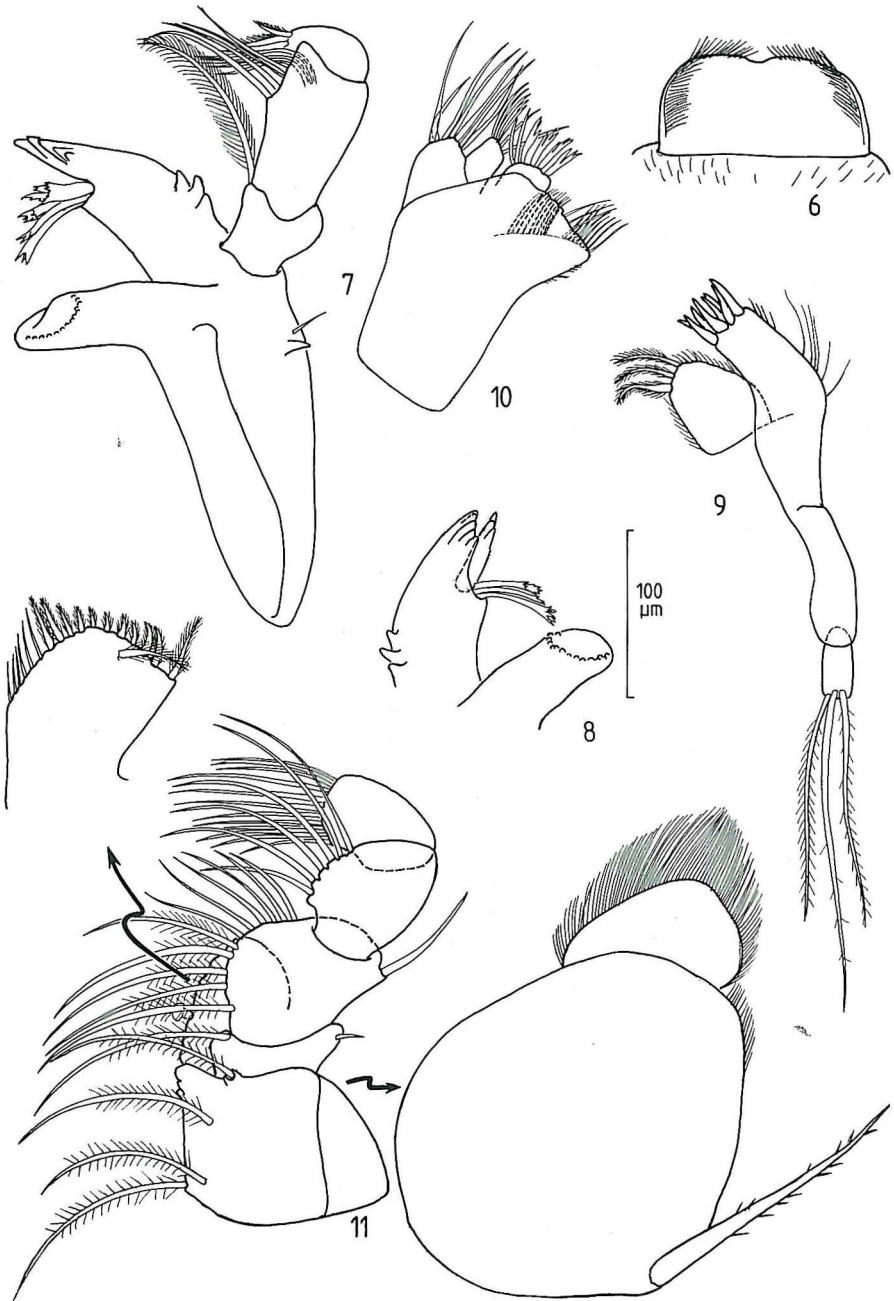
Derivatio nominis : The specific name refers to the geographic area of the type locality.

Description : Total length males about 1.8, females 1.0-1.8 mm, 1.4 times longer than wide. Cephalothorax, pereonites and pleotelson as in other members of the genus projected altogether into 31 long triangular, dentate processes bearing (except frontolateral processes at base of medifrontal process) long feathered setae ; dorsum of body with several small, partly toothlike tubercles in more or less irregular arrangement ; cephalon anteromedially, near base of medifrontal process, with 3 feathered setae inserted on low tubercles ; pereonite 4 with dorsal pair of feathered setae implanted on small tubercles ; dorsum of body with many small, tooth-shaped tubercles in arrangement as figured ; pereonite 3 with 2 simple setae near base of lateral projections ; pereonite 4 with 2 simple setae near base of lateral projections and one pair of sparsely feathered setae implanted on low tubercles near posteromedial margin. Non-segmented pleonite section totally fused with telson ; uropods articulating between penultimate and terminal dentate processes. Eyes well pigmented, with few relatively large ocelli.

Basal article of antenna 1 largest ; 3.6 times longer than wide, with several teeth of variable lengths on inner and outer margin ; second article about as long as wide, with single tooth near inner distal margin ; third article 2.2 times longer than wide ; uniarticulated outer ramus of biramous flagellum about 2.5 times length of inner ramus, bearing 4 aesthetascs, 2 feathered sensory setae and some simple setae. Antenna 2 of 7 articles ; first article with broadly rounded lobe near inner distal margin ; third and fourth article subequal in length ; terminal article narrowest, 3.6 times longer than wide.



Figs. 1-5 : *Tanzanapseudes polynesiensis* n.sp., : 1. dorsal view ; 2. processes of cephalon between base of antennae ; 3. lateral process of pereonite 4 ; 4. antenna 1 ; 5. antenna 2.



Figs. 6-11 : *Tanzanapseudes polynesiensis* n.sp., : 6. labrum ; 7. right mandible ; 8. incisor and molar of left mandible ; 9. maxilla I ; 10. maxilla II ; 11. maxilliped.

Labrum 2.1 times wider than long, anteromedially notched and with setulose fringe at lateral and distal margins. Mandible with 3-articulated palp bearing simple and feathered setae ; incisor with 5 cusps and 4 serrate setae in setal row ; outer margin of incisor near articulation of palp with three blunt tooth-shaped tubercles ; molar truncate, with granulations ; lacinia mobilis of left mandible narrow, tricuspidate. First maxilla with biarticulate palp, bearing 3 long feathered setae at tip of terminal article ; exopodite with 8 robust spines ; endopodite with 3 short feathered setae at distal margin. Second maxilla with 3 simple setae anterior to row of filter setae on mediobasal margin ; fixed endite with 4 spatulate, deeply forked spines and 2 simple setae at distal margin ; inner lobe of outer ramus bearing 6, outer lobe of outer ramus bearing 7 curved setae at distal margin. Basis of maxilliped with long feathered seta at distal margin, and 3 long feathered setae near inner margin ; palp 4-articulated ; first palp article much wider than long, bearing a short spine at outer distal margin ; second article about as long as wide, inner margin with 5 feathered setae in proximal half and 6 simple setae in distal half ; outer distal margin of second palp article with long, robust spine ; 3rd article 1.3 times longer than wide, inner margin with row of 6 long simple setae ; terminal palp article 1.7 times longer than wide, bearing 12 distal setae ; endite with single coupling hook at medial margin ; distal margin of endite with 6 simple setae and 12 feathered setae ; epipodite biarticulate, with strong, sparsely feathered spine at base of first article ; second article with setulose fringe.

Cheliped of : basis 1.3 times longer than wide, tergal margin with 2 short, simple setae, sternal margin in proximal half with short, sparsely feathered seta ; merus 1.5 times longer than wide, sternal margin distally with sparsely feathered seta ; carpus 2.2 times longer than wide, with 4 simple setae on tergal and 2 simple setae in proximal half of sternal margin ; basis, merus and carpus distally with 3 blunt teeth ; propodus strongly developed, sternal margin in proximal half with 4 blunt teeth and sternal margin of finger with several long simple setae ; cutting edge of finger with 8 blunt teeth and in proximal half with 3 short serrate setae ; cutting edge of dactylus with some rounded teeth of irregular shape.

Cheliped of : In setation and dentation similar to male, but generally more slender than in male and teeth at sternal margin of propodus lacking.

Pereopods 1-6 : basis of pereopod 1 with 2-articulated exopodite in proximal half of sternal margin ; sternal margins of basis in pereopods 2-3 with some teeth in proximal half ; sternobasal margins of carpus in pereopods 1-3 with 1-3 robust spines, which are largest in pereopod 3 ; tergal margin of propodus with 3-4 robust spines in all pereopods.

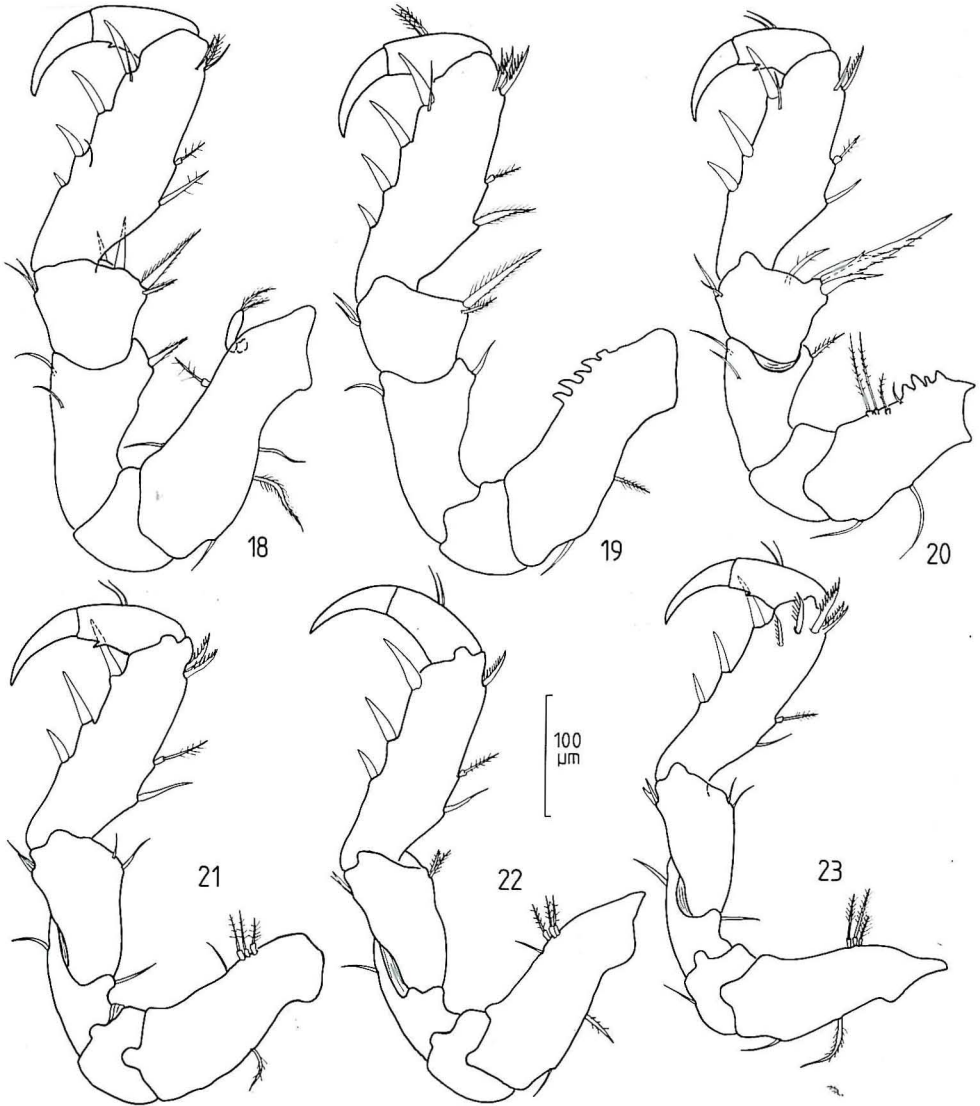
Pleopods with 2 peduncular articles, second article much longer than first ; uniaarticulated rami with some long feathered setae.

Uropods with uniaarticulated peduncle ; peduncle twice longer than wide, bearing 2 short simple setae near distal margin ; endopodite 2-articulated and exopodite 4-articulated ; both rami bearing some feathered setae of variable length.

Remarks : Discussion on relationships of the species of *Tanzanapseudes* is hardly possible in this poorly known genus. It seems that *T. polynesiensis* is more closely allied to *T. longiseta*, the type species of the genus and to *T. langi* from Tanzania. These species bear



Figs. 12-17 : *Tanzanapseudes polynesiensis* n.sp. (12, 14-17 ♂, 13 ♀) : 12. cheliped ; 13. cheliped ; 14. first pleopod ; 15. second pleopod ; 16. third pleopod ; 17. uropod.



Figs. 18-23 : *Tanzanapseudes polynesiensis* n.sp., : 18. pereopod 1 ; 19. pereopod 2 ; 20. pereopod 3 ; 21. pereopod 4 ; 22. pereopod 5 ; 23. pereopod 6.

feathered setae on the lateral processes of the body, while in *T. elegans* from Madagascar the lateral processes bear simple setae (cf. Bacesu, 1975 ; Roman, 1976). *T. langi*, which is superficially described, based on an immature specimen from the same locality as *T. longisetata* differs from the latter only in some minor characters which might be due to intraspecific variability of different developmental stages. Material of these two species was not available for re-examination.

In Bora Bora and Moorea *T. polynesiensis* was found at locations with more or less strong wave exposition, as fringing reefs opposite of a pass to the ocean or barrier reefs, where it was found associated with dead corals. No specimens were obtained in sheltered locations, as the fringing reef of Turaapuo Bay at Bora Bora and fringing reefs of Tiahura and Cook's Bay, Moorea (cf. Galzin & Pointier, 1985 ; Pirazzoli, 1985), where extensive fieldwork has also been carried out.

Distribution : Bora Bora and Moorea, Society Islands.

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