（学位第３号様式）

学 位 論 文 要 旨

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題　目	Taxonomic and ecological studies on gall midges (Diptera: Cecidomyiidae) belonging to the tribe Asphondyliini. （タマバエ科ハリオタマバエ族の分類学的および生態学的研究）

The tribe Asphondyliini (Diptera: Cecidomyiidae) is a well-circumscribed monophyletic group of gall midges and consists of over 500 plant-gall inducing species. In this thesis, several systematic, phylogenetic and ecological studies have been conducted on gall midges of this tribe. First, the pupal stage of several Asphondyliini species and genera was described in detail to evaluate the taxonomic importance of the dorsothoracic characters for the first time in gall midges. The cuticle surface nature and the number and distribution of the papillae on thorax were clarified to be usually stable on the generic level, and sometimes on species level. Second, a new Schizomyiina genus associated with grapes *Vitis* spp. (Vitaceae) was established to contain an undescribed Japanese species, and three odd North American *Schizomyia* species associated with grapes. A key to species was designed and the host range of the Japanese species was clarified based on molecular phylogenetic analysis. Third, a systematic and molecular phylogenetic study was conducted to determine the taxonomic relationship between the Schizomyiina genera *Asteralobia* and *Schizomyia*. The morphological examinations clarified that no synapomorphic differences are existing between the two genera. Then both genera constructed a monophyletic clade together and *Asteralobia* was polyphyletic within *Schizomyia*. Therefore, *Asteralobia* was subsumed under *Schizomyia* and several new species to science were described. Finally, the co-existence of two insects, *Asphondylia* sp. (Diptera: Cecidomyiidae) and *Ceratoneura* sp. (Hymenoptera: Eulophidae), on leaf bud galls on *Schoepfia jasminodora* Sieb. et Zucc. (Schoepfiaceae) was reported. First, the gall midge species was described as new to science and phylogenetic analysis for known Japanese *Asphondylia* were conducted. Second, the life history of two gall inducers were surveyed monthly in 2015–2017 and revealed that they are multivoltine. This the first report of the annual life history of *Ceratoneura* and showed that the species is probably a true gall inducer. *Asphondylia* sp. represents the first example of a monophagous *Asphondylia* species with multivoltine life history on a deciduous tree.