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NEW ORIBATIDS (ACARI: ORIBATIDA) FROM THAILAND*

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Four oribatid species are described as new to science from Thailand. Two of them belong to the family Lohmanniidae, while the other two to the Galumnidae. With 14 original figures.

Key words: Acari, Oribatida, taxonomy, new species, Thailand

In 1994 we made extensive collectings in various regions of Thailand in order to secure soil, litter, moss and other samples (MAHUNKA & MAHUNKA-PAPP 1994). The elaboration of oribatids has already begun. For the time being I am publishing those taxa which have either taxonomic or zoogeographic significance. The work is an integral part of a research programme aimed to investigate the relationship existing between the fauna of East Africa and the Oriental Region.

This time I present the description of two new species belonging to the family of Lohmanniidae and two to Galumnidae. Especially interesting are those relegable to Lohmanniidae, since the genus *Paulianacarus* is found both in the Ethiopian and the Oriental Regions clearly demonstrating the connection that had existed in prehistorical times.

The aims and methods applied have been discussed in my previous papers (e.g. MAHUNKA 1995).

Abbreviations: HNHM = deposited in the Hungarian Natural History Museum, Budapest; MHNG = deposited in the Museum d'Histoire Naturelle, Genève.

LOHMANNIIDAE BERLESE, 1916

Annectacarus krachan sp. n.
(Figs 1–2)

Measurements. – Length of body: 471–499 μm, width of body: 241–263 μm.

Prodorsum: Rostral apex conical, with a sharply pointed apex. All five pairs of notogastral setae long, well pilose. Sensillus with 18–20 very long branches, having small spicules opposite the branches.

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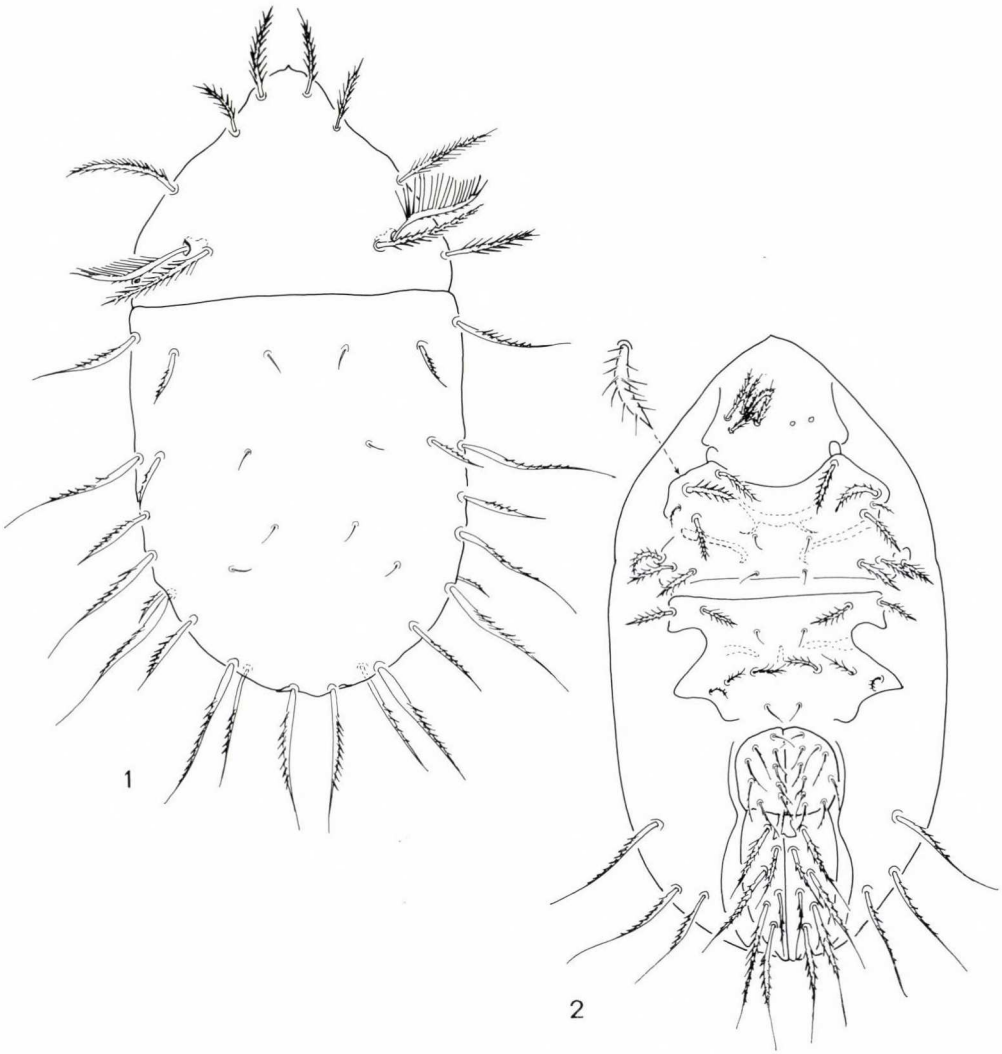


Figs 1–2. *Annectacarus krachan* sp. n.: 1 = body in dorsal aspect, 2 = body in ventral aspect

Notogaster: No transverse bands were observable. Among the setae great differences exist, setae c_1, d_1, e_1 and h_1 very short, simple. Some of the others (e.g. c_2, d_2, etc.) sword-shaped, marginal setae with a very long flagellate end (Fig. 1). All setae unilaterally ciliate.

Ventral regions: Subcapitulum with 6–7 setae, sometimes in asymmetric position. All slightly dilated. Epimeral neotrichy present, epimeral setal formula: 5 – 4 – 3 – 4. Some of the setae simple and short (*1a*, *2a*, *3a* and *4c*), the others digitiform or tubuliform; all bearing long spines (Fig. 2). Genital plates undivied, with 10 pairs of simple, thin but ciliate genital setae. Six pairs arising medially, while four pairs laterally. Preanal plate narrow. Anal and adanal plates fused, with 4+2 long, setiform, well-ciliate setae. Anal setae shorter than the adanal ones.

Legs: monodactyle.

Material examined: Thailand, Kaeng Krachan (Phetchaburi), Kaeng Krachan National Park, Camp. 9. II. 1994. – Berlese sample from root system and from debris of a decaying palm. Leg. S. MAHUNKA & L. MAHUNKA-PAPP. Holotype (1517-HO-1995) and 5 paratypes deposited in the HNHM, 1 paratype in the MHNG

Derivatio nominis: named after the Kaeng Krachan National Park where the new species was collected.

Paulianacarus rugolosus sp. n.
(Figs 3–5)

Measurements. – Length of body: 653–764 µm, width of body: 305–376 µm.

Prodorsum: Anterior margin of rostrum slightly excavated, with two lateral teeth or weakly waved medially. Prodorsal surface finely rugulose. All five pairs of prodrosal setae very short, mostly smooth. Sensillus setiform, thin, without branches, only unilaterally spinose or ciliate.

Notogaster: Its sculpture, especially on the posterior part similar to the prodorsal one. Some porose area also present in irregular position. Transverse bands present only on the anterior half of notogaster, but only the first one is continuous, the next three are interrupted medially (Fig. 3). All notogastral setae setiform, short or minute, hardly observable.

Ventral sides (Fig. 4): Four pairs of subcapitular setae present, simple. No epimeral neotrichy, epimeral setal formula: 3 – 1 – 3 – 4. Excepting setae *4d* all setae short and simple, the latter one well thickened, with thick spines (Fig. 5). Genital plates undivided, with 9(!) pairs of minute genital setae, 6 pairs among them arising by the median margin and 3 pairs laterally. Anal and adanal plates fused, a short crista observable on the distal part

Legs: monodactyle and stout. Femora I–IV with a ventral ridge.

Material examined: Thailand, Kaeng Krachan (Phetchaburi), Kaeng Krachan National Park, Camp. 9. II. 1994. – Berlese sample from root system and from debris of a decaying palm. Leg. S. MAHUNKA & L. MAHUNKA-PAPP. Holotype (1518 HO-1995) and 6 paratypes from the same sample. Holotype and 5 paratypes in HNHM, 1 paratype in MHNG.

Remarks: On the basis of its peculiar features the new species is difficult to classify into any of the known genera of the family Lohmanniidae. However, the form of the anogenital region resembles the genus *Paulianacarus* BALOGH, 1960, although the species of the latter have 10 pairs of genital setae, and their surface is quite different.

Derivatio nominis: Named after the peculiar sculpture of the dorsal regions.

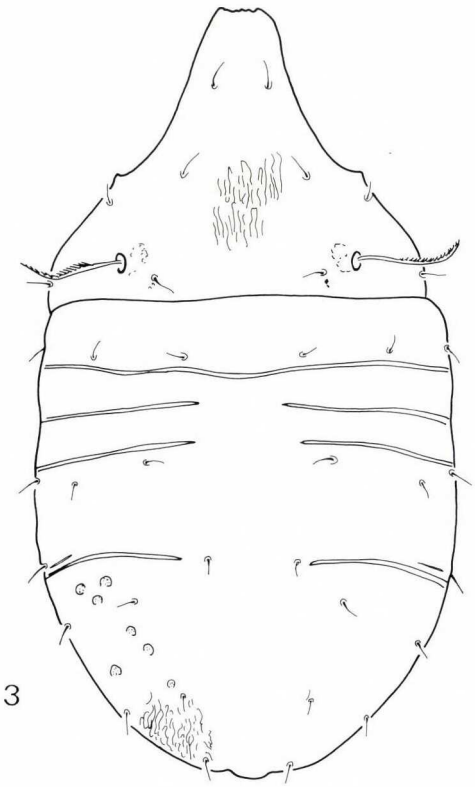
GALUMNIDAE JACOB, 1925

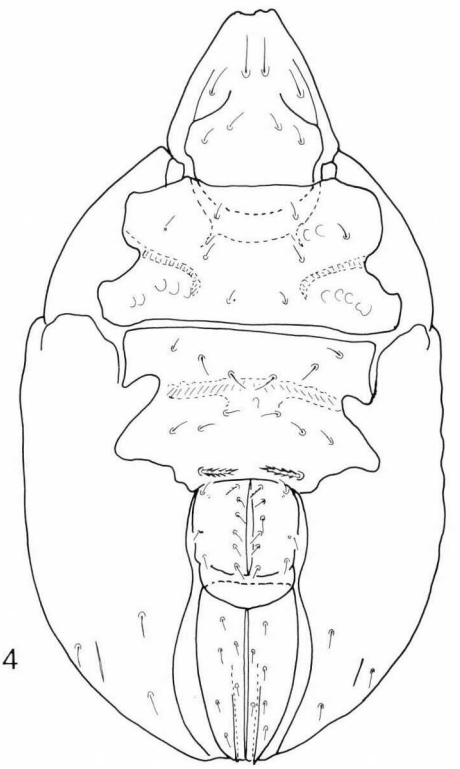
Allogalumna gedaii sp. n.
(Figs 6–9)

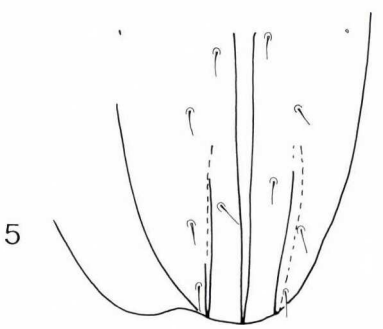
Measurements. – Length of body: 449–505 µm, width of body: 312–346 µm.

Dorsal side (Fig. 6): Rostrum with sharply pointed median apex. Its surface covered with fine and small pustules, laterally similar rugae also observable. Lamellar line absent, sublamellar

one thin, but discernible (Fig. 9). Rostral setae slightly longer and thicker than the lamellar ones, interlamellar setae minute, hardly visible. Rostral setae slightly roughened. Sensillus comparatively long, directed mostly outwards, its clavate head well spiculate. Dorsosejugal suture well developed, flatly arched anteriorly. Pteromorphae with characteristic sculpture, it is similar to the prodorsal







Figs 3–5. *Paulianacarus rugulosus* sp. n.: 3 = body in dorsal aspect, 4 = body in ventral aspect, 5 = posterior part of the ano-adanal plates

Figs 6–9. *Allogalumna gedaii* sp. n.: 6 = body in dorsal aspect, 7: solenidial group of leg I, 8 = body in ventral aspect, 9 = dorsosejugal region and sensillus

ones. Lateral outline of pteromorphae deeply excavated. Three pairs of large and rounded porose areae (areae porosae A_1 often divided in two parts) and ten pairs of notogastral alveoli well observable, lyrifissures *im* located conspicuously near to areae porosae A_1 (Fig. 6). Lyrifissures *ih* and *ips* visible near to each other, in front of the alveoli of setae p_3. Median pori absent.

Ventral side (Fig. 8): Shape of apodemes and epimeral borders without any peculiar characters, but the epimeral setae are comparatively long, well observable. Epimeral setal formula: 2 – 1 – 3 – 2. Circumpedal carina well developed, but not reaching to the lateral margin of the ventral plates, narrowing before it. Anogenital setation typical for the genus; 2 pairs of genital setae arising on the anterior margin of the genital plates. Lyrifissure *iad* in adanal position. A large, bean-shaped postanal porose area present.

Legs: tridactylous. Seta *l'* on femur I thick, much larger than seta *l''*. Tibia of leg I with a longitudinal crest, solenidial group of leg I as shown in Fig. 7.

Material examined: Thailand, Sri Racha (Chon Buri) water reservoir 110 km S of Bangkok. 30. I. 1994. – Berlese sample from wet mossy soil, near to the bank of the reservoire. Leg. S. MAHUNKA & L. MAHUNKA-PAPP. 6 paratypes from the same sample. Holotype (1519-HO-1995) and 5 paratypes in HNHM, 1 paratype: in MHNG.

Remarks: The new species is well characterised by the shape of the rostrum, the sensillus and the characteristic sculpture of the prodorsum and pteromorphae. On the basis of this feature combination it is distinguishable from all heretofore known *Allogalumna* GRANDJEAN, 1936 species.

I dedicate the new species to my friend Dr. ISTVÁN GEDAI (Budapest), the Director General of the Hungarian National Museum.

Galumna varia sp. n.
(Figs 10–14)

Measurements. – Length of body: 548–592 μm, width of body: 427–466 μm. An other specimen: length: 476–537 μm, width: 362–395 μm.

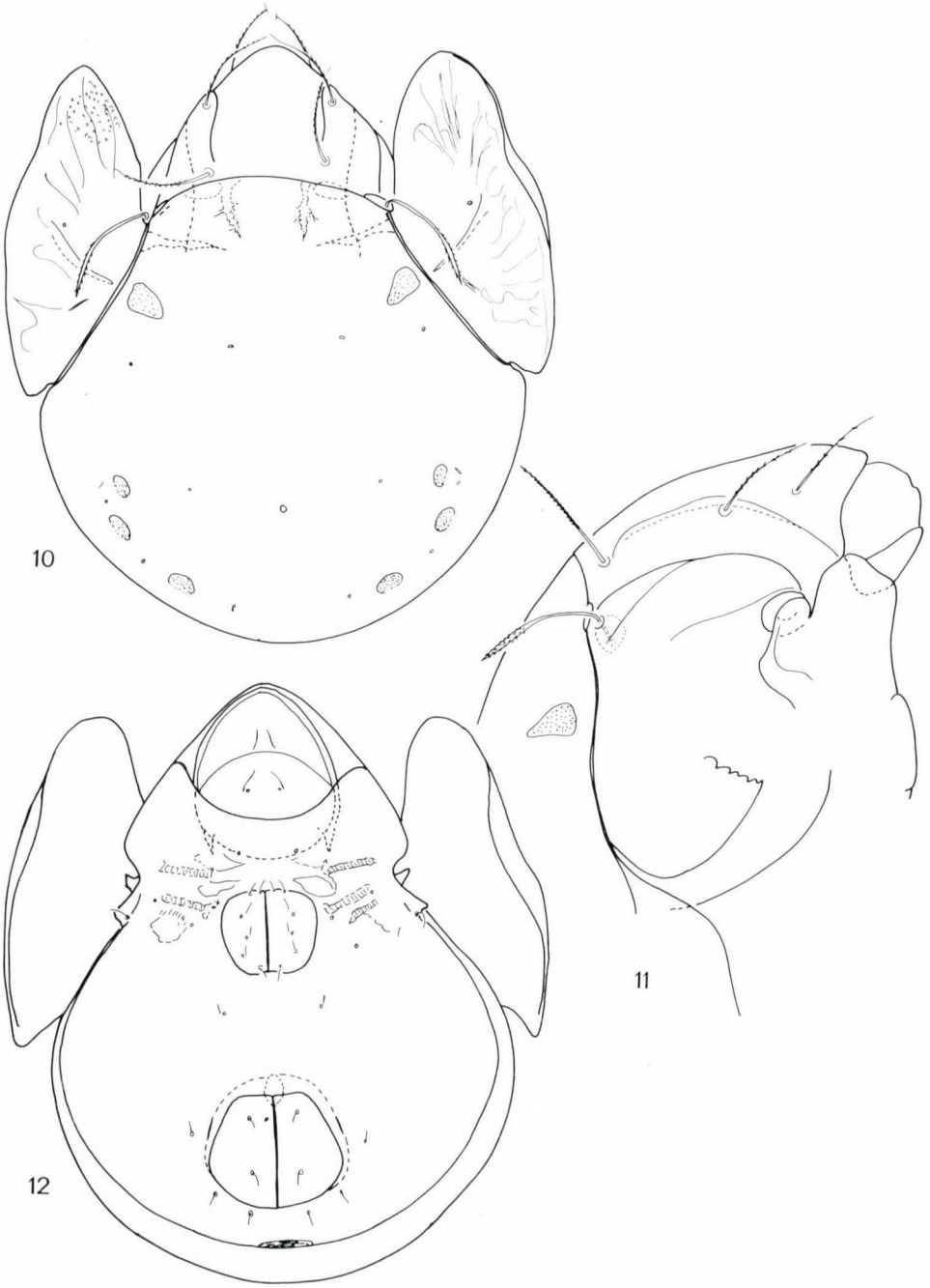
Prodorsum: Rostrum wide, rounded in dorsal aspect. Lamellar and sublamellar lines well developed, lamellar ones conspicuously strong (Fig. 11). All three pairs of median setae of prodorsum long. Interlamellar one acute, distinctly pilose, lamellar and rostral ones simple setiform and weakly pilose. No essential difference among their length. Sensillus long, directed backwards, with a lanceolate head, its form slightly varying: simple lanceolate or asymmetrically lanceolate. Both forms well pilose. Areae porosae dorsosejugales large.

Notogaster (Figs 10, 13): Dorsosejugal suture well developed. Pteromorphae often covered by small granules. Four pairs of areae porosae present, *Aa* elongated, gradually dilated laterally. Its form strongly varying. The other 3 pairs of porose areae nearly round, no greater difference among them. On the notogastral surface ten pairs of setal allveoli and an unpaired median porus present, it is present on both sexes. Lyrifissures *im* located very near to the porose areae A_1.

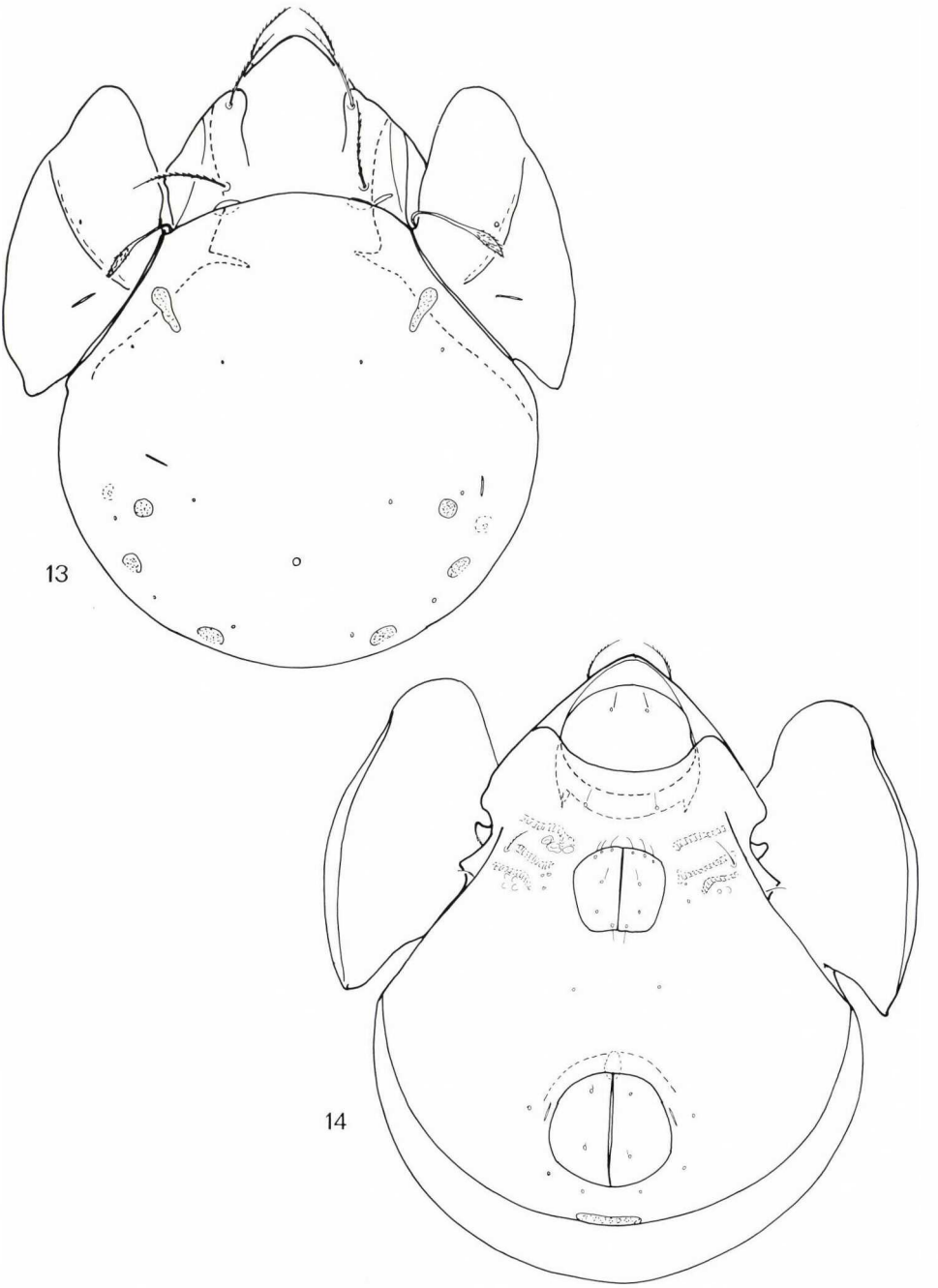
Ventral regions (Figs 12, 14): Coxisternal region with some irregular spots, epimeral setae simple. The position of the setae on the genital plates varying. Postanal porose area very long but narrow.

Legs: tridactylous.

Material examined: Thailand, Sri Racha (Chon Buri) Buddhist temple and monastery about 20 km S from the water reservoir. 30. I. 1994. – Berlese sample from fern stocks and roots, near to a bank of a creek. Leg. S. MAHUNKA & L. MAHUNKA-PAPP. 6 paratypes from the same sample. Holotype (1520-HO-1995) and 5 paratypes in HNHM, 1 paratype: in MHNG.



Figs 10–12. *Galumna varia* sp. n. (holotype): 10 = body in dorsal aspect, 11 = prodorsum in lateral aspect, 12: body in ventral aspect



Figs 13–14. *Galumna varia* sp. n. (paratype): 13 = body in dorsal aspect, 14 = body in ventral aspect

Remarks: I am not quite sure that all these forms belong to one species. But the forms of the sensillus and the form of the porose area *Aa* are highly varying in all the specimens. The holotype is identical with the specimen shown in Figs. 10–12.

Derivatio nominis: Referring the variability of the species.

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