Studies and Reports
Taxonomical Series 15 (1): 217-222, 2019

Two new species of the genus *Syntomium* Curtis, 1828 from China (Coleoptera: Staphylinidae: Oxytelinae: Syntomiini)

Aleš SMETANA

Agriculture and Agri-Food Canada, Central Experimental Farm,
K. W. Neatby Building, Ottawa, Ontario K1A 0C6, Canada
e-mail: ales.smetana@agr.gc.ca

Taxonomy, description, new species, geographical distribution, Coleoptera, Staphylinidae, Oxytelinae, Oxytelini, Syntomiini, *Syntomium*, China

Abstract.Two species of the genus *Syntomium* Curtis, 1828 from mainland China are described as new: *S. metasternale* sp. nov. (Sichuan: Erlang Shan; Emei Shan) and *S. sororium* sp. nov. (Sichuan: Gongga Shan). Each species is described, illustrated and all available distributional and bionomic data are given. The two species are first representatives of the genus *Syntomium* in mainland China. They may represent a clade within the genus.

INTRODUCTION

Syntomium Curtis, 1828 is a small genus of the north temperate zone, containing at present eight species, four in each Palaearctic and Nearctic Regions. In the Palaearctic Region *S. aeneum* P. W. J. Müller, 1821 is widely distributed throughout Europe, eastward to Caucasus (Tikhomirova, 1973); *S. longicorne* Peyerimhoff, 1913 is restricted to Algeria; *S. japonicum* Watanabe & Shibata, 1960 is distributed on the Japanese islands of Honshu and Shikoku (Shibata, 1976) and *S. marusiki* Ryabukhin, 1992 is known from the Magadan Province of northeastern Russia (Herman, 2001). No species has been recorded from China so far. In the Nearctic Region *S. confragrosum* Mäklin, 1852 is distributed from Alaska through British Columbia and Alberta to Quebec in Canada (Bousquet et al., 2013); *S. grahami* Hatch, 1957 is known only from British Columbia in Canada (Bousquet et al. 2013); *S. keenianum* Casey, 1904 in is known from the Pacific Coast from Oregon and Washington in the USA and from British Columbia in Canada (Herman 2001) and *S. malkini* Hatch, 1957 is known from Alaska and British Columbia in Canada (Bousquet et al. 2013).

The higher classification of *Syntomium* went through considerable changes over the years. Heer (1839) and Erichson (1839) almost simultaneously included *Syntomium* in the "Trib. IV. Coprophilina (Heer) and in the Subtrib. 4. Coprophilini (Erichson) and this is where *Syntomium* appeared in the Coleopterorum Catalogus (Bernhauer & Schubert 1911). However, a couple of years earlier Reitter (1909) established "Untertribus Deleasterini" in which *Syntomium* and *Deleaster* Erichson, 1839 were included. Much later Böving & Craighead (1931) erected for *Syntomium* the subfamily Syntomiinae that eventually was downgraded to a tribe. Eventually, *Syntomium* was included in the tribe Euphaniini Reitter, 1909 (Bouchard et al. 2011; Bousquet et al. 2013) that also included both Deleasterini and Syntomiini. Hovewer, Khachikov (2012) resurrected both Deleasterini and Syntomiini as

tribes and this was accepted in the most recent Catalogue of Palaearctic Coleoptera (Schülke & Smetana, 2015) and I follow this concept.

MATERIAL AND METHODS

Acronyms used in the text when referring to the deposition of the specimens are as follows:

APC collection of Andreas Pütz, Eisenhüttenstadt, Germany;
ASC collection of Aleš Smetana, deposited at The Museum of Nature and Science, Toshiba, Japan;
CNC Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Canada;
IZAS Institute of Zoology, University of Chinese Academy of Sciences, Beijin, People's Republic of China;
MSC collection of Michael Schülke, Berlin, Germany.

The measurements ratios given in the descriptions are average values when more than one specimen was available. Label data for all type specimens are quoted exactly as they appear on the label.

TAXONOMIC PART

The two new species of *Syntomium* described in this paper differ from all remaining species of the genus by the large and wide, relatively long elytra that are both at suture and at sides markedly longer than pronotum at midline and by the oversized, convex metasternum (compare Figs. 1-4). They likely form a clade within the genus.

Syntomium metasternale **sp. nov.**

(Figs. 3, 4, 6)

Type locality. CHINA: Sichuan Ya'an Prefecture, Tianquan Co., 9 km SE Luding, E Erlang Shan Pass, 2900 m, 29°52'N 102°18'E.

Type material. Holotype (♂): "CHINA: W-Sichuan 1999 Ya'an Prefecture, Tianquan Co. E Erlang Shan Pass, 2900 m 9 km SE Luding, 29°52'N 102°18'E, Gesiebe, 22.VI., leg. M. Schülke" / Sammlung M. Schülke Berlin", (MSC). Allotype (♀): "CHINA: W-Sichuan Ya'an Prefecture, TianquanCo., Erlang Shan Pass / 2900 m, 22.VI.1999, 29.52.36N, 102.17.82E leg. A. Pütz / Sammlung Andreas Pütz Eisenhüttenstadt", (APC). (see Comments). Paratypes: (2 ♂♂): same data as holotype, (ASC, MCS); (1 ♂): same data as allotype, (APC); (1 ♂): P.R. CHINA, Sichuan, Emei Shan N29°31'52.9" E103°19.57.1" , 15.vi. 2010, 2748 m, sifting 32, V. Grebennikov / CNCCOLVG OOOOO920"), (CNC).

Description. Black, with slight dark metallic hue; body, including abdomen, shiny; forebody with sparsely set, pale setae originating in punctures, setae denser on clypeus; antennae black, with up to three outer segments indistinctly paler, all segments with pale setae; maxillary and labial palpi black, last segment of maxillary palpus markedly narrower than preceding segment, subulate; legs black with all tarsi and tibiae usually slightly paler. Head with distinct epistomal suture, considerably shorter than across eyes wide, measured from epistomal suture to nuchal

constriction (ratio 0.48), including eyes distinctly narrower than pronotum at widest point (ratio 0.75); eyes moderately convex, taking entire lateral portions of head, obliterating temples (length 8.0 units); clypeus large, subarcuate anteriorly; labrum deeply, widely emarginated; vertex of head with deep and coarse, partially confluent punctures, areas mediad and posteriomediad of eyes with a few finer punctures; surface between punctures without any microsculpture; neck separated from head by distinct groove, with distinct scale-like microsculpture on lateral and declined portions; antennae each of typical *Syntomium*-configuration, three outer segments forming a loose, but distinct club. Pronotum (Fig. 3) relatively narrow, slightly wider than long (ratio 1.19), considerably narrower than combined elytra at widest point (ratio 0.543); highly transversely convex in anterior half, gradually flattened toward posterior margin, widest at about anterior third and from there in straight or slightly concave line narrowed toward more or less obtusely angulate posterior angles; lateral margins each with inconspicuous, obtuse crenulation; middle portion of pronotum, except for about apical fourth, bearing only scattered fine punctures, with large and deep, partially confluent, pit-like punctures and with narrow, longitudinal smooth elevation in front of posterior margin, lateral portions of pronotum with coarse, but distinctly finer punctures than those pit-like ones; interspaces between punctures without any microsculpture. Scutellum with oval impression. Metasternum (Fig. 4) large, convex, widely separating middle and hind coxae, finely, sparsely punctate, punctures with short pale setae. Elytra (Fig. 3) large and wide, relatively long, both at suture and at sides markedly longer than pronotum at midline (respective ratios 1.692 and 1.923), their maximum width longer that their maximum length (from humerus to the farthest point on posterior margin) (ratio 1.140); each elytron dilated posteriad from humerus to slightly past midlength and from there markedly, slightly arcuately narrowed mediad to an obtuse point on posterior margin and from there considerably, continuously and in a straight line narrowed toward the vaguely dehiscent suture (Fig. 6); disc of each elytron with very coarse, partially confluent punctures, base and the markedly sloping lateral portion with considerably finer punctures, punctures with short, pale setae; interspaces between punctures without microsculpture. Abdomen entirely exposed starting with tergite 4, each tergite smooth, shiny, with sparse micropunctulae bearing pale microsetae, tergite seven with posterior margin fimbriate.

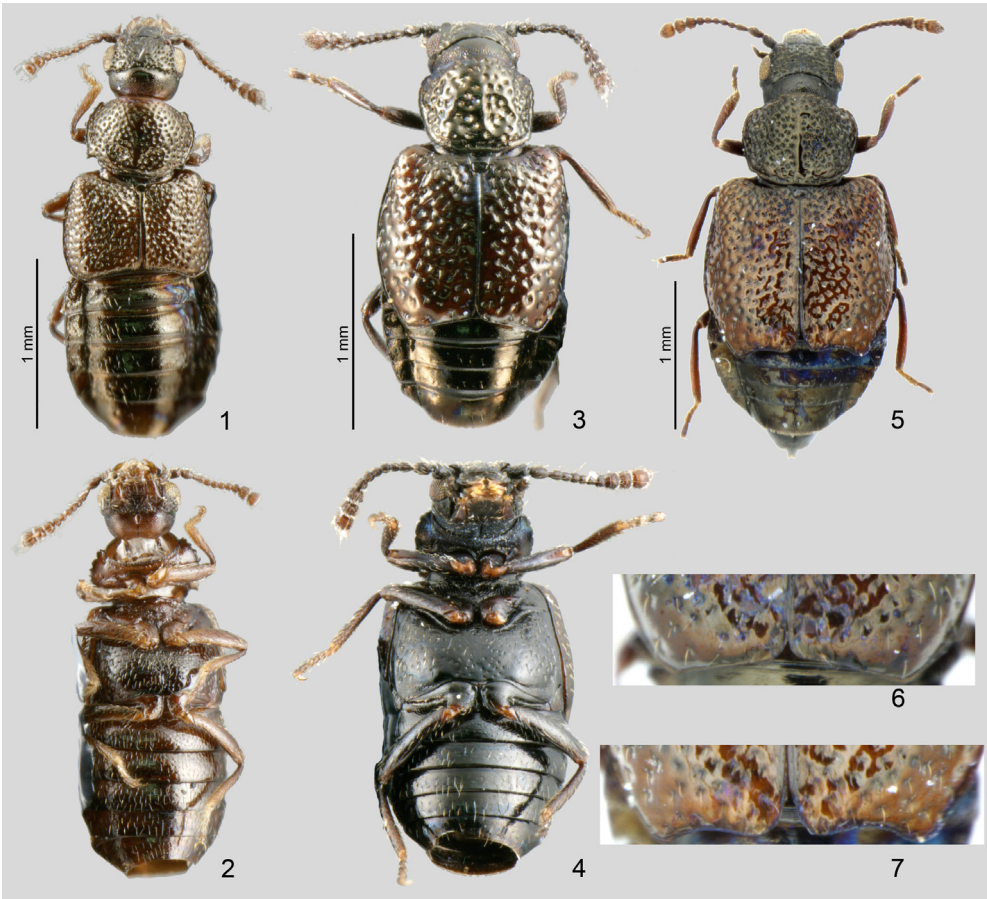
Male. Aedeagus (Fig. 8) elongate, with voluminous bulbus; median lobe narrow, subparallel-sided, with apical portion narrowly, shortly split, each arm bearing a knob-like structure at apex; parameres each quite narrow and long, not reaching apex of median lobe, without any setae.

Female. Genital segment not studied. Length 1.8-2.1 mm.

Differential diagnosis. Differs from all congeners, except for *S. sororium* sp. nov., by the large and wide, relatively long elytra that are both at suture and at sides markedly longer than pronotum at midline, and by the oversized, convex metasternum.

Geographical distribution. The species is at present known from two mountain ranges in Sichuan: Erlang Shan and Emei Shan.

Bionomics. Specimens were collected at the elevations of 2748 m to 2900 m by sifting, but no details of the habitat are available, except that the specimen from Emei Shan was sifted from floor litter in a deciduous forest (V. Grebennikov, personal communication).



Figs. 1-7. *Syntomium aeneum*: 1- dorsal habitus; 2- ventral habitus; *Syntomium metasternale* sp. nov.: 3- dorsal habitus; 4- ventral habitus; 6- apical margin of elytra. *Syntomium sororium* sp. nov.: 5- dorsal habitus; 7- apical margin of elytra. Figs. 1–4 were taken using directed little diffused light from two laterally oriented light sources; Fig. 5 was taken using much diffused ring light reflected from inside a white cone; these differences account for apparent "flatness" and lack of reflection on Fig. 5.

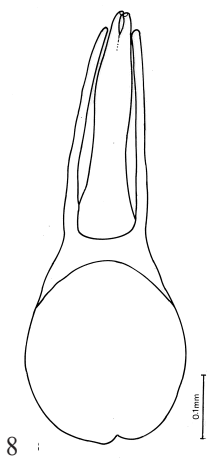


Fig. 8. *Syntomium metasternale* sp. nov.: aedeagus, ventral view.

Comments. The female allotype is a specimen in bad shape: broken in two pieces (abdomen separated, terminal parts of it mounted in Canada balsam on an transparent plate attached to the pin with the specimen), with middle and hind legs missing.

Etymology. The specific epithet is the Latin adjective *metasternalis*, *-e* (of metasternum), referring to the oversized metasternum of the species.

Syntomium sororium **sp. nov.**

(Figs. 5, 7)

Type locality. China: Sichuan, NE slope Gongga Shan, N29°50'50" E102°02'28", 3170 m.

Type material. Holotype (♀): "P. R. CHINA: Sichuan, NE slope Gongga Shan, N29°50'50" E102°02'28", 09.vi.2011, 3170 m, sift 4, V. Grebennikov", (IZAS).

Description and differential diagnosis. In all character states similar to *S. metasternale* sp. nov., but different as follows: body larger and more robust, elytra particularly more voluminous. Three outer segments of antenna moderately paler than rest of antenna. Head wider (ratio width/length 0.44) with slightly more numerous punctures, more distinctly narrower than pronotum at widest point (ratio 0.729). Eyes larger (length 9.5 units). Pronotum wider (ratio width/length = 1.233), but more distinctly narrower than combined elytra at widest point (ratio 0.492), with punctation of similar type and general appearance, but distinctly finer and more regular, particularly on disc (Fig. 5). Metasternum larger and more convex. Elytra (Fig. 5) larger and wider, both at suture and at sides more distinctly longer than pronotum at midline (respective ratios 1.827 and 2.0), shaped in a similar way as those of *S. mettasternale* sp. nov., but posterior margin continuing (not narrowed) from the obtuse point sinuously toward another obtuse point at the end of the markedly dehiscent suture (Fig. 7); each elytron with vague impression behind humerus; punctation of same character as that of *S. mettasternale* sp. nov., but slightly coarser on the disc.

Female. The holotype was not dissected, therefore no details of the sclerites of the genital segment are given. Length 2.7 mm.

Male. Unknown.

Geographical distribution. *Syntomium sororium* is at present known only from the type locality on Gongga Shan, Sichuan.

Bionomics. The holotype was taken by sifting ground litter in a deciduous forest at the elevation of 3170 m (V. Grebennikov, personal communication).

Etymology. The specific epithet is the Latin adjective *sororius*, *-a*, *-um* (sisterly), referring to the similarity of the two species.

ACKNOWLEDGMENTS. I thank Vasily Grebennikov, Canadian Food Inspection Agency, Ottawa, Canada for taking the color photographs and Go Sato, Agriculture and Agri-Food Canada, Ottawa, who carefully finished the line drawings.

REFERENCES

Bernhauer M. & Schubert K. 1911: Staphylinidae II. (Pars 29). In: Junk W. & Schenkling S. (eds.). *Coleopterorum Catalogus. Volumen 5. Staphylinidae.* Pp.87-190. Berlin, Junk, 988 pp.

Bouchard P., Bousquet Y., Davies A. E., Alonzo-Zarazaga M. A., Lawrence J. F., Lyal C. H. C., Newton A. F., Reid C. M. A., Schmitt M., Slipinski S. A. & Smith A. B. T. 2011: Family-group names in Coleoptera (Insecta). *ZooKeys* 88: 1-972.

Bousquet Y., Bouchard P., Davies A. E. & Sikes D. S. 2013: *Checklist of beetles (Coleoptera) of Canada and Alaska. Second Edition.* Sofia-Moscow: Pensoft, 402 pp.,

Böving A. G. & Craighead F. C. 1931: An illustrated synopsis of the principal larval forms of the Order Coleoptera. *Entomologica Americana* 11: 1-351, 125 pls.

Casey M. 1904: On some new Coleoptera, including five new genera. *The Canadian Entomologist* 36: 321-323.

Curtis J. 1828: *British Entomology, being illustrations and descriptions of the genera of insects found in Great Britain and Ireland: containing coloured figures from nature of the most rare and beautiful species, and in many instances of the plants upon which they are found*. London: J. Curtis, 1: pls 1-50.

Erichson W. F. 1839: viii + 400 pp. In: *Genera et species staphylinorum insectorum coleopterorum familiae*. Berlin: F. H. Morin, 954 pp.

Hatch M. H. 1957: *The beetles of the Pacific Northwest. Part II: Staphyliniformia.* Seattle: University of Washington Press, ix + 384 pp.

Heer O. 1839: *Fauna Coleopterorum Helvetica.* Pars 1. Turici, Orelii, Fuesslini et Sociorum, xii + 652 pp.

Herman L. H. 2001: Catalogue of the Staphylinidae (Insecta: Coleoptera). 1758 to the end of second millenium. III. Oxyteline Group. *Bulletin of the American Museum of Natural History* 265: i-v + 1067-1806.

Khachikov E. A. 2012: K poznaniu taksonomii podsemeistva Oxytelinae Flaming, 1821 (Coleoptera: Staphylinidae). To the knowledge of taxonomy of the subfamily Oxytelinae Fleming, 1821 (Coleoptera: Staphylinidae). *Caucasian Entomological Bulletin* 8: 213-231.

Mäklin F. G. 1852: [New species and notes}. In: C. v. Mannerheim, Zweiter Nachtrag zur Kaefer-Fauna der Nord-Amerikanischer Laender des Russischen Reiches. *Bulletin de la Société Impériale des Naturalistes de Moscou* 25: 283-387.

Müller P. W. J. 1821: Neue Insekten. *E. Germar's Magazin der Entomologie* 4: 184-220.

Peyerimhoff P. de 1913: Nouveaux Coléoptères du Nord-Africain (seizième note, faune du Djurdjura). *Bulletin de la Société Entomologique de France* 1913: 253-255.

Ryabukhin A. S. 1992 : Novyi vid roda *Syntomium* (Coleoptera, Staphylinidae, Oxytelinae) s severo-vostoka Azii. *Zoologicheskii Zhurnal* 71: 147-149.

Reitter E. 1909: *Fauna Germanica. Die Käfer des Deutschen Reiches. Nach der analytischen Methode bearbeitet. 2.* Stuttgart: K. G. Lutz, 1-392 pp.

Schülke M. & Smetana A. 2015: Staphylinidae. In: Löbl I. & Löbl D. (eds.): *Catalogue of Palaearctic Coleoptera. Vol. 2. Hydrophiloidea-Staphylinoidea. Revised and updated edition.* Leiden-Boston: Brill, xxv + 900 pp.

Shibata Y. 1976: Provisional check list of the family Staphylinidae of Japan. *Annual Bulletin of the Nichidai Sanko* 19: 71-212.

Tikhomirova A. L. 1973: *Morfoekologicheskie osobennosti i filogenez stafilinid (s katalogom fauny SSSR).* Moskva: Izdatel'stvo Nauka, 191 pp.

Watanabe Y. & Shibata Y. 1960: Description of a new species of genus *Syntomium* in Japan (Col. Staphylinidae). *Journal of Agricultural Science* 6: 103-105.

Received: 10.9.2018
Accepted: 20.10.2018
Printed: 31.3.2019