NEW SPECIES OF GENUS AMBLYSEIUS  
FROM AYUBIA, PAKISTAN

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ABSTRACT

A new species of genus Amblyseius i.e., Amblyseius hafeezi was collected during the year 2008 from Ayubia. It is illustrated and described in this research paper. The type was deposited in Acarology Research Laboratory, Department of Agricultural Entomology, University of Agriculture, Faisalabad. This new species has now raised the number of known species of genus Amblyseius from 46 to 47 from Pakistan.

KEYWORDS: Amblyseius hafeezi; new species, Pakistan.

INTRODUCTION

The genus Amblyseius is the most important and widely distributed genus of the family Phytoseiidae. The representatives of this genus are active predator of brevipalpid and tetranychid species. They are found on trees, shrubs, fruit trees, vegetables, grasses and on decaying leaf litter. They also feed on scale insects, eriophid mites (20).

Genus Amblyseius was erected by Berlese (5) and Zercon obtusus Koch was designated as its type species. Chant (8) gave the status of subgenus to genus Amblyseius. Pritchand and Baker (33) again recognized it as a genus. They divided it into groups and described 20 species in it. The earlier research work (6, 7, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 35, 37, 38, 39) is worth mentioning.

From Pakistan different researchers (1, 2, 3, 4, 9, 10, 11, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 36) have described 1, 2, 2, 2, 4, 3, 1, 1, 1, 1, 1, 2, 2, 1, 5, 2, 1, 2 and 9 new species, respectively. One new species has now been

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described in this research paper, thus making a total of 47 species (including one being published here at page 221) in this genus from Pakistan.

**MATERIALS AND METHODS**

Collection of predatory mites of genus *Amblyseius* Berleese was made from crops, fruit trees, vegetables and wild plants from Ayubia, Murree, Pakistan during 2008. The plant samples were beaten on a sieve held over a piece of white paper. Material received on the paper through sieve was examined on the spot with a hand lens. Phytoseid mites were sorted out on the spot and preserved in vials containing 50 percent alcohol and a few drops of glycerin. The required mites of the genus *Amblyseius* Berleese were sorted out and permanent slides were prepared by using Hoyer's medium. All the specimens were examined under a phase contrast microscope. Identification was made with the help of literature published (15) about the genus *Amblyseius*. All the measurements are given in µm. Drawing of different body was made by using ocular grid (Fig. A-F). The authors have adopted the Lindquist Evans System of Nomenclature (34).

![Fig. Different body parts of Amblyseius hafeezi, n.sp.](image)

A. Dorsal shield; B. Chelicera; C. Sternal, genital and ventrianal shields; D. Peritremal shield base; E. Spermatheca F. Leg IV.

**Female**

*Dorsum:* Dorsal shield smooth, pear-shaped, 370µm long, 220µm wide; 17 pairs setae, 4 pairs pores (2 pairs rounded, 2 pairs elliptical) (Fig. A). Chelicera
30μ long, movable digit with 3 teeth, fixed digit with 10 subapical teeth (Fig. B). All dorsal shield setae smooth except S4 serrate. Dorsal shield setae: j1 22μm; j4= j5= j6= j2= 12μm; J5 6μm; j3 24μm, z2= z4=10μm, s4 42μm, S2= S4= S5=10μm, Z5 247μm; z5= Z1=10μm, Z4 82μm; r3= R1=10μm (both on membrane). Seta j3 reaching base seta z2, z2<z2-z4, z4<z4-s4. Seta Z4 posterior to S4; 18μm and 20μm apart from setae S4 and S5, respectively (Fig. A). Peritreme reaching upto seta j1, tip straight. Peritremal shield base rounded posteriorly, pointed anteriorly (Fig. D).

**Venter:** Sternal shield smooth, 78μm long, 60μm wide; flat posteriorly, convex anteriorly, 3 pairs setae, 2 pairs pores; St1<St1-St2, St2<St2-St3 (Fig. C). Metasternal setae 1 pair, each seta on a separate platelet. Genital shield smooth, 78μm wide, 1 pair setae; wider than ventrianal shield width. Genital and ventrianal shields 21μm apart with a membranous fold in between. Ventrianal shield smooth, quadrate, broadly rounded anteriorly, deeply concave near preanal seta III; 109μm long, 57μm wide, 3 pairs preanal setae, 1 pair rounded pores (Fig. C). Metapodal platelets 2 pairs; primary 1 pair 26μm long, secondary 1 pair 12μm long. Four pairs setae including Jv5 57μm on membrane surrounding ventrianal shield (Fig. C).

**Legs:** Leg IV with 3 macrosetae, 1 seta each on genu, tibia and basitarsus measuring 130μm, 96μm and 85μm in length, respectively (Fig. F). Spermatheca: Cervix bell-shaped, 16μm long, 5μm wide; atrium rounded; major-duct tubular; vesicle irregular in shape (Fig. E).

**Male:** Not known.

**Type:**
Holotype female, collected from Ayubia (Saeed) on a wild plant and deposited in Acarology Research Laboratory, Department of Agri. Entomology, University of Agriculture, Faisalabad.

**Remarks**

*Amblyseius hafeezi*, new species can be separated from its closely related species *A. fusculus* (32) on the basis of following characters:
1. Cheliceral fixed digit with 2 teeth in *A. fusculus* but 8 teeth in this new species.
2. Dorsal shield with 10 pairs pores in *A. fusculus* but 4 pairs pores in this new species.
3. Dorsal shield seta Z5 smooth in *A. fusculus* but serrate in this new species.
4. Ventrianal shield pentagonal in *A. fusculus* but quadrate in this new species.
5. Leg IV macrosetae longer in *A. fusculus* but macrosetae smaller in length in this new species.
6. Shape of spermatheca varies in both the species.

*Amblyseius hafeezi* new species was also compared with closely related species *A. carnis* (29) and separated on the basis of following characters:

1. Dorsal shield striated laterally in *A. carnis* but smooth in this new species.
2. Cheliceral fixed digit with 7 teeth in *A. carnis* but 10 teeth in this new species.
3. All dorsal shield setae smooth in *A. carnis* but Z5 serrate in this new species.
4. Venterianal shield laterally striated in *A. carnis* but smooth in this new species.
5. Membranous fold is absent in *A. carnis* but present in this new species.
6. Shape of spermatheca differ in both the species.

REFERENCES


