

UFO ABEI MELIKA ET PUJADE-VILLAR  
(HYMENOPTERA: CYNIPIDAE: SYNERGINI)  
NEW GENUS AND NEW SPECIES FROM JAPAN

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A new Synergini genus *Ufo* MELIKA et PUJADE-VILLAR gen. n. and a new species *Ufo abei* MELIKA et PUJADE-VILLAR sp. n. from Japan are described. Diagnostic characters for the separation of *Ufo* gen. n. from the related genera *Saphonecrus* and *Synergus* are given. Characters which these three genera and related species share are discussed. A key to Synergini genera is also given.

Key words: Cynipidae, inquiline, Synergini, *Ufo*, gen. n., taxonomy, morphology, distribution, biology

## INTRODUCTION

The Cynipidae includes wasps that originally are gall-inducers and divided into 6 tribes: the paraphyletic Aylacini, characterized by inducing galls on herbaceous plants; Diplolepidini, gall-inducers associated with the genus *Rosa* only; Eschatocerini, known to induce galls on Fabaceae (*Acacia* and *Prosopis*); Pediaspidini, inducing galls on Notofagaceae (*Notofagus*) and Aceraceae (*Acer*); Cynipini, gall-inducers on Fagaceae (*Quercus*, *Castanea*, *Castanopsis* and *Lithocarpus*); and Synergini, characterized by loss of the ability to induce galls. The representatives of this tribe behave as inquilines, using galls of other gall-inducing cynipids for shelter and as nutrition during development.

The tribe Synergini has until recently been regarded as a monophyletic group, and remains so in formal terms. The cynipid inquilines supposedly originating within the Aylacini, particularly most closely related to *Diastrophus* HARTIG, 1840 and *Xestophanes* FÖRSTER, 1869. The tribe shares such main synapomorphies as the anterior margin of the clypeus is straight, irradiating striae on the lower face reach antennal foramina, gulae reduced to a long narrow median strip, gular sulci united well before reaching the hypostoma, the third and fourth abdominal terga, at

least in females, are fused (RONQUIST 1994, LILJEBLAD & RONQUIST 1998). Recent molecular evidence, however, suggests that cynipid inquilines are at least diphyletic (NYLANDER 2004, NYLANDER *et al.* 2004). The conflict between conclusions based on sequence and morphological data is striking. If the signal from sequence data is correct, then there must be very high levels of morphological convergence in some of the traits defining inquiline taxa. Conversely, if morphology is actually telling us the truth, then there must be complex variation in patterns of sequence evolution within the Cynipidae (NYLANDER *et al.* 2004).

The tribe Synergini currently comprises 7 genera: *Periclistus* FÖRSTER, 1869, *Ceroptres* HARTIG, 1840, *Synergus* HARTIG, 1840 and *Synophromorpha* ASHMEAD, 1903 (Holarctic distribution), *Saphonecrus* DALLA TORRE et KIEFFER, 1910 (Holarctic and Oriental), *Synophrus* HARTIG, 1840 (Palaeartic) and *Rhoophilus* MAYR, 1881 (Ethiopian). The trophic associations of different Synergini genera are as follows: *Periclistus* species are found in Diplolepidini galls on Rosaceae, *Synophromorpha* – in *Diastrophus* galls on *Rubus* (Rosaceae), *Rhoophilus* on *Rhus* (Anacardiaceae), and *Ceroptres*, *Synergus*, *Saphonecrus* and *Synophrus* in Cynipini galls on Fagaceae (CSÓKA *et al.* 2005, VAN NOORT *et al.* 2005). The genus here described, *Ufo* MELIKA et PUJADE-VILLAR, gen. n. from Japan, morphologically is placed between *Synergus* and *Saphonecrus*; biologically it belongs to the inquiline genera that use galls of Cynipini on Fagaceae. In Japan 6 Synergini genera can be found: *Periclistus*, *Synophromorpha*, *Ceroptres*, *Synergus*, *Saphonecrus* and *Ufo* gen. n.

## MATERIAL AND METHODS

The examined material originated from the American Museum of Natural History (AMNH) in NYC, USA and from the Canadian National Collection of Insects (CNCI, Ottawa, Canada) and it has been deposited in the collection of the Hungarian Natural History Museum (HNHM), Budapest, Hungary (female holotype of *Ufo abei*, sp. n.); Systematic Parasitoid Laboratory, Plant Protection and Soil Conservation Service of County Vas (SPL), Kőszeg, Hungary (2 female paratypes); CNCI (female paratype) and UB (University of Barcelona, Barcelona, Spain) (female paratype).

SEM pictures are taken by PR-F, specimens are not coated with carbon or gold, taken with low voltage to preserve specimens.

We follow the current terminology of morphological structures as given in GIBSON (1985), RONQUIST and NORDLANDER (1989), and FERGUSON (1995). Abbreviations for fore wing venation follow RONQUIST and NORDLANDER (1989). The measurements and abbreviations used herein include: F1–F12, first and subsequent flagellomeres; POD (post-ocellar distance), the distance between the inner margins of the posterior ocelli; OOD (ocellar–ocular distance), the distance from the outer edge of a posterior ocellus to the inner margin of the compound eye; LOL, the distance between lateral and frontal ocellus. The width of the radial cell is measured along 2r.

**Ufo** MELIKA et PUJADE-VILLAR, gen. n.  
(Figs 4a–f, 5a–e, 6a–e, 7a–c)

Description – Female. Head (Figs 4a–b, d, 5a–d). Face with irradiating carinae. Clypeus indistinctly differentiated from lower face; ventral margin of clypeus straight, not projecting above mandibles. Frons and vertex almost smooth or with a very weak indistinct sculpture; frontal carinae absent. Ocellar triangle very narrow, posterior edge of frontal ocellus lies on a line between anterior edges of lateral ocelli. Occiput smooth. Gula long, distance between occipital foramen and oral foramen longer than the height of the occipital foramen; gular sulci joined behind occipital foramen (Fig. 5b). Antennae 13-segmented (Fig. 5e). Mesosoma (Figs 4c–f, 6a–e). Pronotum broad, its length measured dorso-medially nearly 1/5 of the greatest length of the outer lateral margin; lateral pronotal carina strongly impressed (Figs 4d, 6b, 1pc), giving a rectangular aspect to the pronotum in dorsal view; anterior and lateral sides form a right angle; two short carinae going from submedial pronotal pits, defining the most anterior part of pronotal plate (Figs 4e, 6d). Notauli distinct in posterior half (Figs 4c, 6a). Scutelar foveae present. Lateral propodeal carinae distinct, straight, slightly diverging anteriorly, delimiting central pubescent area (Figs 4f, 6e). Radial cell of forewing opened, areolet absent (Fig. 7a). Tarsal claws with basal lobe (Fig. 7b). Metasoma (Figs 4f, 7c). Second abdominal tergite sulcate; abdominal tergites 3 and 4 wholly fused; ventral spine of hypopygium very short (Fig. 7c).

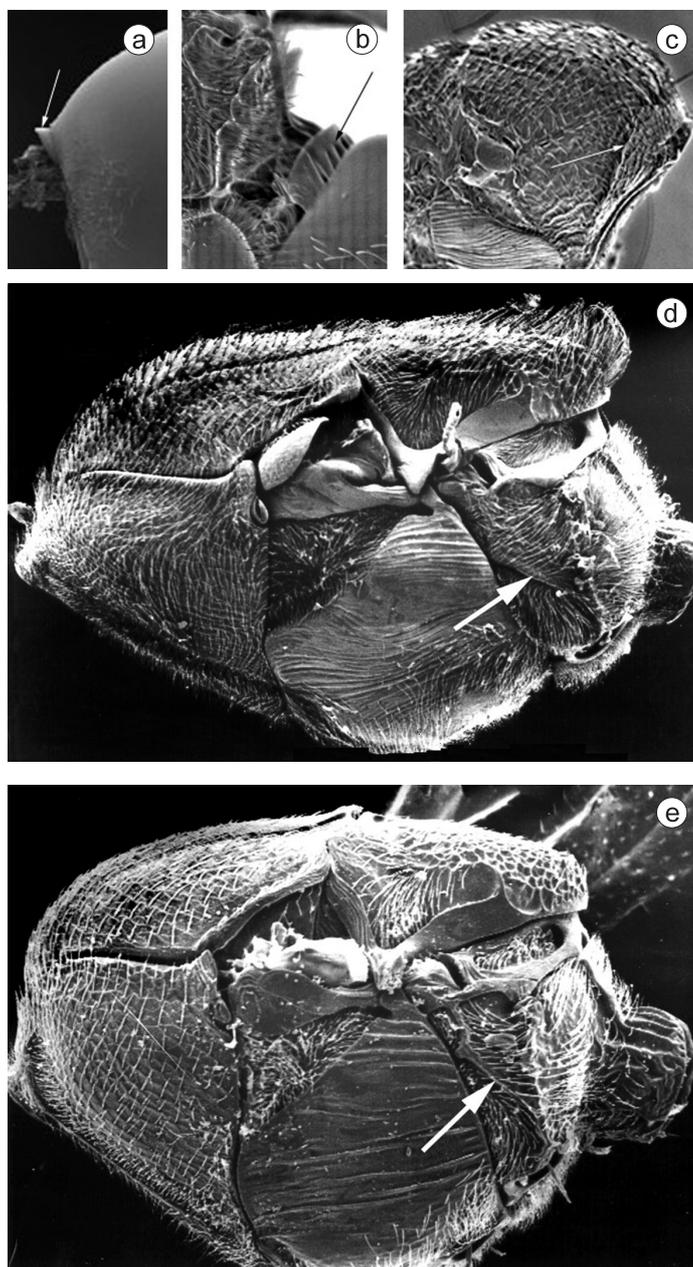
Male unknown.

Etymology – The genus got its name from the impression its morphology first made on us: “what is this ‘Unidentified Flying Object’ ?”.

Type-species – *Ufo abei* MELIKA et PUJADE-VILLAR, sp. n., here in described.

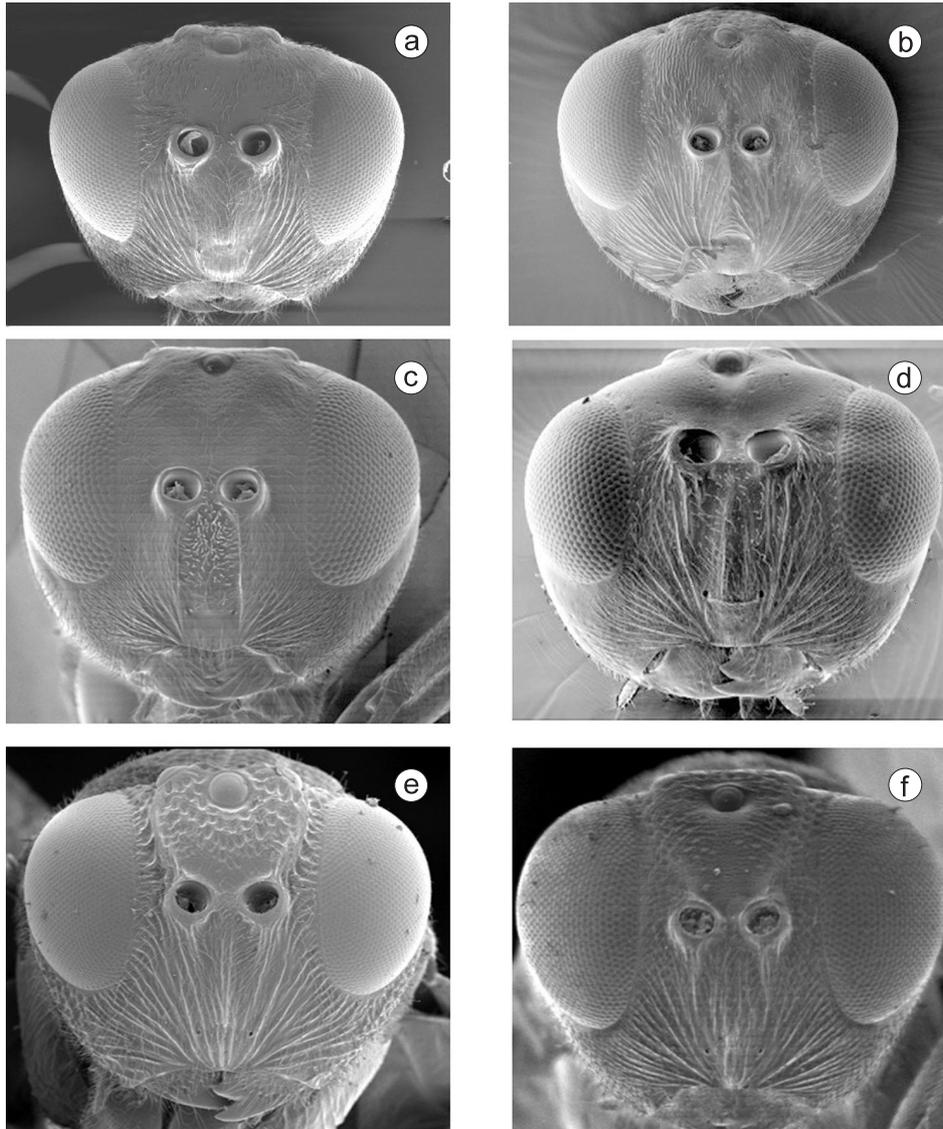
KEY TO WORLD GENERA OF SYNERGINI

- |   |   |                   |
|---|---|-------------------|
| 1 | Metasomal tergite 1 smooth and shining, reduced to a dorsal crescent-shaped projecting scale (Fig. 1a); clypeus more or less differentiated (Figs 2a–d)   | 2                 |
| – | Metasomal tergite 1 in a form of ring or collar, sulcate (Fig. 1b), at least laterally; clypeus undifferentiated (Figs 2e–f, 4a)  | 5                 |
| 2 | Frons and vertex sculptured, with carinae and/or more or less impressed points or striae (Figs 2a–b); mesopleuron longitudinally striate  | 3                 |
| – | Frons, vertex and mesopleuron from weakly coriaceous to almost smooth, without distinct sculpture (Figs 2c–d)   | 4                 |
| 3 | Scutum coarsely sculptured, with transverse rugae (Fig. 3a); F1 longer than F2 in females; tarsal claws simple; metasomal tergites 2 and 3 fused in males, with indistinct (invisible) suture in between them | <i>Rhoophilus</i> |



**Fig. 1.** a = *Periclistus brandtii*, anterior part of metasoma; b = *Synergus japonicus*, anterior part of metasoma (arrow points to the first metasomal tergite); c–e = mesosoma in lateral view: c = *Synergus apicalis* (arrow points to the pronotal carina), d = *Synophus politus*, e = *Saphonecrus connatus* (arrow points to the position of metapleural sulcus related to the mesopleuron)

- Scutum without transverse rugae (Fig. 3b); F1 shorter or equal to F2 in females; tarsal claws with basal lobe; metasomal tergites 2 and 3 in males separated, with distinct suture between them *Periclistus*

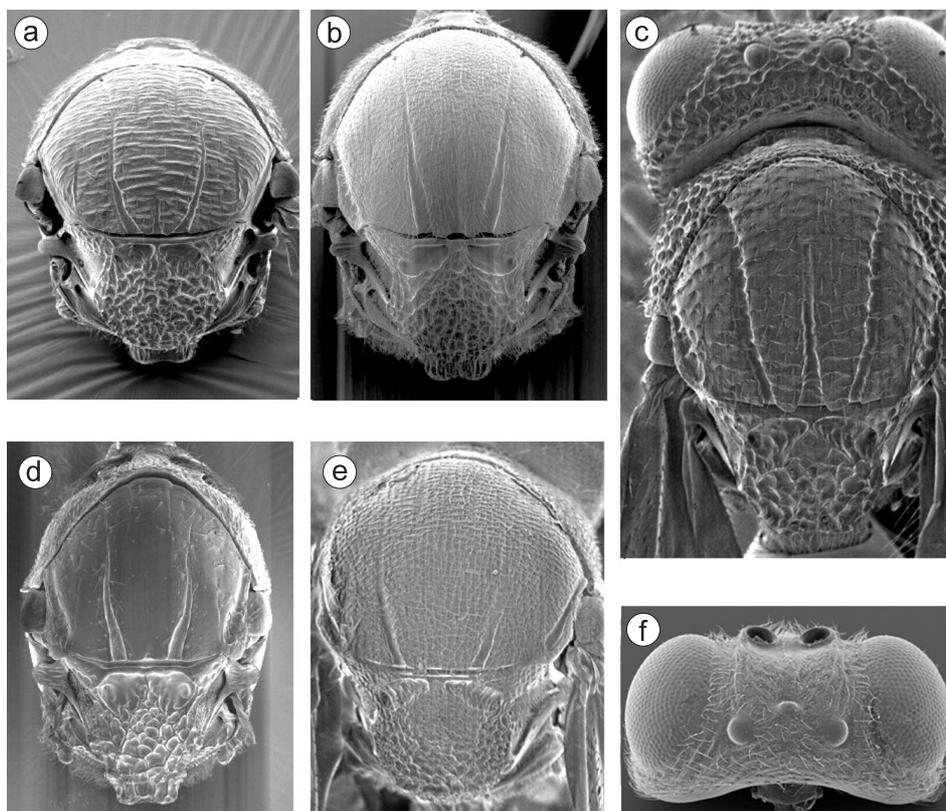


**Fig. 2.** Head in frontal view: a = *Periclistus brandtii*, b = *Rhoophilus loewi*, c = *Ceroptres arator*, d = *Synophromorpha rubi*, e = *Synergus reinhardi*, f = *Saphonecrus connatus* (Figs 2a, b, d after LILJEBLAD & RONQUIST 1998 (<http://morphbank.ebc.uu.se>))

- 4 Radial cell of forewing closed; scutum coriaceous (Fig. 3d); face with delicate irradiating striae, with two raised vertical carinae, going from the ventral margin of antennal sockets and more or less extended to clypeus (Fig. 2c); 2nd metasomal tergite 2 in males small and free, not fused with tergite 3  
*Ceroptres*
- Radial cell of forewing opened; scutum smooth to granulate (Fig. 3c); face with strong irradiating striae, without raised vertical carinae (Fig. 2d); metasomal tergites 2 and 3 in males fused, sometimes with visible suture  
*Synophromorpha*
- 5 Only females are known; frons and vertex almost smooth or with very weak sculpture (Figs 4a–e); interocellar triangle very narrow, posterior edge of frontal ocellus lies on a line between anterior edges of lateral ocelli (Fig. 4b); occiput smooth (Figs 4b–d); lateral pronotal carina strongly impressed (Figs 4d–e), giving rectangular aspect in dorsal view (Figs 4c–d, lpc) *Ufo* gen. n.
- Both sexes; frons and vertex always clearly sculptured (Figs 2e–f, 3f); interocellar triangle much broader; occiput sculptured (Figs 3e–f); lateral pronotal carina, when present, never gives rectangular aspect in dorsal view, pronotum more rounded in dorsal view (Fig. 3e) 6
- 6 Female antenna 14-, male 15-segmented; lateral frontal carinae usually present (Figs 2e, 3f), reaching or not lateral ocelli; radial cell of forewing closed, rarely opened; notauli always visible, usually reach to half length of scutum  
*Synergus*
- Female antenna 13–1–5-, male 14–1–6-segmented; lateral frontal carinae usually absent (Fig. 2f); radial cell of forewing always opened; notauli absent or short, rarely complete 7
- 7 Mesopleural sulcus reach mesopleuron slightly higher than half of its height (Fig. 1d); metasomal tergite 1 smooth medially, sulcate only laterally; gena slightly broadened behind eye; female antennae 13–1–4-, male 15–1–6-segmented  
*Synophrus*
- Metapleural sulcus reach mesopleuron much higher (Fig. 1e); metasomal tergite 1 entirely sulcate; gena not broadened behind eye; female antennae 13-, male 14–1–5-segmented  
*Saphonecrus*

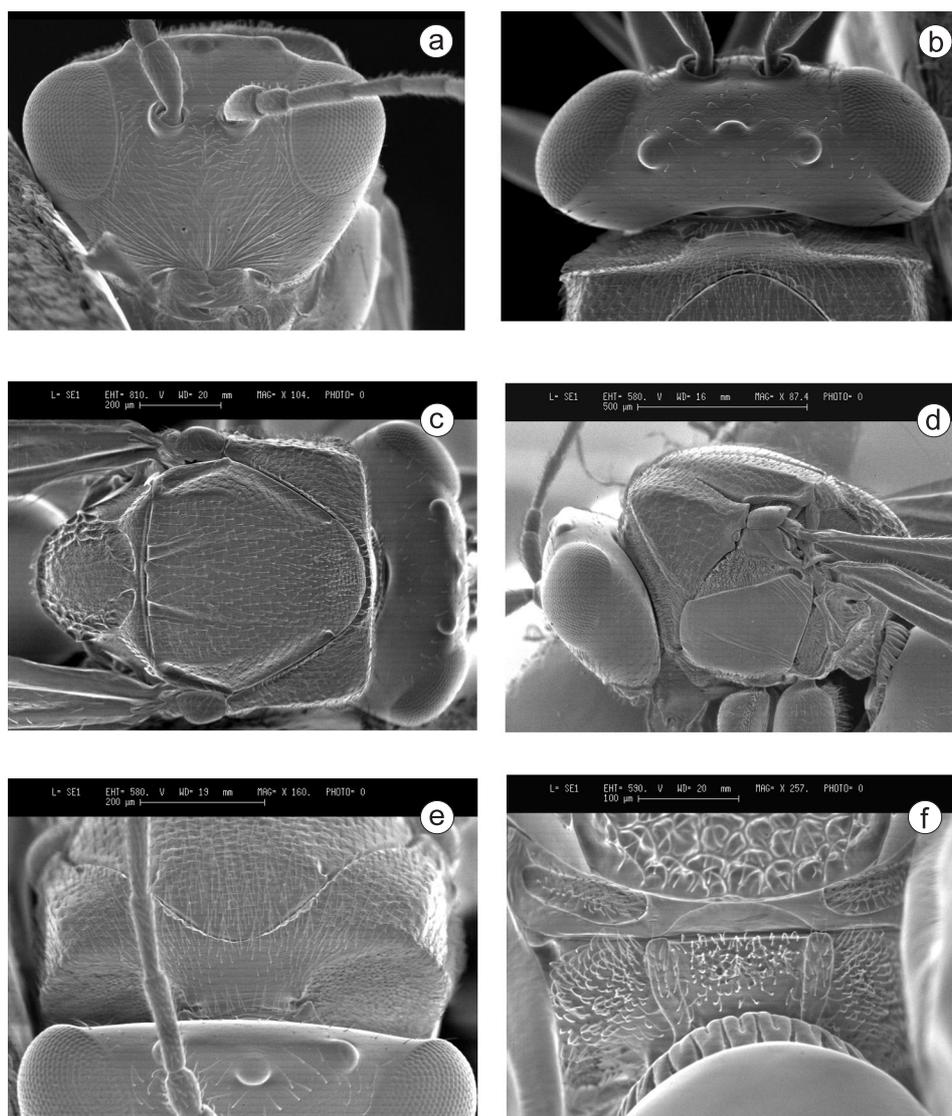
**Ufo abei** MELIKA & PUJADE-VILLAR, sp. n.  
(Figs 4e–f, 5a–e, 6a–e, 7a–c)

Description – Female. Body reddish brown to black; metasoma uniformly reddish, lighter than head and mesosoma; antennae uniformly yellow; legs including coxae yellow to white-yellow; wings semi-transparent with short uniformly distributed white setae. Head (Figs 4a–d, 5a–d). Lower face, malar space and clypeus with relatively dense, very short and uniformly distributed very thin indistinct white setae (visible under an appropriate light source), row of same setae along inner margins of compound eye; frons with only a few scattered setae; gena behind eye and postgena with less dense setae than on lower face; postocciput and vertex without setae. Head transverse, 1.45–1.47 times as broad as high in front view; nearly as broad or slightly broader than mesosoma, 2.7–2.8 times as broad as long in dorsal view. Lower face (measuring from lower edge of antennal socket till the tip of clypeus) 1.36 times as high as height of compound eye. Clypeus and malar space with very delicate



**Fig. 3.** Mesosoma in dorsal view: a = *Rhoophilus loewi*, b = *Periclistus brandtii*, c = *Synophromorpha rubi*, d = *Saphonecrus connatus*, e = head and mesosoma in dorsal view of *Synergus incrasatus*, f = head in dorsal view of *Synergus nervosus* (Figs 3a, b, c after LILJEBLAD & RONQUIST 1998 (<http://morphbank.ebc.uu.se>))

indistinct irradiating striae, surface between striae smooth, shining; clypeus straight on the proximal edge, epistomal sulcus indistinct, and, thus clypeus smoothly joins the central area of lower face; anterior tentorial pits small and hardly visible, only very small impression at the location of tentorial pits visible under correctly orientated light; proximal edge of malar space along mouthparts emarginated; malar space 0.77–0.82 times as long as height of compound eye. Frons smooth shining



**Fig. 4.** *Ufo abei* sp. n.: Head: a = front view, b = dorsal view; c = mesosoma, dorsal view; d = head and mesosoma, lateral view; e = pronotum, front view; f = propodeum

or delicately coriaceous, with row of setae along inner margin of compound eye and in front of frontal ocellus; distance prolong transfacial line 1.4–1.5 times as long as height of lower face and 1.4–1.5 times as long as height of compound eye; distance between inner margin of compound eye and antennal socket very slightly more than diameter of antennal socket and distance between antennal sockets equal to diameter of antennal socket; POD 2.8–3.3 times as long as OOD; POD 2.1–2.2 times as long as LOL; OOL 6.0 times as long as cross diameter of lateral ocellus; posterior edge of frontal ocellus lies on a line between anterior edges of lateral ocelli. Vertex very narrow, smooth and shining. Occiput smooth and shining, descending nearly vertically and not concave backwards; occipital carina absent. Gena not broadened behind eye in front view, smooth, shining. Postgena and postocciput smooth, shining, with some short white setae along hypostomal carina. Gula reduced to long, narrow median strip; gular sulci united well before reaching hypostomata; posterior tentorial pits visible, area around occipital foramen well-impressed, smooth and shining. Antenna 13-segmented (Fig. 5e). Scapus nearly equal in length to F1; pedicellum nearly 2.0 times as short as F1, which is the longest flagellomere, except F11, which is nearly equal or even very slightly longer than F1; ratio of scapus, pedicellum and F1–F11 follows 0.95:0.6:1:0.71:0.66:0.8:0.76:0.76:0.76:0.64:0.61:0.57:1.04 (measured on the holotype). Mesosoma (Figs 4c–f, 6a–e) 1.3 times as long as high in lateral view. Pro-

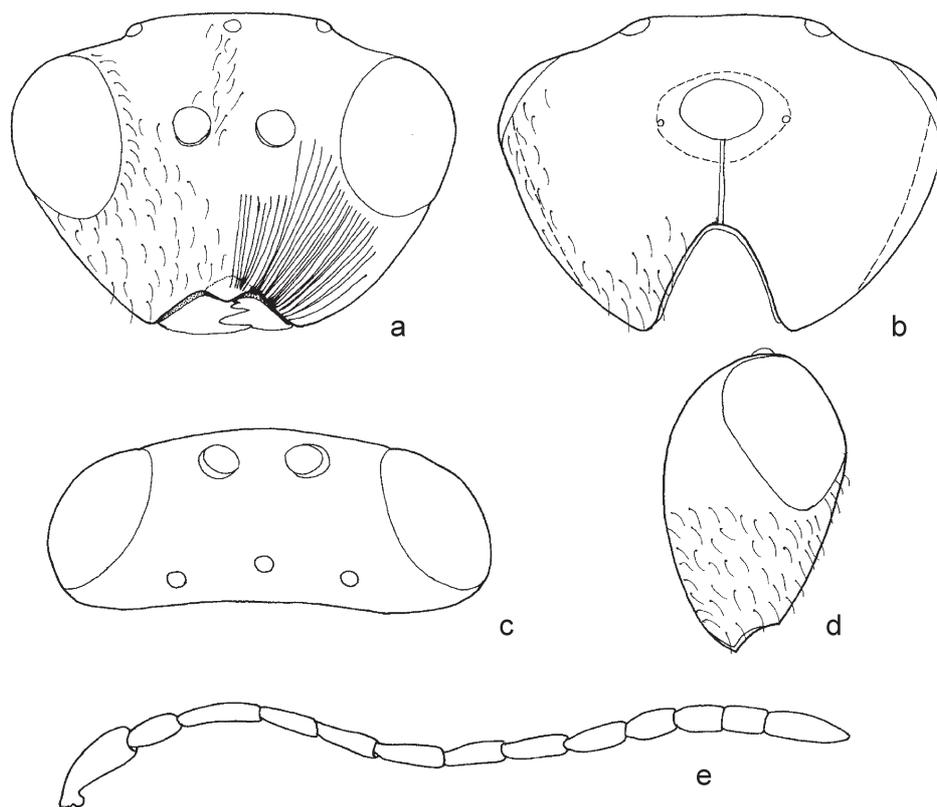
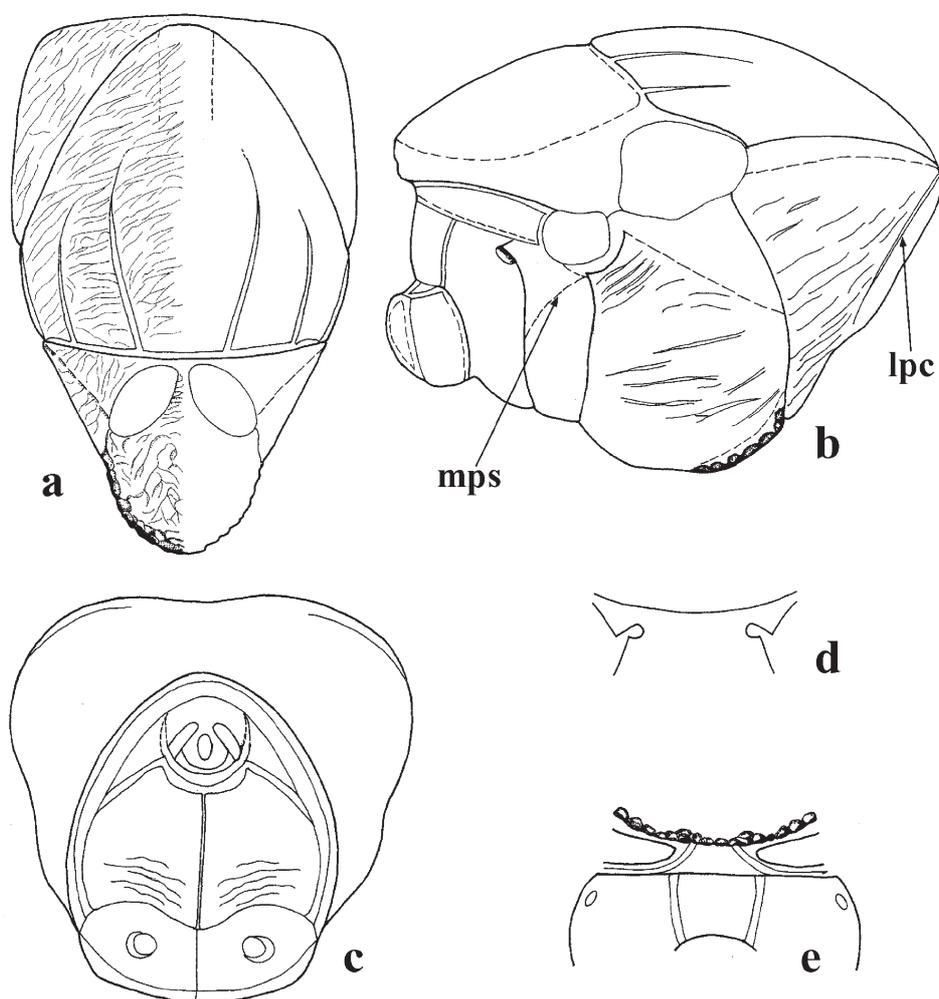


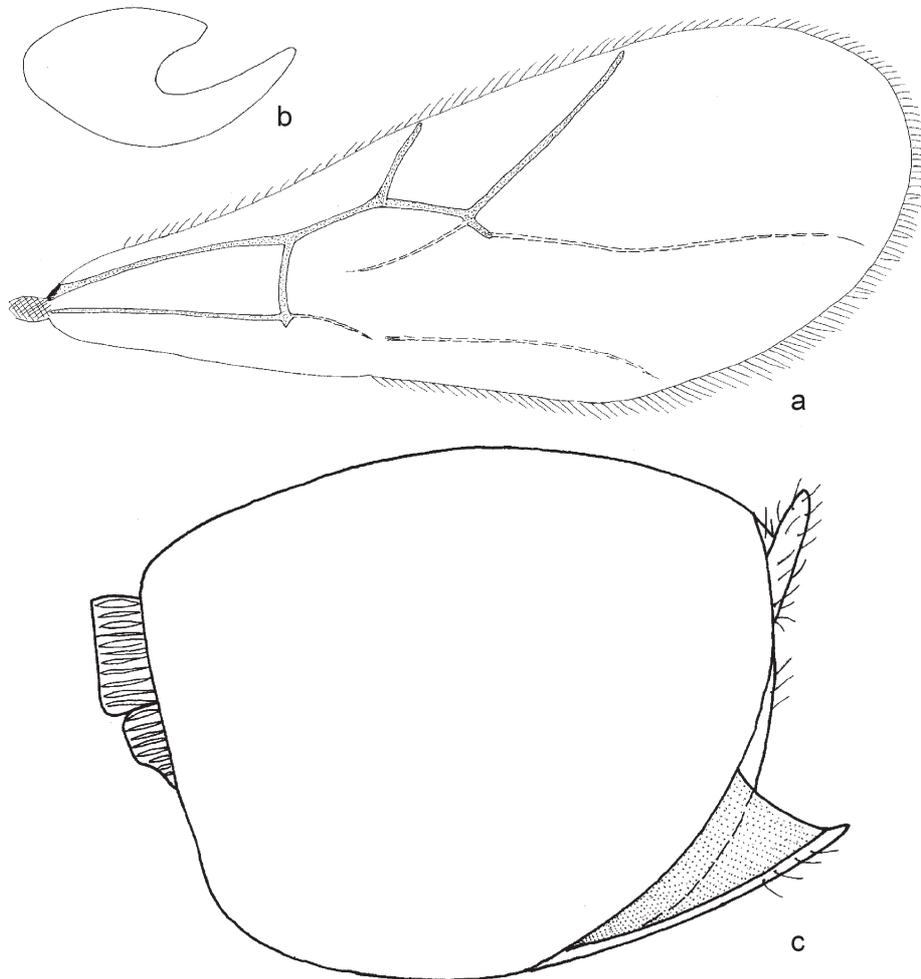
Fig. 5. *Ufo abei* sp. n.: Head: a = front view, b = posterior view, c = dorsal view, d = lateral view; e = antenna

notum anteriorly nearly rectangular in dorsal view, anterior and lateral sides form a right angle; pronotum descending vertically to propleura; lateral part of pronotum going down from the dorsal part also nearly at a right angle; strong pronotal carina divides lateral part from frontal part, which are also oriented almost at a right angle to each other; pronotum dorsally punctate, very finely coriaceous, laterally with longitudinal and parallel striae, area between them weakly coriaceous or almost smooth and shining; frontal part of pronotum around propleura smooth, shining, without sculpture, with some micropunctures around pronotal pits only; dorsal and lateral parts uniformly with very delicate short white setae, visible in proper light; submedial pronotal pits present, small rounded, sepa-



**Fig. 6.** *Ufo abei* sp. n.: a = mesosoma, dorsal view; b = mesosoma, lateral view (mps = metapleural suture, lpc = lateral propodeal carina); c = mesosoma and propleura, front view; d = pronotum, dorso-median part, with pronotal submedial pits, dorsal view; e = propodeum, dorsal view

rated by a distance 4.0 times as long as pit transverse width; two short carinae extending from submedial pronotal pits define the most anterior part of pronotal plate. Propleuron coriaceous with some transversely orientated striae in the anterior half. Scutum slightly longer than broad measuring along anterior edge of tegulae; notauli distinct in posterior half, slightly broadened posteriorly, with smooth shining bottom, very indistinct or even absent in anterior half; anterior parallel lines very indistinct, reach 1/3 of scutum anteriorly; parapsidal lines very narrow, reach to half of scutum; scutum punctate and finely coriaceous, ridges orientated mainly transversely giving a view of a minute transverse sculpturing, area between ridges smooth and shining; scutum uniformly with very short sparse white setae, visible under proper light source; scutum laterally with distinct parascutal carina. Dorso-axillar area very finely coriaceous, shining; latero-axillar area joins dorso-axillar area at an acute angle. Scutellum 1.25 times as long as broad in dorsal view; emarginated and rugose around lateral and



**Fig. 7.** *Ufo abei* sp. n.: a = forewing; b = tarsal claw; c = metasoma, lateral view

posterior edges, very finely coriaceous centrally, area between ridges smooth and shining; scutellar foveae ovate, posterior lateral edge of foveae reach to 0.4 of scutellum length, bottom mat and smooth, with very few minute striae. Mesopleuron smooth, shining with some longitudinal striae, especially in central and postero-dorsal parts; acetabular carina strongly raised, broad. Propodeum slightly lighter than scutum and scutellum, with uniform sparse short white setae laterally of central propodeal area; laterally finely coriaceous; lateral propodeal carinae distinct, uniformly thin, straight, slightly diverging anteriorly; central propodeal area very delicately alutaceous; metanotum smooth, shining, short; metanotal trough smooth, shining, with dense pubescence; propodeal spiracle with strong raised carina along anterior border; metanotal sulcus reach mesopleuron in postero-dorsal corner; axillula smooth, shining with dense white setae; nucha dark brown with longitudinal parallel ridges. Fore wing (Fig. 7a) semi-translucent, veins very pale, hardly traceable; wing margin with long cilia; radial cell opened, 3.3 times as long as broad; Rs and R1 straight, areolet absent. Legs with dense short white setae, tarsal claws with distinct basal lobe (Fig. 7b). Metasoma (Figs 4f, 7c). Abdominal tergite 2 sulcate, with strong longitudinal parallel rugae; tergites 3 and 4 fused, smooth and shining, covered entire metasoma. Prominent part of ventral spine of hypopygium very short and slender; hypopygium micropunctate, with very few short white setae along ventral edge. Length 1.3–1.5 mm.

Male unknown.

Type material – Holotype female “Hiroshima, Japan, ⊕ 9.3.39, Kuenburg 240”, handwriting label “Q.variab., ♀ 9.4–6-.39”, deposited in HNHM, Budapest, Hungary.

Two paratype females with the same labels as the holotype are deposited in the collection of SPL, Kőszeg, Hungary; two other paratype females labelled as “MT Hiko, 18–2-5-.IX.1989, Takeno & H. Sharkey col.”; one paratype female is deposited in CNCI, Ottawa, Canada and another female paratype in the collection of UB, Barcelona, Spain.

Etymology – Species name is given in honour of our Japanese colleague, Dr. YOSHIHISA ABE (Laboratory of Applied Entomology, Faculty of Agriculture, Kyoto Prefectural University).

## DISCUSSION

The genus *Ufo* gen. n. belongs biologically to the group of genera associated with Fagaceae only. All of them, including *Ufo*, have the same shape of the second abdominal tergite in a form of a ring or collar, at least laterally sulcate and having the clypeus not differentiated (new diagnostic character). The characters used to separate these genera are shown in Table 1. The new genus *Ufo* can be easily separated from the genus *Synophrus* (Table 1) by the presence of a pronotal carina, by the position of the metapleural sulcus and the sculpture of the mesoscutum, among other characters. Although *Ufo* is separated from other genera by lack of sculpture on the vertex and occiput, by the transversal shape of the head and the shape of the pronotum in dorsal view, this genus shares some characters with *Synergus* and *Saphonecrus* – these need detailed study, especially concerning the phylogenetic position of the new genus within the Synergini.

All *Synergus* species have a pronotal carina, except *S. plagiotrochi* NIEVES-ALDREY et PUJADE-VILLAR, 1986 and *S. variabilis* MAYR, 1873 (PUJADE-VILLAR & NIEVES-ALDREY 1990, PUJADE-VILLAR & ROS-FARRÉ 1998, PUJADE-VILLAR *et al.* 2003), and thus sharing of this character indicates the affinity of *Ufo* and *Synergus*. This character, however, varies in *Saphonecrus* – there are species with a pronotal carina present, *S. undulatus* (MAYR, 1872), *S. haimi* (MAYR, 1872), and *S. naiquanlini* MELIKA, ÁCS et BECHTOLD, 2004, and other species without it – *S. connatus* (HARTIG, 1840), *S. lusitanicus* (TAVARES, 1902) and *S. barbotini* PUJADE-VILLAR et NIEVES-ALDREY, 1985. In all *Synergus* species, except *S. plagiotrochi* and rarely in some specimens of *S. tibialis* HARTIG, 1840 (= *S. rotundiventris* MAYR, 1872), the radial cell is closed along the forewing margin, while in *Saphonecrus* and *Ufo* the radial cell is opened. Finally, the number of antennomeres in females of *Synergus* is always 14, while in *Saphonecrus* and *Ufo* – 13. In summary, although *Ufo*, gen. n. has a strong pronotal carina, even more impressed than in *Synergus*, it seems that it is more closely related to *Saphonecrus* on the basis of all other characters.

Within the genus *Saphonecrus*, *Ufo*, gen. n. is most closely related to a group of three species, *S. undulatus*, *S. haimi* and *S. naiquanlini*, which are characterized by a distinct lateral pronotal carina. However, *Ufo* differs from each of these three named species in a number of important characters given in Table 2. The shape and sculpture of the head and pronotum, the length of the malar space, the sculpture of the scutum and the forewing characteristics clearly separate *Ufo abei*, sp. n. from the *Saphonecrus* species with a pronotal lateral carina. In conclusion, we say that

**Table 1.** Morphological characters to differentiate *Ufo* gen. n. from closely related genera

Character	<i>Synophrus</i>	<i>Saphonecrus</i>	<i>Synergus</i>	<i>Ufo</i> gen. n.
Pronotal carina	Absent	Usually absent	Usually present	Present
Radial cell	Opened	Opened	Usually closed	Opened
Frontal carina	Absent	Absent	Usually present	Absent
Female antennomeres	13 (14)	13	14	13
Male antennomeres	14 (15–16)	14	15	Unknown
Scutum with transverse striae	Present	Usually absent	Usually present	Absent
Metasomal collar carina	Only laterally	Complete	Complete	Complete
Metapleural sulcus meeting point with mesopleuron	Low	High	High <sup>1</sup>	High
Vertex and occiput sculpture	Present	Present	Present	Absent
Tarsal claw	Toothed	Variable	Toothed	Toothed

<sup>1</sup>Not checked in all the species of the genus, but it is always high in all species from Europe, Japan and America that we have examined.

**Table 2.** Morphological characters to differentiate *Ufo abei* sp. n. from some species of *Saphonecrus*. Five specimens from each species were measured and average is given

Characters	<i>Ufo abei</i> , sp. n.	<i>S. haimi</i>	<i>S. undulates</i>	<i>S. naiquanlini</i>
<b>Head</b>				
Width : height	1.45	1.2	1.2	1.3
Width : length	2.7	2.1	2.1–2.3	2.2
POD : OOD	2.8	2.9–3.2	3.0–3.4	3.5
ms : ce*	0.77	0.42	0.5	0.5
sculpture	absent	present	present	present
Antenna	uniformly broad	distal half broadened	uniformly broad	uniformly broad
<b>Mesoscutum</b>				
Shape of pronotum	quadrangular	rounded	rounded	rounded
notauli	in posterior half	indistinct	indistinct	complete
scutum	without transverse striae	without transverse striae	with transverse striae	with transverse striae
<b>Fore wing</b>				
Length : width of radial cell	3.3	2.0	2.8–2.9	3.0
Areolet	absent	present	present	present
Tarsal claw	with basal lobe	simple	with basal lobe	with basal lobe
<b>Metasoma</b>				
tergite 3 & 4	without punctures dorso-posteriorly	without punctures dorso-posteriorly	some punctures dorso-posteriorly	without punctures dorso-posteriorly

\*ms – length of the malar space, ce – height of the compound eye

*Ufo* gen. n. has an extremely impressed, strong lateral pronotal carina that cannot be compared with the lateral carinae that the other species of *Saphonecrus* and *Synergus* have.

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## REFERENCES

- CSÓKA, G., STONE, G. N. & MELIKA, G. (2005) The biology, ecology and evolution of gall wasps. Pp. 569–636. In: RAMAN, A., SCHAEFFER, C. W. & WITHERS, T. M. (eds): *Biology, ecology and evolution of gall-inducing arthropods*. A. Science Publishers, Inc. Enfield, New Hampshire, USA.
- FERGUSON, N. D. M. (1995) The cynipoid families. Pp. 247–265. In: HANSON, P. E. & GAULD, I. D. (eds): *The Hymenoptera of Costa Rica*. Oxford, New York, Tokyo, Oxford University Press, 893 pp.
- GIBSON, G. A. P. (1985) Some pro- and mesothoracic structures important for phylogenetic analysis of Hymenoptera, with a review of terms used for the structures. *The Canadian Entomologist* **117**: 1395–1443.
- LILJEBLAD, J. & RONQUIST, F. (1998) A phylogenetic analysis of higher-level gall wasp relationships (Hymenoptera: Cynipidae). *Systematic Entomology* **23**: 229–252.
- MELIKA, G., ÁCS, Z. & BECHTOLD, M. (2004) New species of cynipid inquilines from China (Hymenoptera: Cynipidae: Synergini) *Acta Zoologica Academiae Scientiarum Hungaricae* **50**(4): 319–336.
- NYLANDER, J. A. A. (2004) *Bayesian phylogenetics and the evolution of gall wasps*. Ph.D. Thesis, University of Uppsala.
- NYLANDER, J. A. A., RONQUIST, F., HELSENBECK, J. P. & NIEVES-ALDREY, J. L. (2004) Bayesian phylogenetic analysis of combined data. *Systematic Biology* **53**: 1–21.
- PUJADE-VILLAR, J., MELIKA, G., ROS-FARRÉ, P., ÁCS, Z. & CSÓKA, G. (2003) Cynipid inquiline wasps of Hungary, with taxonomic notes on the Western Palearctic fauna (Hymenoptera: Cynipidae, Cynipinae, Synergini). *Folia Entomologica Hungarica* **64**: 147–196.
- PUJADE-VILLAR, J. & NIEVES-ALDREY, J. L. (1990) Revisión de las especies europeas del género *Saphonecrus* Dalla Torre & Kieffer, 1910 (Hymenoptera: Cynipidae: Cynipinae). *Bulletín de l'Institució Catalana d'Història Natural (Sec. Zool.)* **58**(8): 45–55.
- PUJADE-VILLAR, J. & ROS-FARRÉ, P. (1998) Review of Giraud's types of the species of *Synergus* Hartig, 1840 (Hymenoptera: Cynipidae). *Zoosystema* **20**(3): 529–540.
- RONQUIST, F. (1994) Evolution of parasitism among closely related species: phylogenetic relationships and the origin of inquilinism in gall wasps (Hymenoptera, Cynipidae). *Evolution* **48**(2): 241–266.
- RONQUIST, F. & NORDLANDER, G. (1989) Skeletal morphology of an archaic cynipoid, *Ibalia rufipes* (Hymenoptera: Ibaliidae). *Entomologica Scandinavica. Supplement* **33**: 1–60.
- VAN NOORT, S., STONE, G. N., WHITEHEAD, V. B. & NIEVES-ALDREY, J.-L. (2005) Biology and redescription of *Rhoophilus loewi* (Cynipidae: Cynipoidea: Hymenoptera), with evolutionary implications on the inquilinism in gall wasps. *Biological Journal of the Linnean Society* [in press]

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