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## SYMBIOTES DURYI, A NEW SPECIES OF ENDOMYCHIDAE.<sup>1</sup>

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(Contributions from the Biological Laboratory, Kenyon College, No. 7.)

The genus *Symbiotes* of the family Endomychidae belonging to the Coleoptera has prior to the year 1908, been unrepresented by any described species from North America although Leconte and Horn (1883) erroneously referred *Rhymbus ulkei* Crotch, and *Rhymbus minor* Crotch, to this genus in their classification of the Coleoptera of North America.

Consequently it was with much interest that the writer in November, 1907, collected two specimens at Gambier, O., which through acquaintance with the European representatives of *Symbiotes* were immediately referred to that genus. This occurred only a few days prior to the annual Thanksgiving meeting of the Ohio Academy of Science at Oxford, presided over by the President, Mr. Charles Dury, of Cincinnati, an indefatigable collector of Coleoptera as well as a keen student of nature. It therefore seemed most appropriate that the name *duryi* should be conferred upon the species which had so opportunely presented itself, an idea which was carried into effect at the meeting, the specimens also being exhibited.

This was noted in the Proceedings of the Academy for 1907 (mailed about June 1, 1908). Blatchley, (1910), after communicating with the writer as to the systematic arrangement of the

<sup>1</sup>Read before the meeting of the Ohio Academy of Science, Columbus, December 1, 1911.

Endomychidae and the generic characters of the genus *Symbiotes* for his forthcoming paper on the Coleoptera of Indiana, gave a description of "*Symbiotes duryi* Walton MS" (p. 536) in that most excellent report. The collection and study of representatives of the genus however, had not at that time proceeded sufficiently so that the description is of value in differentiating this species from the several other species of *Symbiotes* occurring in North America.

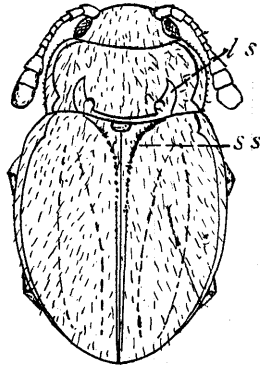


FIG. 1. *Symbiotes duryi* n. sp. (x25).  
ls=longitudinal sulcus. ss=submarginal stria.

The genus was founded by Redtenbacher in 1849 for the reception of *S. latus* the generic name being based on the supposition that the species was myrmekophilous. While at times *S. latus* as well as other European forms appear to have been found in association with ants, it is evidently not characteristic in general of the species and the actual habitat is rather one of association with the lower forms of fungi on the spores of which the individuals feed, as noted in another part of the present paper.

Only six species of *Symbiotes* have thus far been described, three from the European region, two from Japan, and one from South America.

The two representatives of the species which have been found were taken under a slightly decayed hardwood log near the south side of the "Hotel Hill" road bridge at Gambier, the log being partially covered with one of the lower forms of fungi, on the spores of which the *Symbiotes* feed. In accordance with other representatives of the genus, the species is exceedingly small, being less than 2 mm. in length. The drawings below (Fig. 2) indicate certain anatomical details. The description follows:

*Symbiotes duryi* n. sp.

CHARACTERS.—Form more or less broadly oval, moderately convex, scarcely pubescent, color dull testaceous; head scarcely punctate, antennae with club moderate in size, 1. segment large, 2. segment narrow but of approximately the length of the 1. segment and equal to the 3. and 4. together, 3.–8. subequal in length but slightly increasing in diameter, 9. larger, triangular, 10. transverse, about three-fourths as long as the 9. 11. asymmetrically pointed. Prothorax twice as wide as long, strongly rounded anteriorly, broadest at middle, margins toothed, median region convex, base with a strong transverse sulcus from the lateral portions of which extend on each side triangular longitudinal sulci reaching anteriorly about half the length of the prothorax.

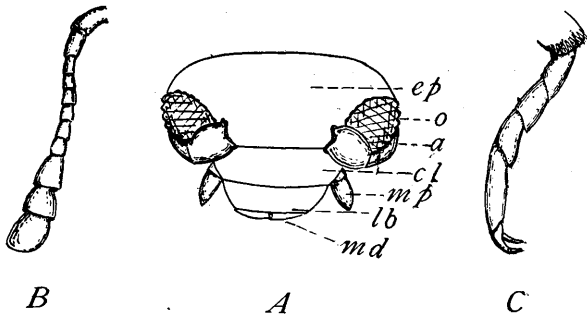


FIG. 2. *Symbiotes duryi*. A=head (x50). ep=epicranium. o=eye. a=second segment antennae. cl=clypeus. mp=distal segment maxillary palpus. lb=labrum. md.=mandible.

B=antenna (x50). C=metathoracic tarsus (x100).

Elytra short, oval, decidedly broader than the prothorax, attaining their greatest width about one-fifth of their length from the base; punctures arranged in more or less confused rows; subsutural striae broadly curved at the scutellum and attaining the middle of the base of the elytra; composed of extremely large punctures which reach their maximum size near the scutellum.

Length 1.9 mm.

DISTRIBUTION.—Gambier, Ohio, (U. S. A.).

The species is easily distinguished from its nearest ally *S. gibberosus* Lucas, of Europe, and from other undescribed North American species, through the comparatively much broader elytra and the extremely large punctures near the scutellum in the subsutural striae. Furthermore it is darker in color, and there is a difference in the arrangement of the ordinary elytral striae.

One of the specimens was partially dissected which afforded an opportunity of observing the contents of the digestive tract. This

was found to contain a mass of minute spores each somewhat oval in form and 10 mic. in length. The entire tract from the mid portion of the metathorax was filled with the spores, and by counting the number in a given area, an approximation of the total gave 13,500 for the number in the tract. Unfortunately the fungus with which the species was in association was not collected, so even the family to which it belonged cannot be noted with certainty.

It seems certain that Symbiotes will be found widely distributed in North America.

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