

PTYCTIMOUS MITES (ACARI: ORIBATIDA) OF SOUTH AFRICA

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Abstract.— The fauna of ptyctimous mites from South Africa is described and analysed. Seventeen genera and subgenera of ptyctimous mites are currently known from southern Africa, represented by seventy nine species, including five Mesoplophoridae, twenty two Euphthiracaroida and fifty two Phthiracaroida. Identification keys of the supercohorts, superfamilies, families, genera, subgenera and species are provided.

Two third of the species are new: four Mesoplophoridae, fourteen Euphthiracaroida, mainly *Indotritia* and *Oribotritia* species, and thirty six Phthiracaroida, mainly *Notophthiracarus* species. These fifty four are described: *Mesoplophora* (*Parplophora*) *ijuvenalis* sp. nov., *M. (P.) elsi* sp. nov., *M. (P.) pertenuis* sp. nov., *M. (P.) setulosa* sp. nov., *Oribotritia afromontanensis* sp. nov., *O. deminuta* sp. nov., *O. gladiola* sp. nov., *O. pecki* sp. nov., *Indotritia cypha* sp. nov., *I. didyma* sp. nov., *I. eksteeni* sp. nov., *I. fusa* sp. nov., *I. partita* sp. nov., *I. phymatha* sp. nov., *Austrotritia engelbrechti* sp. nov., *Euphthiracarus scuticus* sp. nov., *E. rectus* sp. nov., *Acrotritia munita* sp. nov., *Phthiracarus anakolos* sp. nov., *P. blythdalensis* sp. nov., *P. densus* sp. nov., *P. hillcrestensis* sp. nov., *P. humilis* sp. nov., *P. kokae* sp. nov., *P. leliehoekensis* sp. nov., *P. pertenuis* sp. nov., *Austrophthiracarus cordylus* sp. nov., *Arphthacarus bulbosus* sp. nov., *Protrophthiracarus crinatus* sp. nov., *P. engelbrechti* sp. nov., *Notophthiracarus agulhasensis* sp. nov., *N. capevidalensis* sp. nov., *N. coetzeeae* sp. nov., *N. cristatus* sp. nov., *N. deminutus* sp. nov., *N. diaphorillus* sp. nov., *N. frondeus* sp. nov., *N. gongylos* sp. nov., *N. grossus* sp. nov., *N. knysnaensis* sp. nov., *N. korannabergensis* sp. nov., *N. mekistos* sp. nov., *N. natalensis* sp. nov., *N. paraendroedyyoungai* sp. nov., *N. phyllodes* sp. nov., *N. procerus* sp. nov., *N. pumilus* sp. nov., *N. rhachis* sp. nov., *N. serratus* sp. nov., *N. spinus* sp. nov., *N. tsitsikamaensis* sp. nov., *N. vernonensis* sp. nov., *N. zululandensis* sp. nov., *Atropacarus* (*Hoplophorella*) *brevisetosus* sp. nov.

As in the other regions of the Southern Hemisphere ptyctimous mites are represented by many more Phthiracaroida than Euphthiracaroida species. From among Phthiracaroida, the most abundantly represented is by far genus *Notophthiracarus* – twenty nine species, then *Phthiracarus* – fourteen species. From among Euphthiracaroida the most abundant is *Indotritia* – eight species, while the primitive *Oribotritia* and the evolved *Acrotritia* are represented by four species each. The greatest number of individuals represented the ethiopian species *Acrotritia rustica*, a few indigenous species of *Notophthiracarus* and the widespread *Atropacarus* (*H.*) *vitrinus*.

Ptyctimous mites are most abundantly represented by species and by individuals in the Western Cape and KwaZulu-Natal provinces.

Principle zoogeographical features are analyzed. The percent of species whose distribution is restricted to southern Africa is very high, 82%, of which 44% are endemic species and 38% are indigenous species. The widespread species make barely 14% (7.6% pantropical and 6.3% semicosmopolitan).

Endemic species occur almost over the whole area of South Africa. They were found in the greatest number in Western Cape, sixteen species, and KwaZulu-Natal, twelve species. Also indigenous species occur over the whole area of southern Africa, except for Northern Cape. The largest number of indigenous species was found in KwaZulu-Natal, twenty two species and in Western Cape, nineteen species.

The largest number of endemic species, twenty, was found in forests, mainly in afro-montane forests. Seven endemic species occurred in the fynbos formation and seven endemic species in the grassland formation. Indigenous species were mainly found in forests – twenty seven species. Fifteen indigenous species occurred in the fynbos formation, fourteen species in grasslands and six species in thickets biome.

Almost all genera are widespread in the region of South Africa. Unfortunately, no detailed zoogeographical regional division can be proposed on the basis of the ptyctimous mite analysed.

Although the percent of the species restricted in distribution to South Africa is high, it is lower than in the Neotropical Region but similar to that in other regions of the Southern Hemisphere. The South Africa fauna of ptyctimous mites (especially Phthiracaroida) is the least numerous in species, genera and subgenera, compared to those of other regions of the Southern Hemisphere.

The degree of similarity to the ptyctimous mite fauna of other regions is very small and limited to a common presence of a few widespread pantropical and semicosmopolitan species. The faunas of southern Africa and that of the Ethiopian Region share only three Ethiopian species.

Both the primitive and evolved genera of Euphthiracaroida and Phthiracaroida are rather proportionally represented over the area studied, although some are more numerous in species, which differentiates them from the faunas of the other regions. It is also interesting to note the absence of a few important genera in the fauna of the Phthiracaroida. On the basis of harmonious representation of both phylogenetically old, primitive genera and the evolved genera of ptyctimous mites and a simultaneous absence of a few genera it is difficult to conclude about the fauna being harmonic or dysharmonic. Thus, it is hard to suggest a dispersal origin, origin of fauna dispersed by winds and ocean currents or vicariant origin over land connections. The present faunas have formed in independent ways and have mixed character.



Key words.— Acari, Ptyctima, fauna, South Africa, new species, zoogeography.

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SUPPLEMENT TO THE KNOWLEDGE OF PTYCTIMOUS MITES (ACARI: ORIBATIDA) FROM AUSTRALIAN REGION

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Abstract.— The supplement to the monographs on ptyctimous mites of Pacific Islands (Niedbala 1994, 1998) and Australian Region (Niedbala 2000), presents the species selected and identified from the samples collected at new localities in these regions. In total the supplement presents 107 species, including one of Protoplophoridae, 3 of Mesoplophoridae, 28 of Euphthiracaroida and 75 of Phthiracaroida.

Analysis of these samples with ptyctimous mites from different areas of Australian Region (Pacific Islands included) has increased the number of species from the region by 23 ones new to science: *Oribotritia paraincognita* sp. nov., *Microtritia paratropica* sp. nov., *Plonaphacarus toolangiensis* sp. nov., *Hoplophthiracarus mallacoolaensis* sp. nov., *Austrophthiracarus glennieensis* sp. nov., *A. parafusticulus* sp. nov., *A. parapilosus* sp. nov., *A. parapulchellus* sp. nov., *A. warburtonensis* sp. nov., *A. weldboroughensis* sp. nov., *Arphthiracarus scuticus* sp. nov., *Notophthiracarus bonangensis* sp. nov., *N. brachys* sp. nov., *N. buffaloensis* sp. nov., *N. dandenongensis* sp. nov., *N. glennieensis* sp. nov., *N. parabonangensis* sp. nov., *N. paracapillatus* sp. nov., *N. pararavidus* sp. nov., *N. queenlandensis* sp. nov., *N. ravidus* sp. nov., *N. rotoitiensis* sp. nov., *Atropacarus (Hoplophorella) buffaloensis* sp. nov. Following six synonyms are proposed: *Acrotritia comteae* Mahunka, 1983 (= *Rhysotritia niedbalai* Balogh et Balogh, 2002), *Austrophthiracarus dissonus* Niedbala et Colloff, 1997 (= *Phthiracarus (Neophthiracarus) praeoccupatus* Subías, 2004), *A. largus* Niedbala, 2000 (= *Ph. (N.) repetitus* Subías, 2004), *A. sellnicki* Niedbala, 1987 (= *Ph. (N.) obsessus* Subías, 2004), *Notophthiracarus admirabilis* Niedbala et Colloff, 1997 (= *Notophthiracarus (N.) obsessus* Subías, 2004), *Atropacarus (Hoplophorella) singularis* (Sellnick, 1959) (= *Hoplophthiracarus marianus* Aoki, 1994), and one *nomen novum*: *Microtritia novazealandensis* for *Microtritia glabrata* Niedbala, 1993. 23 new species together with a few species found at new localities in this region have enriched the fauna of Australian Region to 169 species, including 1 Protoplophoridae, 3 Mesoplophoridae, 30 Euphthiracaroida and 135 Phthiracaroida.

From the other 83 already known species, new localities have been specified for 47 species, so for over a half (56%) of them, extending their hitherto geographical ranges. Moreover, 23 species have been known only from the original description and have been hitherto treated as endemites. The newly discovered localities have deprived them of this status. The greatest number of endemites has been found in South Australia, in particular in Victoria State. Some of species have been subjected to detailed morphological analysis revealing or allowing more accurate specification of some morphological features.



Key words.— Acari, Ptyctima, Australian Region and Pacific Islands, supplement.