A new *Halozetes* species (Acari: Oribatida: Ameronothridae) from the marine littoral of southern Africa

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A new species in the genus *Halozetes* Berlese, 1916 (*Halozetes capensis* n.sp.) is described from the marine littoral of southern Africa, representing a considerable extension of the geographical distribution, as well as the northernmost limit, of the genus *Halozetes*.

**Key words**: Oribatida, Ameronothroidea, marine mites, *Halozetes*, taxonomy.

**INTRODUCTION**

The oribatid mite genus *Halozetes* Berlese, 1916, is widely distributed and dominant on the peri-Antarctic Islands, the Antarctic Peninsula, and southern New Zealand. It is the sole oribatid component of the marine littoral mite fauna in the Antarctic regions. On the peri-Antarctic islands, *Halozetes* occurs on intertidal, rocky shores as well as in supralittoral and terrestrial habitats. Here we report the first record of the genus *Halozetes* from southern Africa. It represents a considerable extension of the geographical distribution, as well as the northernmost limit, of the genus. *Halozetes* was collected from the mid- and upper eulittoral zone along the southern African coast at the Cape Peninsula (Kommetjie) and the south coast (Nature’s Valley) (Fig. 1). The specimens represent a new species which is described below.

**DESCRIPTION**

*Halozetes capensis* n.sp., Figs 2–10

**Diagnosis**

Aggenital neotrichy absent, interlamellar setae long, notogastral seta h2 longer than rest of notogastral setae; three pairs of porose sclerites present on gastronotum of immatures.

Fig. 1. South Africa, indicating the collecting sites of *Halozetes capensis*.

**Description**

*Adult. Dimensions:* females: length 417 µm (range 406–438), width 222 µm (range 206–250); males: length 382 µm (range 344–400), width 206 µm (range 169–219).

*Dorsal aspect* (Figs 2 & 3). *Prodorsum:* rostral seta (ro) short, smooth, pointed; lamellar seta (le) of medium length, directed upwards, dark brown, roughened, rounded apically; interlamellar seta (in) very long, directed upwards, dark brown, roughened, more or less three times as long as their mutual distance; bothridium (bo) round, opening only wide enough to accommodate the sensillar stalk; sensillus clavate with thin, short stalk; cerotegument with coarse granules, underlain by minute spots, restricted to medial part of prodorsum, extending laterally along rostrum; exobothridial seta (ex) very short. Setal lengths: ro = 24 µm (21–29); le = 42 µm (36–52); in = 163 µm (143–172).

*Notogaster:* anterior margin of notogaster projecting anteriorly, rounded, medially indistinct, covered by cerotegument; 14 pairs of notogastral setae present; c₁ absent; setae smooth, stout; c₁ very short, h₂ much longer than rest of setae; lyrifissures short; opisthosomal gland (gla) small, round; cerotegument similar to that on prodorsum. Setal lengths: c₁ = 14 µm (12–21); c₂ = 18 µm

**Figs 2–5. Halozetes capensis; 2, dorsal view; 3, lateral view of notogaster; 4, ventral view; 5, genital plates of male and female.**
(14–21); da = 16 µm (12–21); dm = 20 µm (14–26);
dp = 15 µm (12–24); la = 18 µm (17–19); lm = 26 µm 
(21–31); lp = 36 µm (31–45); h1 = 23 µm (17–26); h2 = 51 µm (48–57); h3 = 20 µm (17–26); p1 = 32 µm 
(26–38); p2 = 30 µm (24–36); p3 = 30 µm (29–31).

Ventral aspect (Figs 4 & 5). Epimeral region: Epi-
meral setae smooth, setae of a-series short, b-series 
longest; epimeral setal formula = 3-1-2-2; triangu-
lar patch of cerotegument (similar to that of dorsal 
side) present between legs I and II.

Anogenital region: all anogenital setae short, 
smooth, comprising six pairs of genital, one pair of 
aggenital, three pairs of adanal and two pairs of 
anal setae; interior margins of genital plates 
converge posteriad where they form an ‘interlock-
ing triangle’ (sensu Wallwork 1963); genital plates 
sexually dimorphic (Fig. 5), those of females large, 
with distinct interlocking triangle and flattened 
posterior margin, while those of males are smaller, 
near circular and with weak interlocking triangle; 
pre-genital margin of ventral shield in both sexes 
with a narrow cuticular ridge, in females short (not 
reaching the external margins of the genital 
plates), narrow, edges parallel; in males longer 
(extending beyond the external margins of genital 
plates), more distinct, anterior edge uneven.

Legs (Figs 6–9). Tarsi tridactyl, medial claw stron-
ger than laterals; all unguinal setae (u) with thick,
serrated proximal sections, thin distal sections and minute clavate tips; all tectal (tc) and iteral (it) setae with clavate tips, as well as fastigial (ft), proral (p), and antelateral (a) setae of leg IV; paraxial solenidion of Tibia I (c1) minute; famulus absent.

Tritonymph (Fig. 10). Prodorsum: rostral seta (ro) short, roughened; lamellar seta (le) of medium length, roughened; interlamellar seta (in) very long, roughened; sensillar head and bothridium very small (much smaller than in adult); exobothridial seta (ex) minute; three brownish porose sclerites present posteriorly of interlamellar setae.

Gastronotic region: integument strongly pleated, medial pleats are more or less linear, while lateral ones are more irregular; three pairs of brownish porose sclerites present, situated laterally between setae of d-series and l-series; anterior sclerites unevenly shaped, large; medial and posterior sclerites smaller, roundish; all gastronotal setae smooth, seta h2 significantly longer than rest of setae; seta lp of medium length; rest of gastronotal setae very short.

Distribution in southern Africa (Fig. 1). Collected by D.J. Marshall at Kommetjie, Cape Peninsula (34°13’S, 18°32’E) and Nature’s Valley (33°59’S, 23°33’E), November 2000, from finely-branched algae in the mid- and upper eulittoral zone.

Type material. Holotype ♀ (NMB 4150.1), Kommetjie; 10 paratypes (NMB 4150.2), ♂♂, ♀♀, all from Kommetjie; deposited in Acarology Collection, National Museum, Bloemfontein. All preserved in 70% alcohol.

Remarks
Comparisons among Halozetes species were based on collections from Marion and Heard Islands for H. marinus marinus, H. marinus devilliersi, H. intermedius, H. belgicae (D.J.M.), and the general literature for other species. The present species resembles the species in the H. marinus group (H. marinus marinus, H. m. devilliersi, H. m. minor) by virtue of very long interlamellar setae, absence of aggenital neotrichy in males, and the lamellar setae in close mutual proximity (their length usually exceeds their mutual distance by two-fold). Four features distinguish H. capensis from all other H. marinus-group congeners. Adult H. capensis are (1) much smaller (417 µm vs 810 µm in H. m. marinus and H. m. devilliersi); (2) have relatively large sensilli with clavate, as opposed to lanceolate, heads (cf. H. m. marinus (Wallwork 1963)); and (3) have dimorphic notogastral setae in both adults and juveniles, with h2 significantly longer than h1 and h3, as opposed to being of approximately equal length (cf. H. m. marinus, H. m. devilliersi and H. m. minor (Wallwork 1963, 1966; Engelbrecht 1974)). H. capensis is unique in the H. marinus group in that adults have retained a juvenile character (long h2 setae). (4) The most striking interspecific differences are seen in the immature stages. The tritonymph of H. capensis differs from the other H. marinus-group tritonymphs in the shape and size of the dorsal porose sclerites. Only three pairs of sclerites are present dorsolaterally on the gastronotum, while the anteromedial and posteromedial sclerites of H. marinus marinus and H. m. devilliersi are absent.

This study reports the first collection of Halozetes from southern Africa and the northernmost occurrence of the genus. All other representatives of this genus occur on the Antarctic Peninsula, peri-Antarctic Islands or the South Island of New Zealand (Wallwork 1973; Luxton 1990; Starý & Block 1998). Furthermore, the incursion of southern ocean taxa into the southern African marine fauna is unusual; there are currently no mite faunistic associations reported for the southern African and Antarctic regions (see Starý & Block 1998). The marine invertebrate fauna of southern Africa is rich and diverse, with many species adapted to life in the cold waters of the southern ocean.

The South African record of *H. capensis* extends the already broad geographical (Gondwanan) distribution of the genus *Halozetes*, supporting the antiquity of both the genus *Halozetes* and ameronothroid mites in general (see Procheș & Marshall 2001). The hypothesis that the genus originated in the Antarctic region (Wallwork 1973), coupled with observations for the prevailing ocean current systems (such as the northerly directed Benguela current off the west coast of southern African), is corroborated by the new record of *H. capensis*, though this requires verification by morphometric and molecular phylogenetic techniques.

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**REFERENCES**


