

Two new species of predator mites of the genus *Amblyseius*
Berlese (Acarina : Phytoseiidae) from Madagascar¹

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With 14 figures

Abstract

The predator mites *Amblyseius masiaka* and *A. vazimba* are described, and compared with related *A. stolidus* Chaudri and *A. neolargoensis* v. d. Merwe, respectively.

Amblyseius masiaka sp. n.

A. masiaka is closely related to *A. stolidus* Chaudri, 1968 from Pakistan. Specimens of the latter were not deposited in the British Museum as stated with the description, and we could not obtain either the type, or other specimens from Pakistan. Descriptions of the males and females as presented in this paper show slight differences with the descriptions of *A. stolidus* and the female of *A. masiaka* and we prefer to consider *A. masiaka* a new species.

The main differences are the number (four instead of five) and the relative size of the teeth on the fixed digit of the chelicera, and the shape of the cervix base.

Female

Dorsal face. Dorsal shield well sclerotized, smooth, with 17 pairs of setae: seven dorsocentrals (j1, j3, j4, j5, j6, J2, J5), five mediolaterals (z4, z5, Z1,

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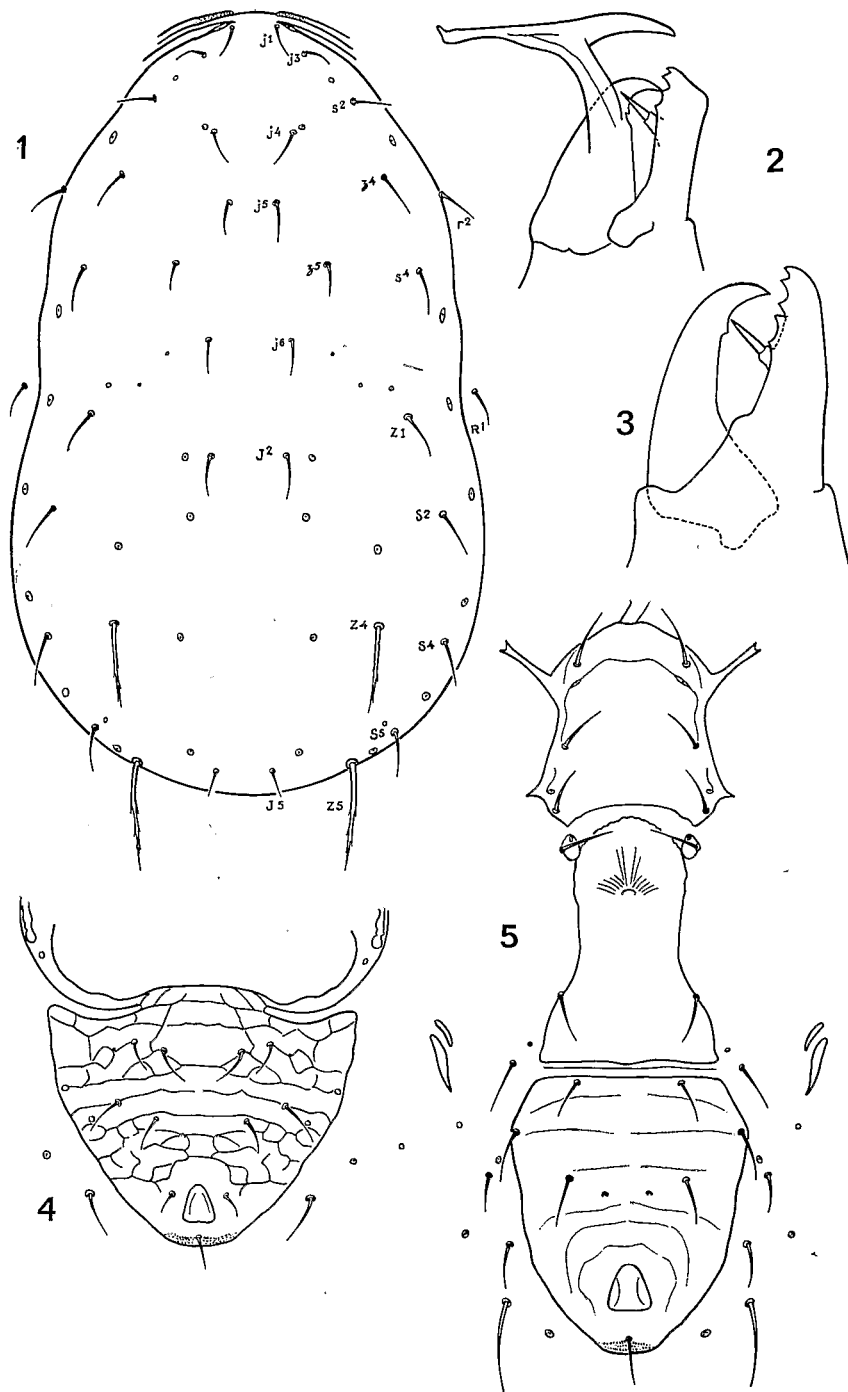
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Figs. 1-5. *Amblyseius masiaka* sp. n. ♀, ♂. 1 = dorsum, ♀; 2 = chelicera, ♂; 3 = chelicera, ♀; 4 = ventri-anal scutum, ♂; 5 = venter, ♀

Z4, Z5), five laterals (s2, s4, S2, S4, S5). Two pairs of setae on the interscutal membrane (sublaterals r2 and R1). All setae short and smooth, except Z4 and Z5. The latter longer, stronger and slightly serrated. 20 pairs of pores and solenostomes.

Ventral face. Sternal shield posteriorly emarginated. Ventrianal shield almost pentagonal, and lightly striated, with three pairs of preanal setae, one pair of paranals, one postanal and a pair of punctiform solenostomes. Interscutal membrane with four pairs of setae, five pairs of pores and two pairs of metapodal platelets.

Legs. Chaetotaxy of leg IV normal: genu with seven setae, tibia six setae, basitarsus three setae and one macroseta, tarsi twelve setae.

Chelicera. Fixed digit provided with four subapical teeth and a pilus dentilis, movable digit with one tooth.

Spermatheca. Major duct thin walled, long and wide. Atrium short and broad. Cervix long, thick walled and cylindrical, gradually diverging towards the vesicle. Minor duct very thin and difficult to see.

Dimensions (in microns). Maximum length dorsal shield: 355; max. width: 210. – J5 = 12, j1 = j3 = j4 = j5 = j6 = z5 = s2 = 16–18; r2 = R1 = 18; z4 = s4 = J2 = 20; Z1 = S2 = S4 = S5 = 22; Z4 = 40; Z5 = 55. – Median length of sternal shield: 70. – Max. length ventrianal shield: 125; max. width: 110. – Preanals: 20; paranals: 12; postanal: 18. Macroseta leg IV: 62. – Length fixed digit of chelicera: 29; length movable digit: 33. – Spermatheca: length major duct 35, width 3–4; length atrium 4, width 4; length cervix 28, max. width 8, min. width 4.

Male

Dorsal face. Dorsal shield much like that of the female, but proportionally wider and bearing the sublateral setae. All setae smaller than those of the female. A huge solenostome near S4.

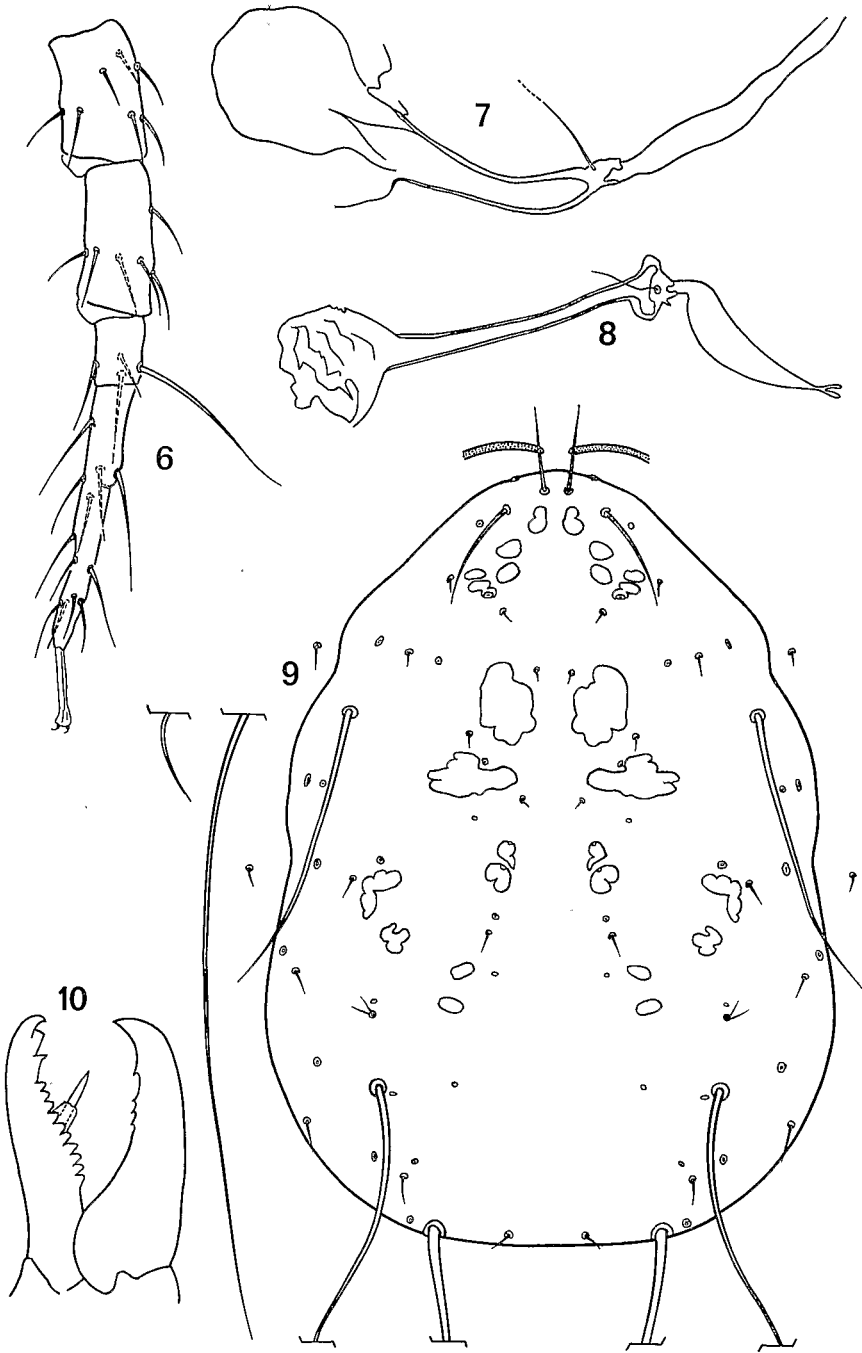
Ventral face. Sternal shield normal, with five pairs of setae and four pairs of pores or solenostomes. Ventrianal shield almost triangular and fused anteriorly with the peritremal shield. Slightly reticulated and with four pairs of preanal setae, one pair of paranals, one postanal and four pairs of pores or solenostomes. Interscutal membrane with one pair of setae and one pair of pores.

Chelicera. Shorter and weaker than that of the female. Fixed digit with three subapical teeth and a pilus dentilis. Movable digit with one tooth and a T-shaped spermatophoral process.

Dimensions. Max. length dorsal shield: 280; max. width: 195. – J5 = 10; j1 = j4 = j5 = z5 = 12; j3 = j6 = z4 = s2 = J2 = Z1 = S5 = r2 = R1 = 15; s4 = S2 = S4 = 18; Z4 = 30; Z5 = 35. – Median length sternal shield: 125. – Max. length ventrianal shield: 120; max. width: 145. – Preanals: 20; paranals: 10; postanal: 12. Macroseta leg IV: 60. – Length fixed digit of chelicera: 24; length movable digit: 24. – Spermatophoral process: major portion 15, branch 30.

Specimens studied

Female holotype collected in April 1971 from a mass rearing with *Tetranychus neocaledonicus* André as prey. This mass rearing was started with speci-



Figs. 6-7. *Amblyseius masiaka* sp. n. 6 = leg IV, ♀; 7 = spermatheca.

Figs. 8-10. *Amblyseius vazimba* sp. n. 8 = spermatheca; 9 = dorsum, ♀; 10 = chelicera, ♀

mens collected on 9 and 10 March, 1971 from *Gossypium hirsutum* and *Leonotis nepetaefolia* at the I.R.C.T. experimental station in Tuléar. Paratypes: 8 females and 6 males from the same rearing (L. BLOMMERS).

Holotype deposited in the National Museum of Natural History in Paris: paratypes in both the Paris Museum and the Institute for Taxonomic Zoology of the University of Amsterdam, Holland.

Four females and four males from Majunga-Katsepy, on *Phaseolus* sp. 27-IV-1972 (L. BLOMMERS).

Amblyseius vazimba sp. n.

A. vazimba resembles *A. neolargoensis* v. d. Merwe 1965.

It differs from this species by the presence of four teeth on the movable digit, and twelve on the fixed digit of the chelicera of the female, against three and eleven respectively. The cervix of the spermatheca is more funnel shaped. As shown in Figure 11 genu IV, tibia IV and basitarsus IV each bear one additional seta.

Female

Dorsal face. Dorsal shield smooth. Location of muscle attachment well marked. 17 pairs of setae: seven dorsocentrals, five mediolaterals and five laterals. Two pairs of sublaterals on the interscutal membrane. The shield with at least 24 pairs of pores or solenostomes.

Sternal face. Sternal shield with three pairs of setae. A fourth pair on the metasternal platelets. Anterior margin convex, posterior margin almost straight. Genital shield normal.

Ventrianal shield longer than wide. Its margins nearly parallel, with (the type) or without a constriction in the region of the preanal pores.

Three pairs of preanal setae, one pair of paranals, and one postanal. Interscutal membrane with four pairs of setae, two pairs of metapodal platelets, and four pairs of pores.

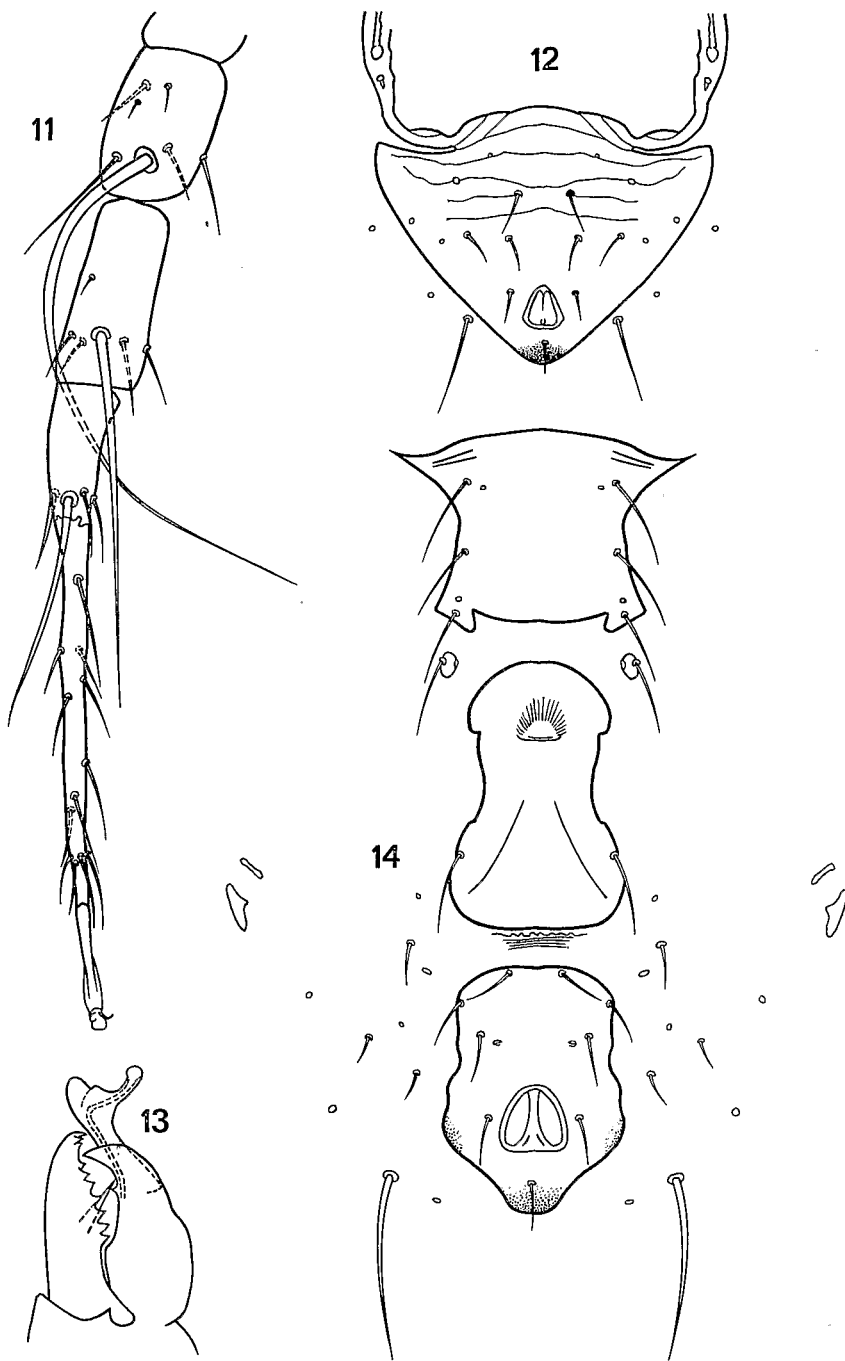
Legs. Genu IV with a very long tapering macroseta and six short setae, tibia IV with a long macroseta and five short setae, basitarsus with a moderately long macroseta and three short setae. Leg III with three macrosetae; leg II with two (genu and basitarsus); leg I with one (genu).

Chelicera. Fixed digit with two subapical teeth and ten rather large, blunt teeth in a row. Movable digit with four small teeth; three of them grouped together.

Spermatheca. Major duct poorly sclerotized and broad. Atrium thick walled and disklike. Cervix long and narrow; its diameter increasing at least 2 times from atrium to vesicle.

Dimensions. Max. length dorsal shield: 370; max. width: 250. — $j_4 = j_5$ $z_4 = z_5 = 5-6$; $j_6 = j_5 = Z_1 = s_2 = R_1 = 7-8$; $J_2 = S_2 = S_4 = S_5 = r_2 = 9-11$; $j_1 = 40$; $j_3 = 52$; $s_4 = 140$; $Z_4 = 175$; $Z_5 = 340$. — Median length sternal shield: 75. —

Max. length ventrianal shield: 110; max. width: 75. — Preanals: 17-21; paranals: 18; postanal: 20. Ventrocaudal setae: 25. — Macroseta leg IV: genu 185; tibia 115; basitarsus 80. — Length fixed digit: 30; length movable digit:



Figs. 11-14. *Amblyseius vazimba* sp. n. ♀, ♂. 11 = leg IV, ♀; 12 = ventri-anal scutum, ♂; 13 = chelicera, ♂; 14 = venter, ♀

30. — Spermatheca: length major duct 25, width 5; length atrium 3, width 6; length cervix 32, max. width 4, min. width 2.

Male

Dorsal face. Dorsal face of the male identical with that of the female, except all dimensions being smaller.

Ventral face. Sternal shield normal. Triangular ventrianal shield lightly reticulated anteriorly and fused with the peritremal shield. Three pairs of preanals, one pair of paranals, and one postanal. Four pairs of pores. Inter-scutal membrane with two pairs of pores and a single pair of setae.

Legs. Macrosetae as with the female, but smaller.

Chelicera. Fixed digit with two subapical teeth and seven in a row. Movable digit with a single tooth and L-shaped spermatophoral process.

Dimensions. Max. length dorsal shield: 280; max. width: 200. — $j_1 = 30$; $j_3 = 48$; $s_4 = 100$; $Z_4 = 125$; $Z_5 = 255$; remaining dorsal setae less than 10. — Median length sternal shield: 140. — Max. length ventrianal shield: 130; max. width: 140. — Preanals: 16–18; paranals: 17; postanal: 15. — Macrosetae leg IV: genu 130; tibia 90; basitarsus 75. — Length fixed digit: 25; length movable digit: 25. — Spermatophoral process: major portion 17; branch 8.

Specimens studied

Female holotype taken in April 1971 from a mass rearing with *T. neocaledonicus* as host. This mass rearing was started with Phytoseiid mites collected on 8 and 9 March, 1971 on *Lantana camara*, *Lagerstroemia indica* and *Acalypha* sp. in the Agricultural Station in Tuléar. On close examination, this rearing appeared to contain two similar species, of which only *A. vazimba* in the long run survived.

Paratypes: all taken from the same mass rearing as the holotype: 8 females on 6-X-1972, 10 females and 6 males on 27-X-1972, 17 females on 17-XI-1972 (L. BLOMMERS).

Holotype deposited in the Paris Museum. Paratypes in both the Paris and Amsterdam Museum.

Remarks

MUMA and DENMARK (1971) consider *A. neolargoensis* v. d. Merwe a synonym of *A. largoensis* Muma 1955 (nec Muma 1961). We were not able to verify this. But *A. largoensis* Muma 1955 (sensu Ehara 1959) differs definitely from *A. neolargoensis*. Therefore, we prefer to preserve the latter name for the species described by VAN DER MERWE, until further study proves otherwise.

Zusammenfassung

Zwei neue Arten der Raubmilbengattung Amblyseius Berlese (Acar. Phytos.) aus Madagaskar

Die beiden Raubmilben-Arten *Amblyseius masiaka* n. sp. und *A. vazimba* n. sp. werden neu beschrieben und mit den verwandten Arten *A. stolidus* Chaudri und *A. neolargoensis* v. d. Merwe verglichen.

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