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Two New Species of the Genus *Agauopsis* (Acari: Halacaridae) from Korea

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Tapas Chatterjee and Cheon-Young Chang (2007) Two new species of the genus *Agauopsis* (Acari: Halacaridae) from Korea. *Zoological Studies* **46**(2): 176-185. Two new halacarid species of the genus *Agauopsis* (Acari: Halacaridae), collected from South Korea, are described. Both species belong to the *A. brevipalpus* group. *Agauopsis ivanomorsellii* sp. nov. is characterized by an "H" -shaped areola on the anterior dorsal plate (AD), the posterior dorsal plate (PD) with 4 costae, dorsal setae-4 situated on the PD, telofemur I with a ventral and 2 ventromedial spines, the female genitoanal plate (GA) slightly arched anteriorly, and the male GA truncated anteriorly. *Agauopsis youngilensis* sp. nov. is characterized by an "M" -shaped areola on the AD, a PD with 4 costae, 2 ventral and 2 ventromedial spines on telofemur I, the male GA slightly arched anteriorly, and the female GA anteriorly truncated or slightly arched. Dissimilarities with related species are discussed. http://zoolstud.sinica.edu.tw/Journals/46.2/176.pdf

Key words: Acari, Halacaridae, *Agauopsis*, New species, South Korea.

Agauopsis Viets is the most speciose genus along with *Halacarus* in the subfamily Halacarinae (Acari). It contains about a quarter of all Halacarinae species currently described. *Agauopsis* is known from intertidal to bathyal zones worldwide. However, in the northwestern Pacific, the taxonomic study on the genus is rather scanty, and only 7 species have been recognized: *A. robusta* Sokolov from the Russian coast of the Sea of Japan (Sokolov 1952), *A. pseudoornata* Bartsch from Mactan I., Cebu, the Philippines (Bartsch 1985a), *A. okinavensis* Bartsch from Okinawa I., Japan (Bartsch 1986), and *A. humilis* Bartsch, *A. sordida* Bartsch, *A. ammodytes* Bartsch, and *A. arenaria* Bartsch from Hong Kong (Bartsch 1992a b). This is the first record of the genus *Agauopsis* from Korea.

Among 81 species described to the end of 2005 (Pepato and Tiago 2005, Bartsch 2005), the majority have been attributed to 8 or more species groups (Bartsch 1986 1996a b 2003 2005, Bartsch and Chatterjee 2001, Otto 1994 1999, Pepato and Tiago 2003 2005). Two new species from South Korea, *A. ivanomorsellii* and *A. youngilensis*, belonging to the *A. brevipalpus* group are described herein.

MATERIALS AND METHODS

Materials examined in the present study were collected from Jeju I. and Youngil Bay, South Korea among coralline sediments. Samples were filtered through a nylon net (64 μm in pore diameter) after anesthetizing the halacarid mites with a 7% $MgCl_2$ solution for about 30 min, rinsed with freshwater for osmotic shock, and then fixed and stored in 80% ethanol.

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Halacarids were cleared in lactic acid and mounted in glycerine jelly. Drawings were prepared using a camera lucida under a differential interference contrast microscope with Nomarski optics. Type specimens are deposited in the Department of Biology (DB), Daegu University, Korea. The material stored in the collection is referred to by the DB-numbers in the description.

The following abbreviations are used in the text and figure legends: AD, anterior dorsal plate; AE, anterior epimeral plate; ds_{1-6}, dorsal setae 1-6 on the idiosoma; GA, genitoanal plate; GO, genital opening; mc, membranous cuticle between plates; OC, ocular plate(s); PAS, parambulacral setae; PD, posterior dorsal plate; PE, posterior epimeral plate(s); PGS, perigenital setae; P_{1-4}, 1st to 4th palpal segments; SGS, subgenital setae.

The position of a seta is given in a decimal system, with reference to the length of a plate, from the anterior to posterior margin.

SYSTEMATIC ACCOUNTS

Family Halacaridae Murray, 1877
Subfamily Halacarinae Viets, 1927
Genus *Agauopsis* Viets, 1927

***Agauopsis ivanomorsellii* sp. nov.**
(Figs. 1-14)

Material examined: Holotype: ♀ (DB00040), among coralline algae, Jocheon (33°32'21''N, 126°38'03"E), Jeju I., S. Korea, 25 Jan. 2003 (leg. C. Y. Chang and J. M. Lee). Paratypes: 1 ♂ (DB00041), 1 ♀ (DB00042), collection data same as for holotype.

Description of holotype female: Idiosoma (Fig. 1) 642 μm long, 480 μm wide, anteriorly with small spinelet. AD 216 μm long, 204 μm wide with an "H" -shaped areola; longitudinal costa of areola 2 porose panels wide. Paired ds_1 situated at 0.29 level of AD on anterior edge of costae.

OC 144 μm long, 93 μm wide (length to width ratio about 1.54); with 2 corneae; a transverse porose areola; brownish pigment on upper cuticular layer near corneal zone; gland pore and pore canaliculus behind posterior cornea; distance between gland pore and posterior cornea less than diameter of cornea; ds_2 on mc between AD and OC; ds_3 on mc between AD and PD.

PD 330 μm long, 267 μm wide (length to width ratio about 1.2); anteriorly arched; paired middle costae 3 to 4 porose panels wide; each panel containing 3-9 canaliculi arranged in groups (Fig. 7), paired lateral costae 2 to 3 porose panels wide; middle costae divergent anteriorly, joining posteriorly; lateral costa and middle costa joining anteriorly; rest of plates with canaliculi, 6-9 canaliculi arranged in groups present near anterior margin (Fig. 8), while on other parts of plates canaliculi rather uniformly scattered (Fig. 9); ds_4 and ds_5 situated on PD at 0.20 and 0.43 level of PD, respectively, distance from ds_3 to ds_4 90 μm, ds_4 to ds_5 85 μm; ds_5 close to lateral costa; ds_6 near posterior margin of PD.

All ventral plates separate and porose (Fig. 2). AE 219 μm long, 453 μm wide, with 3 pairs of ventral setae and a pair of epimeral pores. Posterior margin of AE arched. PE with 3 ventral setae and 1 dorsal seta. GA 233 μm long, 268 μm wide, anterior margin slightly arched. GO 129 μm long, 64 μm wide. Distance between anterior end of GO and that of GA 56 μm, about 0.43 times GO length. Four pairs of PGS present; 1st and 2nd pairs anterior to GO; 3rd and 4th pairs adjacent to middle and posterior side of GO (Fig. 5). SGS absent.

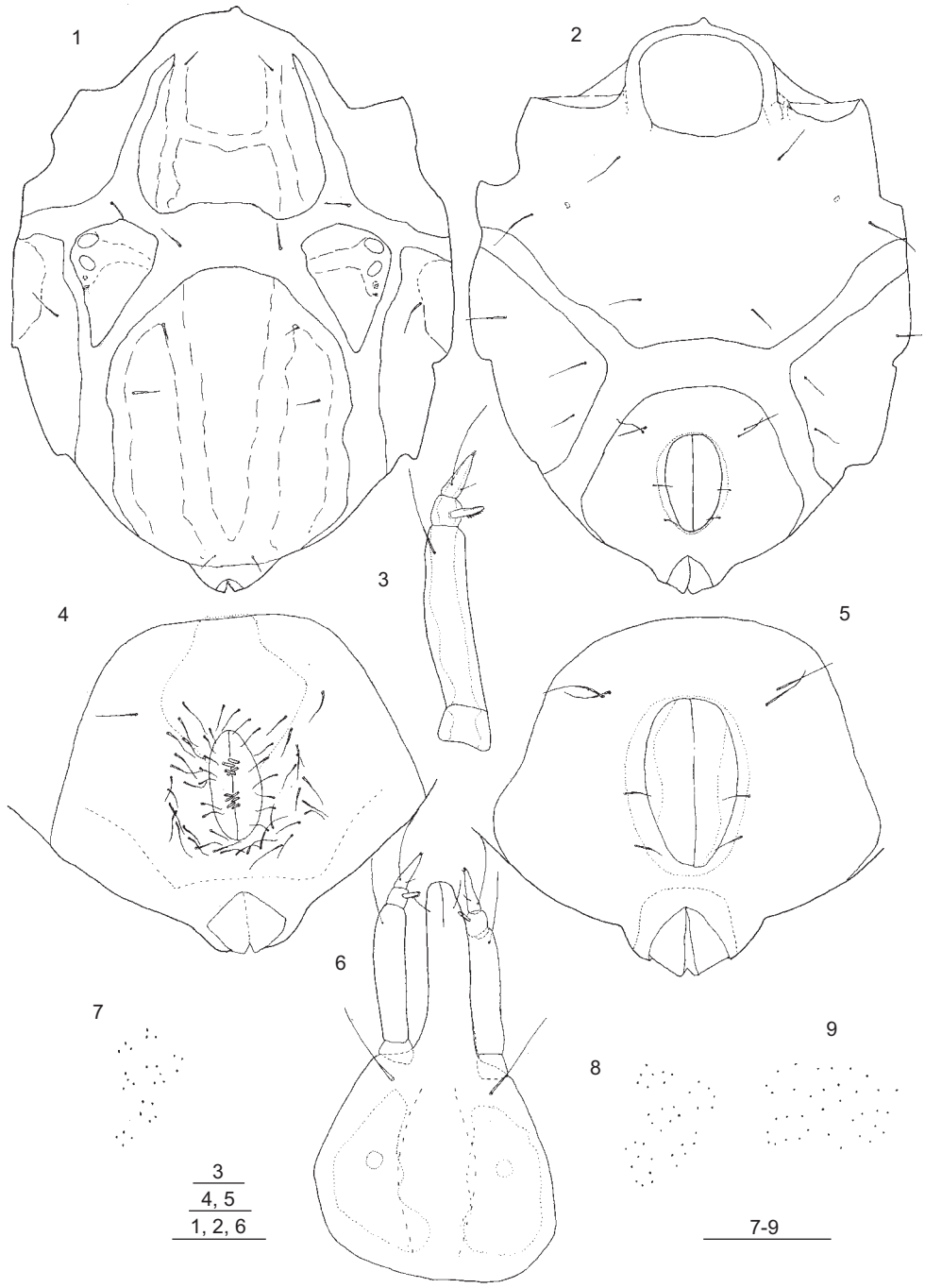
Gnathosoma (Fig. 6) 213 μm long, 132 μm wide; length to width ratio about 1.6. Gnathosomal base ventrolaterally porose. Palp (Fig. 3) consisting of 4 segments. Tip of rostrum extending to middle of P_4. Lengths of P_{1-4} 13, 72, 12, and 21 μm, respectively. P_1 devoid of any seta; P_2 with 1 dorsal seta distally; P_3 with 1 denticulated spine ventromedially, 15 μm long, longer than P_3. P_4 with 2 basal setae and 2 small apical spurs. Proto- and deutorostral setae situated at tip of rostrum; tritorostral setae located on anterior part above middle of rostrum; gnathosomal base with a pair of setae (basirostral setae).

All legs pierced by canaliculi. Leg I stout and longer than following legs. Chaetotaxy of legs (Figs. 10-13): trochanter 1-1-1-0; basifemur 2-2-2-2; telofemur 8-6-3-3; patella 5-5-3-3; tibia 9 (or 10, on the other side of leg)-8-5-5; tarsus (PAS excluded) 7-4-3-3. Telofemur I with 1 ventral and 2 ventromedial spines; patella I with 2 spines (ventral spine shorter than ventromedial one); tibia I with 1 ventral and 2 ventromedial spines; tarsus I with 1 ventromedial spine (Figs.10-14). Telofemora II-IV about 2.09, 2.02, and 2.07 times longer than wide, respectively. Tibia II with 2 spiniform ventral setae and 1 short bipectinate ventromedial seta. Tibiae III and IV furnished with 2 spiniform ventral setae. Tarsus I with 3 dorsal setae, 1 solenidion, 1 thick ventromedial spine, 2 ventral setae, and 2 dou-

blets eupathid PAS (Fig. 14). Tarsus II with 3 dorsal setae, 1 solenidion, 1 spur-like, and 1 eupathid PAS. Tarsi III and IV each with 3 dorsal setae and 1 spur-like PAS.

Claws on tarsus I shorter than those on succeeding tarsi, smooth ventrally, devoid of accessory process. Claws on tarsi II-IV with accessory process; pectines present on both convex and concave portion of claws, the former with 9 or 10 tines, the latter with about 13-15 tines. Carpite well developed on distal portion of tarsi II-IV, small carpite on tarsus I. Tarsus I with bidentate median claw; median claw absent from tarsi II-IV.

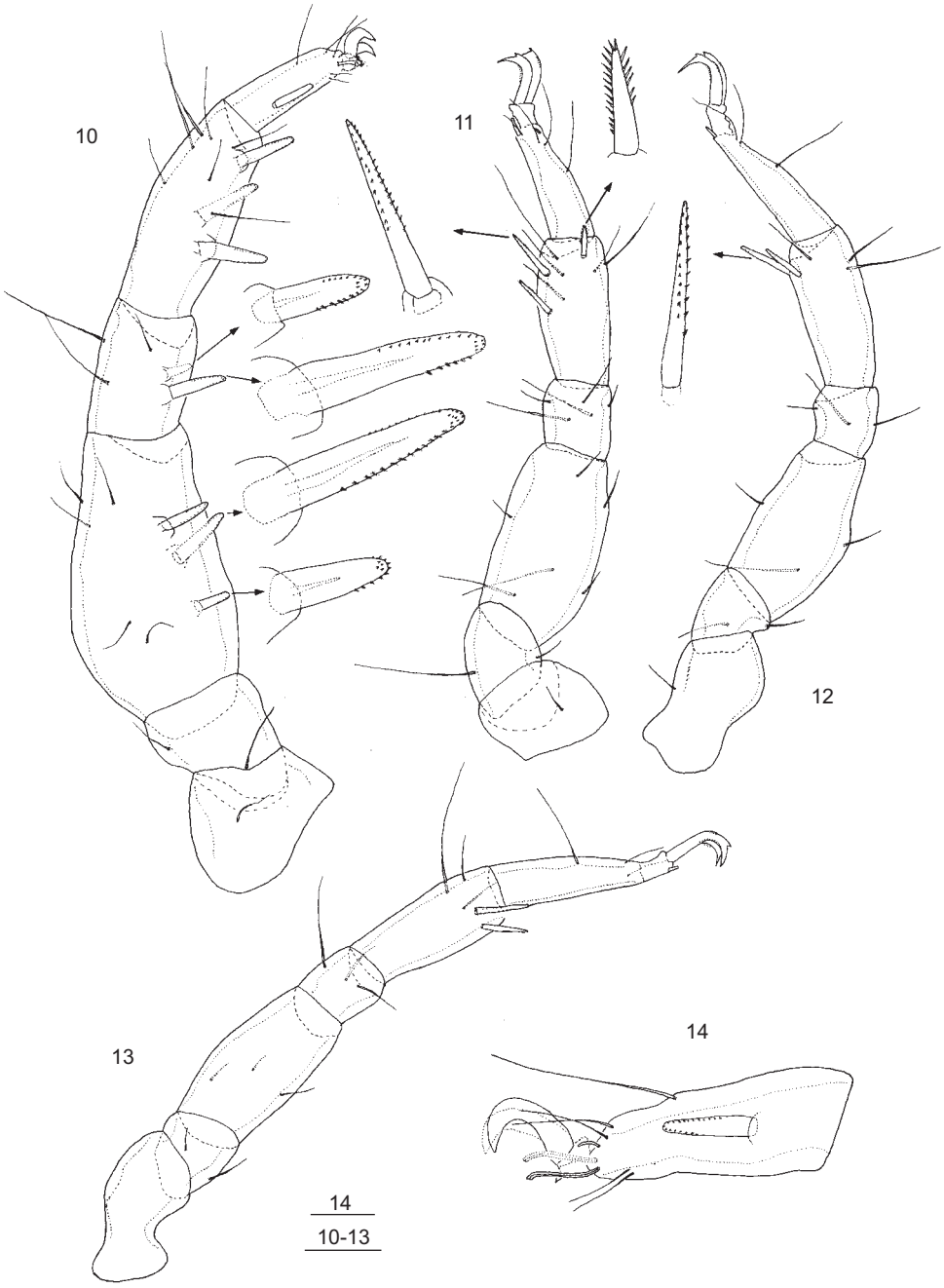
Male: Idiosoma 525 μm long. Setae ds_1



Figs. 1-9. *Agauopsis ivanomorsellii* sp. nov. 1-3, 5, 6: female; 4, male. **1.** Idiosoma, dorsal; **2.** idiosoma, ventral; **3.** palp; **4.** genitoanal plate (GA) of male; **5.** GA of female; **6.** gnathosoma; **7.** canaliculi on costae; **8.** canaliculi near anterior margin of posterior dorsal plate (PD); **9.** canaliculi near middle of PD. (Scale bars: 1, 2, 6 = 100 μm; 4, 5 = 40 μm; 3, 7-9 = 20 μm).

located at 0.33 level of AD. PD anteriorly arched, length to width ratio of PD about 1.2; middle costae 3 to 4 porose panels wide, lateral costae 1 porose panel wide. Posterior margin of AE arched. GA 234 μm long, 264 μm wide, anteriorly truncate (Fig. 4). GO 78 μm long, 35 μm wide; distance between anterior end of GO and that of GA 75 μm. Fifty-four PGS present in 2 rings, pair of outlying setae almost at same level as anterior setae of ring of PGS on 1 side, while slightly anterior on other side. Spermatopositor large, anterior end touching anterior margin of GA. Five pairs of spur-like SGS present.

Variability: Paratype female 597 μm long. In paratype female, middle costa 3 porose panels wide (3 to 4 panels wide in holotype female), lateral costa 1-2 panels wide (2-3 panels wide in holotype). Position of ds_1 varying from 0.25 to 0.33



Figs. 10-14. *Agauopsis ivanomorsellii* sp. nov., female. **10-13.** Legs I-IV; **14.** tarsus I. (Scale bars: 10-13 = 100 μm; 14 = 20 μm).

level of AD in 3 type specimens.

Etymology: The specific name, *ivanomorsellii*, is named after Prof. Ivano Morselli, Università di Modena e Reggio Emilia, Italy.

Habitat and associated fauna: Specimens were collected from an algal bed on a breakwater of granite blocks in Jocheon Harbor, Jeju I., with a water temperature of 12.5°C and a salinity of 33.5‰ on 25 Jan. 2003. Algal flora mostly consisted of coralline algae, with sparse brown algae like *Ecklonoa cava* and *Sargassum thunbergi*. This species co-occurred with *Copidognathus polyporus* Bartsch, 1991, *C. koreanus* Chatterjee and Chang, 2003, *C. jejuensis* Chatterjee and Chang, 2004, and *C. fistulosus* Chatterjee and Chang, 2005 and other invertebrates like *Echinoderes lanceolatus* (Kinorhyncha), *Desmoscolex* sp. (Nematoda), *Ammothea higendorfi* (Pycnogonida), *Pollicipes mitella*, *Tetraclita japonica* (Cirripedia), *Parathalestris* sp. (Copepoda), *Caprella scaura* (Amphipoda), *Pagurus geminus*, and *Pachygrapsus crassipes* (Decapoda).

Remarks: *Agauopsis ivanomorsellii* sp. nov. belongs to the *A. brevipalpus* group (Bartsch 1986 2003, Bartsch and Chatterjee 2001). The *brevipalpus* group is generally characterized by the combination of the following: AD with "H" -shaped costae, PD with a pair of costae, porose ventral plates, P_3 with a blunt denticulate spur, P_4 with 2 basal setae, telofemur I with 1-5 spines, tibia I with 3 spines, tarsi I-IV each with 3 dorsal setae, tarsus II with 1 spur-like and 1 eupathid PAS, and tarsi III and IV each with 1 spur-like PAS.

Species of the *brevipalpus* group may have 1-5 spines on telofemur I (Bartsch 2003). In having 3 spines on telofemur I, the present new species is allied with *A. newelli* Krantz, 1973 from Oregon and California (Krantz 1973, Macquitty 1984), *A. reticulates* Newell, 1984 from Chile (Newell 1984), *A. luxtoni* Bartsch, 1985, and *A. novaezelandiae* Bartsch, 1985 from New Zealand (Bartsch 1985b). *Agauopsis filirostris* Macquitty, 1983 from California (Macquitty 1983 1984) has 3 or 4 spines on telofemur I (2 females had 3 spines on the left telofemur I and 4 spines on the right telofemur I, while other females and males had 3 spines on both the left and right telofemora I).

Agauopsis ivanomorsellii sp. nov. differs from the above congeneric species in the following characteristics. Setae ds_4 are located on PD in *A. ivanomorsellii*, while these are on mc in *A. newelli*, *A. reticulatus*, *A. luxtoni*, and *A. filirostris*. PD bears 4 costae in *A. ivanomorsellii*, while it bears 2 costae in *A. filirostris* and *A. reticulatus*, no costa in *A. novaezelandiae*, and very weak lateral costae in *A. newelli*. The "H" -shaped areola is present on the AD in *A. ivanomorsellii*, while an "M" -shaped areola is present in *A. newelli*, 2 thin lateral costae are present in *A. reticulatus*, and no costae are present in *A. novaezelandiae*. *Agauopsis novaezelandiae* is characterized by a relatively small rostrum, while the AD of *A. filirostris* has a tridentate frontal margin. Tibia II of *A. luxtoni* has 2 pectinate spiniform setae and tibiae III and IV each has 1 spiniform seta, while tibia II of *A. ivanomorsellii* has 3 pectinate setae and tibiae III and IV each has 2 spiniform setae.

Agauopsis youngilensis sp. nov.

(Figs. 15-24)

Material examined: Holotype ♀ (DB00043), Masan-ri (35°41'30"N, 135°20'30"E), Youngil Bay, S. Korea, 14 Nov. 2004, leg. C. Y. Chang and J. M. Lee. Paratypes: 2 ♀♀ (DB00044-45), collection data same as for holotype; 1 ♂ (DB00046), same locality, 4 Nov. 2004, leg. C. Y. Chang and T. Chatterjee. Additional material: 1 ♀, collection data same as for holotype; 2 ♀♀, same locality, 28 Nov. 2004, leg. C. Y. Chang.

Description of holotype female: Idiosoma (Fig. 15) 585 μm long, 468 μm wide, anteriorly with small spinelet. Costae on dorsal plates with porose panels, each panel containing numerous canaliculi arranged in groups; rest of plates reticulated by cuticular bars, each reticulum very delicately subdivided on cuticular layer (seen at higher magnification under oil immersion), containing numerous canaliculi in deeper layer (Fig. 24). AD 213 μm long, 192 μm wide; anterolaterally swelling below apex, with an "M" -shaped areola (Fig. 15), longitudinal costa of areola 2 porose panels wide. Paired gland pores present on anterolateral part of AD. Paired ds_1 situated at 0.26 level of AD on anterior edge of costae. AD truncate posteriorly.

OC 123 μm long and 84 μm wide, length to width ratio about 1.46; with 2 corneae and 1 transverse porose areola; gland pore and pore canaliculas behind posterior cornea; interval between gland pore and posterior cornea less than diameter of cornea; ds_2 on mc between AD and OC; ds_3 on mc between AD and PD.

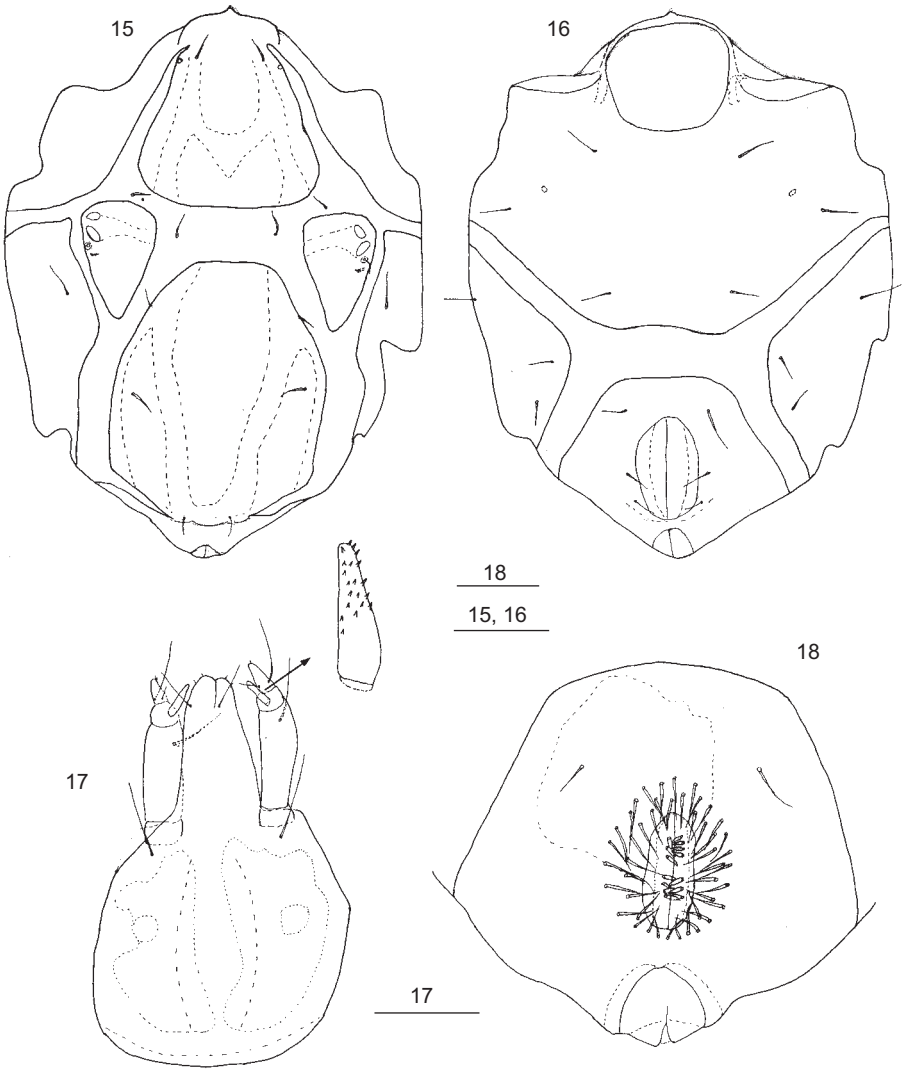
PD anteriorly truncated, 276 μm long, 224 μm wide (length to width ratio about 1.2). Paired medial costae, 2 porose panels wide at middle and 3 porose panels wide posteriorly. Medial costae divergent anteriorly, joining posteriorly; lateral

costa and middle costa joining anteriorly; ds_4 on very margin of PD at 0.19 level of PD; ds_5 on PD (on 1 side at 0.48 level, while on other side at 0.51 level of PD). Setae ds_6 situated near posterior end of PD.

All ventral plates separate and porose. AE 207 μm long, 438 μm wide with 3 pairs of setae and a pair of small epimeral pores. Posterior margin of AE slightly arched. PE bearing 3 ventral and 1 dorsal setae. GA 189 μm long, 240 μm wide. GO 108 μm long; distance between anterior end of GO and that of GA 41 μm, about 0.38 times GO length. GA anteriorly truncate (or slightly arched in paratype). Three pairs of PGS present; 1st pair anterior to GO; 2nd and 3rd pairs adjacent to middle and posterior side of GO, respectively (Fig. 16).

Gnathosoma (Fig. 17) 195 μm long, 125 μm wide (length to width ratio about 1.56). Gnathosomal base ventrolaterally porose. Palp 4-segmented; P_{1-4}: 12, 49, 12, and 18 μm long, respectively. Tip of rostrum extending up to middle of P_4. P_1 devoid of seta; P_2 with 1 seta distodorsally; P_3 with 1 denticulated spine ventromedially, 18 μm long, 1.5 times longer than P_3. P_4 with 2 basal setae and 2 minute apical spurs. Proto- and deuterorostral setae situated at tip of rostrum; tritorostral setae on anterior 1/2 of rostrum; gnathosomal base with a pair of setae (basirostral setae).

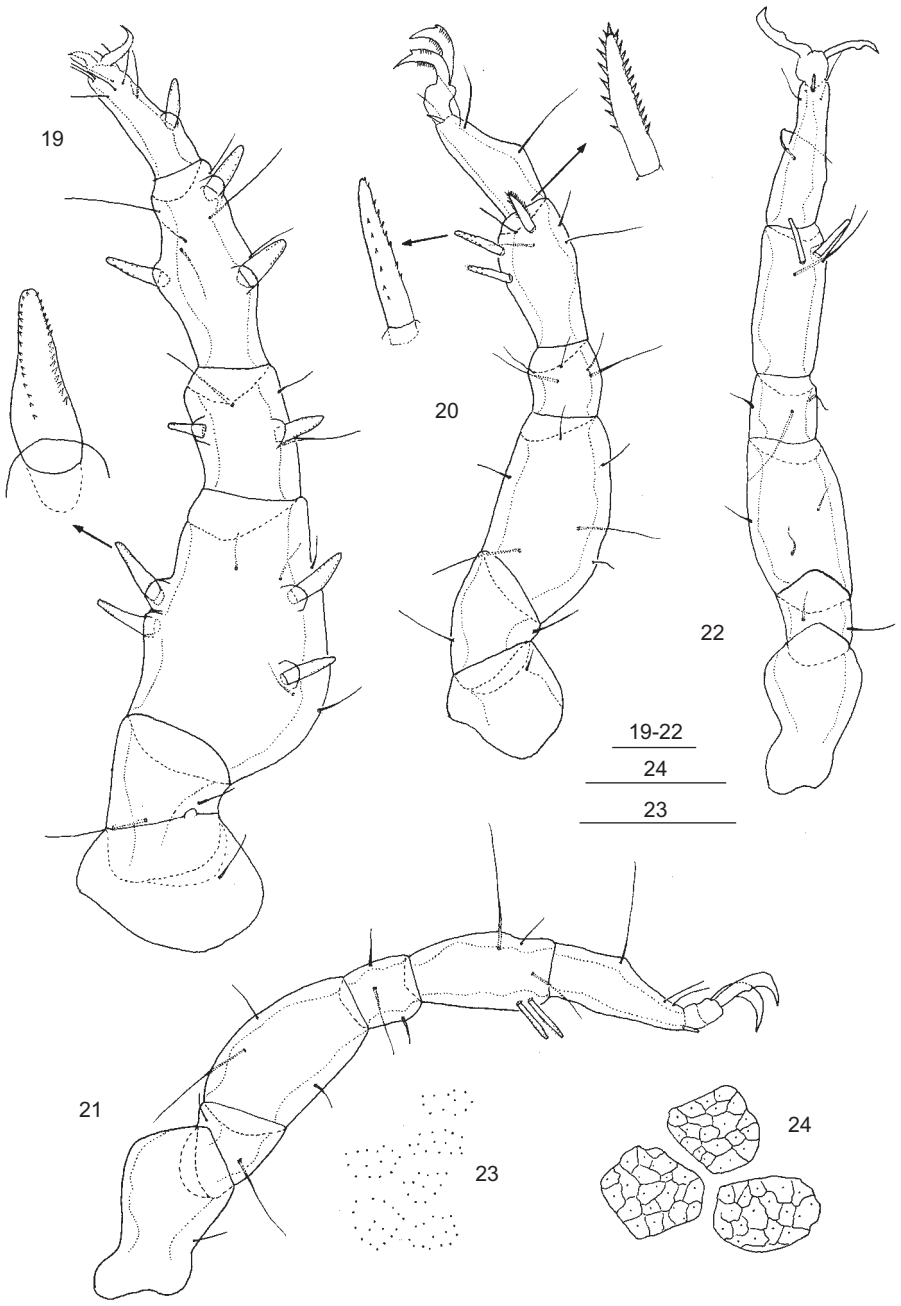
All legs pierced by canaliculi. Leg I stout and longer than following legs. Reticulations present on telofemora I and II. Chaetotaxy of legs



Figs. 15-18. *Agauopsis youngilensis* sp. nov. 15-17, Female holotype; 18, male paratype. **15.** Idiosoma, dorsal; **16.** idiosoma, ventral; **17.** gnathosoma; **18.** genitoanal plate (GA) of male. (Scale bars: 15, 16 = 100 μm; 17, 18 = 40 μm).

(trochanter to tibia): trochanter 1-1-1-0; basifemur 2-2-2-2; telofemur 9-6-3-3; patella 5-5-3-3; tibia 9-7-5-5. Length to width ratios of telofemora II-IV: 1.86, 1.7, and 1.88, respectively. Telofemur I with 2 ventral and 2 ventromedial spines; patella I with 1 ventral and 1 ventromedial spines (ventral spine shorter than ventromedial one); tibia I with 1 ventral and 2 ventromedial spines; tarsus I with 1 ventromedial spine (Fig. 19). Tibia II with 2 slightly pectinate ventral spiniform setae and 1 bipectinate, thick, flattened ventromedial seta (Fig. 20). Tibiae III and IV with 2 slightly pectinate, spiniform ventral setae (Figs. 21, 22). Tarsus I bearing 3 dorsal setae, 1 minute solenidion, 1 thick ventromedial spine, 2 ventral setae, and 2 doublets eupathid PAS. Tarsus II with 3 dorsal setae, 1 spur-like, and 1 eupathid PAS. Tarsi III and IV each with 3 dorsal setae and 1 spur-like PAS.

Claws of tarsus I slightly shorter than those on succeeding tarsi, smooth ventrally and without



Figs. 19-24. *Agauopsis youngilensis* sp. nov., female. **19-22.** Legs I-IV; **23.** canaliculi on costae of PD; **24.** reticulum on PD. (Scale bars: 19-22 = 100 μm; 23 and 24 = 20 μm).

accessory process or pectines. Claws on tarsi II with accessory process, pectines present on both convex and concave portions of claws, the former pectines with about 8 tines, the latter with about 10 tines, dorsal side of claw also with minute pectines. Claws of tarsi III and IV slightly crenulated ventrally and devoid of pectines. Carpite well developed on distal portion of tarsi II-IV, small carpite on tarsus I. Tarsus I with bidentate median claw; median claw absent from tarsi II-IV.

Male: Idiosoma 565 μm long. AD 66 μm long, 62 μm wide. Seta ds_1 at 0.25 level of AD. OC 42 μm long, 27 μm wide, length to width ratio of OC 1.55. Setae ds_4 on 1 side near margin of PD, while on other side little inside of PD; ds_5 at 0.5 level on PD. PD 306 μm long and 234 μm wide (length to width ratio 1.3); narrow anteriorly and truncate. GA (Fig. 18) 211 μm long, 220 μm wide (Fig. 18). GO 73 μm long, 24 μm wide. Distance between anterior end of GO and that of GA about 1.15 times GO length. Anterior margin of GA wide, slightly arched. Right genital sclerites with 3 SGS anteriorly and 4 SGS posteriorly, while on left side with 4 SGS on anterior 1/2 and 3 SGS on posterior 1/2. About 42 PGS around GO plus 2 outlying PGS present anterior to GO. Spermatopositor large, anterior end a little apart from anterior margin of GA. Gnathosoma 149 μm long, 98 μm wide (length to width ratio about 1.5). Rostrum short, 57 μm long. P_{1-4}: 9, 41, 10, and 17 μm long, respectively. After warming the preparations during permanent mounting of the specimen, the costae on AD and PD became very faint and very difficult to separate from reticulate polygons on remaining plates.

Variability: Setae ds_4 on right side of a female specimen located on margin of PD anteriorly, but on left side on mc just above margin of PD, while in other females ds_4 situated on margin of PD on both sides. Length to width ratio of OC varying from 1.46 to 1.7. Position of ds_5 varying from 0.48 to 0.51 level of length of PD. Anterior margin of GA in female truncate in holotype, while slightly arched in paratype. Frontal spinelet on AD in female paratype slightly longer than in holotype.

Etymology: The specific name, youngilensis, is named after the type locality, Youngil Bay, Korea.

Habitat and associated fauna: The present species was collected by washing out coralline algae and submerged macroalgae (*Ulva pertusa*, *Caulerpa okamurae*, *Sargassum siliquastrum*, etc.) on shallow sublittoral rocks of less than 1 m in depth, on the southeastern coast of South Korea; with a water temperature of 11.8°C and salinity of 34.2‰ on 14 Nov. 2004. Associated fauna consisted of *Copidognathus jejuensis* Chatterjee and Chang, 2004 and 2 unknown *Agaue* species, with other invertebrates like *Halichondria oshoro* (Porifera), *Tubulanus* sp. (Nemertea), *Tricoma* (*Qudricoma*) sp. (Nematoda), *Hydroides ezoensis* (Polychaeta), *Ammothea higendorfi* (Pycnogonida), *Peltidium quinquesetosum*, *Ambunguipes rufocincta*, *Dactylopodamphiascopsis latifiloius* (Copepoda), *Caprella acutifrons* (Amphipoda), *Pugettia quadridens*, *Rhynchoplax messor* (Decapoda), and *Anthocidaris crassispina* (Echinodermata).

Remarks: *Agauopsis youngilensis* sp. nov. is a member of the *A. brevipalpus* group. Among members of the *brevipalpus* group, *A. youngilensis* most resembles *A. newelli* from Oregon and California, the eastern coast of the Pacific in sharing the character combination of "M" -shaped areolae on AD (among members of the *brevipalpus* group, this character is present only in *A. newelli* and *A. youngilensis*), the rostrum and palp being shorter than the base of the gnathosoma, patella I with 2 spiniform setae, tibiae I and II with 3 spiniform setae, and pectines on lateral claws of tarsus II only. However, they show discrepancies as follows: AD gradually narrows anteriorly without lateral swelling in *A. newelli*, while below apex, it swells laterally in *A. youngilensis*; GA anteriorly narrows and is convex in female of *A. newelli*, while it is relatively wider, almost truncate or slightly arched, in *A. youngilensis*; and lateral costae are very weakly developed and present only anteriorly in *A. newelli* (cf. Krantz 1973, fig. 8), while complete, running from anterior to posterior on PD in *A. youngilensis*. Telofemur I of *A. newelli* bears 3 spines, while it bears 4 spines in *A. youngilensis*. Telofemur II is furnished with 5 setae, and patella II has 4 setae in *A. newelli* (cf. Krantz 1973, Fig. 12), while telofemur II has 6 setae and patella II has 5 setae in *A. youngilensis*. Description of *A. newelli* given by Krantz is devoid of illustration of legs III and IV and details of the cuticular reticulation on dorsal plates, which are needed for more-detailed comparisons.

In sharing the characteristics of 2 ventral and 2 ventromedial spines on telofemur I, *A. youngilensis* is allied with 12 species of the *A. brevipalpus* group, viz. *A. arabia* Bartsch and Chatterjee, 2001 from India, Arabian Sea and Bay of Bengal (Bartsch and Chatterjee 2001, Chatterjee et al. 2004), *A. arborea* Bartsch, 2003 from Dampier, western Australia (Bartsch 2003), *A. atacamae* Newell, 1984 from Chile (Newell 1984), *A. borealis*

Newell, 1947 from North American Atlantic coast (Newell 1947), *A. brevipalpus* (Trouessart, 1889) from eastern North Atlantic (Trouessart 1889, Green and Macquitty 1987, Bartsch 1996b), *A. ibssi* Bartsch, 1996 from Black Sea (Bartsch 1996b), *A. legionium* Pepato and Tiago from southeastern Brazil (Pepato and Tiago 2005), *A. littoralis* Bartsch and Iliffe, 1985 from North Atlantic Bermuda Is. (Bartsch and Iliffe 1985), *A. moorea* Bartsch, 1992 from Society Is., Pacific Ocean (Bartsch 1992c), *A. ripa* Otto, 1999 from eastern Australia (Otto 1999), *A. sordida* Bartsch, 1992 from Hong Kong (Bartsch 1992a), and *A. obtusa* Bartsch, 2005 from western Australia (Bartsch 2005).

Agauopsis arabia, *A. arborea*, *A. borealis*, *A. brevipalpus*, *A. ibssi*, *A. legionium*, *A. littoralis*, *A. moorea*, *A. obtusa*, *A. ripa*, and *A. sordida* have an "H" -shaped areola on the AD, while A. youngilensis has an "M" -shaped areola on the AD. The rostrum is almost as long as the gnathosomal base in *A. arabia*, *A. borealis*, *A. brevipalpus*, *A. ibssi*, *A. littoralis*, and *A. moorea*; slightly longer than the gnathosomal base in *A. ripa*; and clearly longer than the gnathosomal base in *A. legionium*, while it is about 0.65 of the gnathosomal base in *A. youngilensis*. *Agauopsis obtusa* has a single basal seta on P_4 while *A. youngilensis* has 2 basal setae. Tibiae III and IV of *A. youngilensis* are furnished with 5 setae (two of which are bipectinate), while there are 4 setae in *A. atacamae*, 6 setae (three of which are spiniform) in *A. littoralis*, and all 5 setae are slender in *A. arborea*. The interval between the posterior cornea and gland pore on OC is larger than the diameter of the posterior cornea in *A. moorea*, while the gland pore is close to the posterior cornea in *A. youngilensis*. *Agauopsis youngilensis* has medial (2-3 porose panels wide) and lateral costae on PD, while *A. ibssi* has no costae on PD, and *A. atacamae* has very thin medial costae. The female of *A. sordida* is characterized by its slightly wider than long PD, while it is about 1.2 times longer than wide in *A. youngilensis*.

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