A NEW SUBSPECIES OF CARABUS (ACOPTOLABRUS) CONSTRICITICOLLIS KRAATZ, 1886 FROM SOUTH-WEST LIAONING, CHINA (COLEOPTERA: CARABIDAE)

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ABSTRACT: A new Carabus subspecies from South-West Liaoning, China is described and figured: Carabus (Acoptolabrus) constricticollis fei n. ssp. Correlations between closer subspecies are given.

KEY WORDS: Coleoptera, Carabidae, Carabus, Acoptolabrus, new subspecies, Liaoning, China.

The opportunity to study several Carabus L. from the South-Western part of Liaoning Province, China collected by one of the Autors (J.-K. Li) permitted to find a very interesting population of C. (Acoptolabrus) constricticollis Kraatz, 1886. This new population appears different from all the others known forms of C. (A.) constricticollis and it belongs to a new subspecies.

Carabus (Acoptolabrus) constricticollis fei n. ssp.
(Figs. 1-2)

Type locality: North East China, South West Liaoning Province, Liadong Peninsula, Haicheng City, Gusahanzhen, ErDaoHe, 700 m.

Type material: Holotypus ♀, locus typicus, 17/19-VI-2011, in the collection of Key Laboratory of remote sensing monitoring of geographic environment, College of Heilongjiang Province, Harbin Normal University, Harbin, China; Paratypus: 1 ♂ and 2 ♀ idem, in the collection of I. Rapuzzi.

Description
The new subspecies differs from all others known subspecies of C. (Acoptolabrus) constricticollis Kraatz, 1886 from Liaoning because of its very large size: 31,5 / 36,0 mm length (mandibles included), 10,0 / 11,2 mm large.
Dorsal surface metallic, very shiny: head and pronotum cupreus-red and elytra green to dark green. Primary and secondary intervals black. Antenna and palpi black. Legs, epipleurae, and underside of thorax, metallic violet, purplish-green.
The head and the neck are very long but larger than other known subspecies. Surface shiny and very faintly punctulate and rugulose. Mandibles very long and narrow, curved uniformly, longer than all other known forms. Retinacular teeth of mandibles bidentate. Labrum bilobate but less sinuate in the middle. Well developed palpi, subapical segment of labial palpi with two setae. Maxillary and
labial palpi with apical segment dilated, strongly dilated in the male. Tooth of mentum narrow and acute, shorter than lateral lobes.

Pronotum very long and narrow, the apex constricted before the neck, rounded in the middle, and constricted before the base. Hind angles well produced and divergent. The upper surface is very shiny and very faintly rugulose. Pronotum larger than others C. constricticollis forms with a deeper and larger basal depression, more shiny and shallow wrinkles. Its shape resembles C. (A.) leechi Bates, 1888 forms from the Korean Peninsula.

The body has the same characteristics as in C. constricticollis but less elongate, more convex, larger at the base, widened in the apical third. Intervals stronger and more convex: primary less numerous, wider spaced, and larger; secondary in form of tubercles very spaced, large half then the primaries; tertiary confused with the found grainy.

Legs very developed but stronger than C. constricticollis. Protarsi in male with 3 dilated segments, 4th protarsal segment without adhesive sole.

Apical lobe of aedeagus straight, more pointed and more curved (Fig. 4).

Discussion
C. (Acoptolabrus) constricticollis fei n. ssp. is well characterized from the other known subspecies according the bigger size, more ovate and convex elytra with more stronger intervals; larger pronotum, stronger head and different aedeagus apex. It seems to be the most South-Western population from Liaoning Province. Further investigations will be necessary to better understand its diffusion in the Liaodong Peninsula. This new subspecies is very interesting because in the North East China C. (A.) constricticollis Kraatz, 1886 seems to be very homogeneous species and all the populations belongs to the typical form; only very few population from Liaoning Province belongs to subspecies furumielloides Deuve, 1997 characterized by blue elytra and green pronotum but with the main characteristics as the nominative subspecies (Deuve et al., 2011). It is interesting to note that in the same area lives C. (Acoptolabrus) schrencki kimiae Kezuka & Imura, 1989 and C. (A.) s. hisakai Imura, 1990 which differs from the others known forms of C. schrencki for the same characteristics that we find in C. (A.) c. fei n. ssp.: larger size, stronger head, and very convex elytra.

Etymology
This magnificent new Carabus subspecies is cordially dedicated to the F.E.I.: Forum Entomologi Italiani.

Remarks
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LITERATURE CITED


Figure 1. C. (Acoptolabrus) constricticollis fei n. ssp.. Holotypus Female.

Figure 2. C. (Acoptolabrus) constricticollis fei n. ssp.. Paratypus Male.
Figure 3. *C. (Acoptolabrus) constricticollis fei* n. ssp.. Aedeagus in frontal and lateral views.

Figure 4. Detail of apical lobes of aedeagus:
up - *C. (Acoptolabrus) constricticollis constricticollis* Kraatz, 1886,
down - *C. (Acoptolabrus) constricticollis fei* n. ssp.