

**A description of *Euconnus (Euconophron) alesi* sp. nov., first Palaearctic *Euconnus* with cranial modifications (Coleoptera: Staphylinidae: Scydmaeninae)**

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**Taxonomy, new species, Scydmaeninae, Cyrtoscydmimi, China, Palaearctic region**

**Abstract.** A new species of *Euconnus (Euconophron) alesi* sp. nov. from China mainland (Fujian) is described and compared with another oriental species of the genus. Actually, the males of this new species also exhibit the notable cranial modifications of the fronto-clypeal area and clypeus.

INTRODUCTION

The hitherto unknown cranial particularities are not unique in *Euconnus* Thomson, and were described and illustrated recently in *Euconnus formiciceps* Vit from Thailand (Vit 2006). In *E. formiciceps*, the cranial modifications occur in both sexes and the species was supposed to be possibly myrmecophilous. Nevertheless, in the *Euconnus* the cranial modifications are not exceptional (personal observations), but are exhibited usually only in male, which is also very likely to hold for the *E. alesi* sp. nov., where female remains unknown.

MATERIAL AND METHODES

Depositories:

MHNG Muséum d'Histoire naturelle, Genève, Switzerland (Dr. G Cuccodoro);  
MNHNP Museum Nationale d'Histoire naturelle, Paris, France;  
cSV private collection, Stanislav Vit, Genève, Switzerland.

Abbreviation and conventions:

The following abbreviations are used to refer to measurements and ratios: A - antennae; b - base; co - combined; E - elytra; H - head; L - length; P - pronotum; W - width; also in combination: A.L./E.W. = ratio of Antennal Length/Elytral Width.

The labelling of treated specimens is given in its original version, free of any modification.

## SYSTEMATICS

### *Euconnus (Euconophron) alesi* sp. nov.

(Figs 1-11)

**Type material.** Holotype (♂): CHINA: Fujian Province, Wuyi Shan, ca 800 m, Sangan, 2.vi.2001, N27°75' E117° 68', Leg. J. Cooter + P. Hlavac, Sieved mixed forest litter (cSV). Paratypes (2 ♂♂): CHINA FUJIAN prov Wuyi Shan Nat. Res Sangan env. (900 m), 30.v-12.vi.2001, Hlavac & Cooter lgt (cSV, MHNG).

**Description.** Colour medium reddish-brown. Body length 1.53 -160 mm, body width 0.63-0.70 mm, integument glossy; pronotal base with only two lateral basal foveae; wings normally developed in male Body with fairly dense, long and suberect setae.

Head small, subrounded in dorsal aspect, as long as wide (including eyes); eyes well developed in male, but not strongly protuberant laterally (Fig. 1); occipital edge moderately projected backward (Fig. 2); frontoclypeal area significantly modified in male (Figs 1-2), exhibiting a deep median cavity recovered dorsally by a thick and obtuse frontal bump and frontally by a wide postclypeal blade directed backward, reaching each other (Figs 1, 2, 3) but not fused distally (Fig. 4). Frons apparently not fused with clypeus, slopping to the latter by a kind of narrow acute frontal projection (Fig. 3) separated by a suture and reaching medial splitting of the clypeus; clypeus divided medially (Fig. 5); labrum normally developed;

Antennae just slightly longer than combined length of head and pronotum, (ratio A.L./L.H.P.co.: 1.04), and longer than combined width of elytra (ratio A.L./co.E.W.: 1.14); antennal club four-segmented, very distinctive (Fig. 6), as long as antennomeres 2-6 combined; only antennomeres 9 and 10 transverse, antennomeres 11 - 9 finely bordered basally, apical antennomere elongate, nearly 1.5 times as long as wide; pedicle about twice as long as broad, shorter than scape, and just slightly shorter than two following antennomeres combined; antennomeres 3 - 7 longer than wide, subcylindrical, subequal; apex of antennomere 7 clinched inside the base of the antennomere 8 (Fig. 7).

Pronotum about as long as wide (ratio P.L./P.W. 0.95), densely setose, setation masking shallow prebasal lateral foveae (Fig. 8); shape of pronotum bell-like or subconical, convergent anteriorly, sides strongly convex; basal edge not bordered, bearing two prebasal pits, located very laterally, near the obtuse lateral carina.

Elytra longer than wide (ratio E.L./co.E.W.: 1.27-1.29), strongly convex; bearing subobliterate shallow punctures, covered with rather long suberect setae; dorsum non-depressed along the sutural edge; elytral base about as wide as that of pronotum, humeri fairly prominent; humeral ridge pronounced, distinctly separated from the disc (Fig. 8); base of each elytron with two non-tomentous basal foveae; scutellum small, generally hidden; basal parascutellar ridge absent (Figs 8, 9).

Venter free of sexual secondary characters on trochanters, metasternum or sternites. Mesosternum with a blade-like, strongly raised sternal lamina, higher than procoxae, thickened and pigmented on its fairly granulated and setose ventral edge, fused with metasternum, where slightly depressed, bearing an ovoid median pit; metasternum strongly convex in male, twice as wide as long, about one and half longer (including the process separating metacoxae) than sternal lamina and shorter than five following abdominal



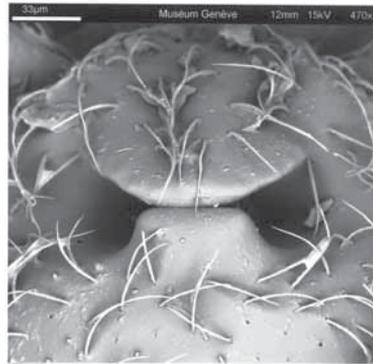
**1**



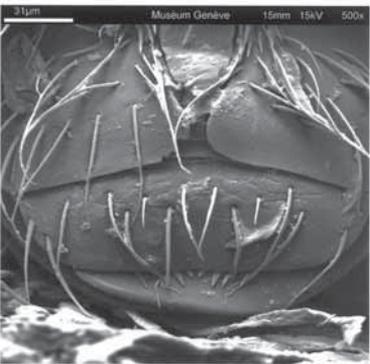
**2**



**3**



**4**



**5**



**6**

Figs 1-6. *E. (Euconophron) alesi* sp. nov. 1 - male head, in dorsal aspect; Fig. 2- idem, in lateral aspect; Fig. 3- idem, in frontal aspect; Fig. 4- idem, meeting of the frontal and postclypeal processes; Fig. 5- idem, medially split clypeus; Fig. 6- antennal club.



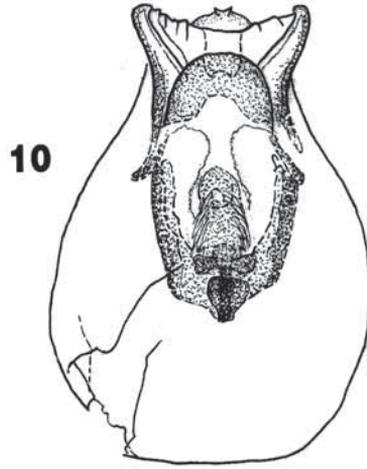
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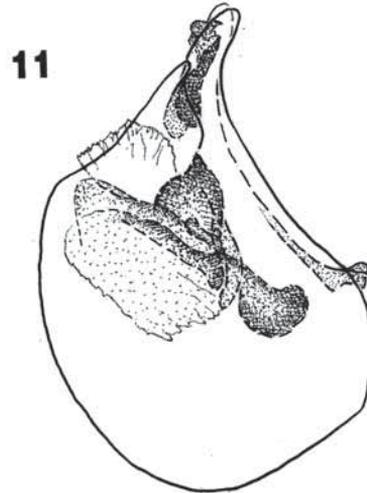


9



10

0.2



11

Figs 7-9. *E. Euconophron alesi* sp. nov. 7- antennomeres 6, 7, 8 with clinched connection of antennomere 7 inside the base of 8th antennomere; Fig. 8- base of elytra and pronotum; Fig. 9- toment-free basal foveae; Fig. 10- aedeagus in ventral aspect; 11- aedeagus in lateral aspect.

segments combined; apical edge surrounding the metacoxae provided with a single range of short setae; intercoxal process short, rounded but notched medially.

Legs free of marked features, characterized by weakly clavate femora, not distinctly compressed and stick-like tibiae, mesotibial cleaner with a preapical cluster of long setae, and short basal segments of the tarsi (basitarsite) about as long as following segment.

Aedeagus (Figs 10-11) rather compact, with weakly sclerotized basal capsula; apical lamina keeping weakly bifid, but endophallus lacks the paired sclerotized structures and parameres were not identified (possibly lost during the dissection).

Female unknown.

**Differential diagnoses.** *Euconnus (Euconophron) alesi* sp. nov. can be characterised by combination of following external features: four-segmented, sharply defined antennal club; antennomere 7 slender, stalk-like, clinched apically into the base of the segment 8; marked cephalic modifications in male, showing a transverse opening of the cranium provided with deep frontoclypeal cavity recovered by median bump of the frons and by median postclypeal blade directed backward; and by clypeus split medially.

## DISCUSSION

The cranial modifications of *E. alesi* sp. nov. seem present only in male as observed also in several other oriental *Euconnus* (unpublished personal observations), and are not so drastic as in *E. formiciceps* (Vit, 2006) from Thailand, where the marked hypertrophy of the vertex makes to shape the head as hypognathous-like. Nevertheless, the cranial modifications of both species concern the same cranial areas: upper limits of the frons; median frontal area; frontoclypeal area and clypeus. The organisation of the modified cranium is also similar to that seen in the male of *formiciceps* (cf. Vit 2006, Figs 1, 3), as well as the clypeus split in the middle and organised as two independent sclerites.

Aedeagus of *alesi* sp. nov. is not of very clearly characterized type. Its apical lamina satisfies the diagnosis of *Euconophron* but the homology of the internal sac is not clear and the presence of an ostium was hitherto not observed in *Euconophron* Reitter. Some aspects of the *Euconophron* aedeagus were tentatively discussed (Vit 2005 :191), but the aedeagus of the arbitrary chosen type species of the subgenus *Euconophron - Scydmaenus promptus* (Coquerel) can not be diagnose (cf. Remarks),

**Remarks.** The Catalogue of Palaearctic Coleoptera (Davies 2004) retained as valid 14 taxa of *Euconophron* from South Europe and North Africa. The species referred to the genus-name *Euconophron* keep still controversial. The subgenus *Euconophron* was erected by Reitter just to distinguish within the genus *Euconnus* Thomson several species absent from the Central European fauna (Fauna Germanica 1909: 226).

The constitutive combination of characters adopted by Reitter for the new subgenus was as follows: humeri well developed, base of elytra wider than pronotal base; pronotal sides more or less rounded and not markedly conical; antennae with well defined four-segmented club; head and pronotum evenly setose; pre-basal transverse depression of pronotum non interrupted on the midline by a keel; antennae lacking secondary sexual characters. The same combination of characters is so frequently incontented worldwide in *Euconnus* that it makes

problematical to fix the subgenus and include the new representatives into the subgenus *Euconophron*.

The above described *E. (Euconophron) alesi* sp. nov. from China exhibits equally all mentioned features, which makes me to include tentatively species *alesi* sp. nov. in the subgenus *Euconophron* Reitter.

The subgenus type-species, presently *Scydmaenus promptus* (Coquerel, 1860: 148), was not formally designated by Reitter (1909) but much later by H. Franz (1957). In his main synthetic contribution to West-Mediterranean *Euconnus* (Franz, 1957) the author fully adopted the diagnostic combination by Reitter, but set for the first time the aedeagal characters of *Euconophron*: „Penis stets mit zweispitzigen Apex“ (ibid.: 247) - on some specimens which were not the Coquerel's specimens.

A unique revision of the Coquerel's type specimens - contained in the Fairmaire's collection! (MNHN) - was led by Orousset (1998). The morphology aspects of the species were not commented, but the study states clearly that the holotype (by monotypy) of *E. (Euconophron) promptus* (Coquerel) is a female.

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