TABLE 1
Species of *Dolichoderus* Herder Ants and of Allomyrmococcini Mealybugs Herded, and Region

Dolichoderus spp.	*Allomyrmococcini* spp.	Region
D. coniger	*Malaicoccus sp. E*[a]	Borneo (Sabah: Poring)
D. coniger	*M.* sp. L	Borneo (West Sarawak)
D. cuspidatus	*M. formicarii*	W. Malaysia (various areas)
D. cuspidatus	*M. moundi*	W. Malaysia (Genting Highl.)
D. cuspidatus	*M. riouwensis*	North Sumatra
D. cuspidatus	*M. takahashii*	W. Malaysia (South)
D. cuspidatus	*M.* sp. B	W. Malaysia (Bukit Larut)
D. cuspidatus	*M.* sp. D	Borneo (East Sarawak)
D. cuspidatus	Genus 1 sp. A	Borneo (Sabah: Poring)
D. cuspidatus	Genus 6 sp. A	Borneo (West Sarawak)
D. cuspidatus	Genus 6 sp. B	Borneo (West Sarawak)
D. erectilobus	*Paramyrmococcus chiengraiensis*	Thailand
D. feae	*Allomyrmococcus acariformis*	Thailand
D. furcifer	Genus 5 sp. A	West Sumatra
D. gibberifer	*Hippeococcus wegneri*	West Java
D. tuberifer	*Malaicoccus khooi*	W. Malaysia (Genting Highl.)
D. tuberifer	*M.* sp. F	Sumatra (West Sumatra)
D. tuberifer	*M.* sp. G	W. Malaysia (Southeast coast)
D. tuberifer	*M.* sp. H	W. Malaysia (Cameron Highl.)
D. tuberifer	*M.* sp. I	W. Malaysia (Pahang)
D. sp. A	Genus 2 sp. A	Borneo (Sabah: Poring)
D. sp. B	Genus 4 sp. A	Borneo (Sabah: Poring)
D. sp. C	Genus 2 sp. B	Borneo (Sabah: Kinabalu HQ)
D. sp. D	Genus 3 sp. A	Borneo (Sabah: Poring)
D. sp. E	Genus 6 sp. C	Borneo (West Sarawak)

[a]Provisional numbers and letters refer to genera or species to be scientifically described and named (from Dill and Maschwitz, 1998).

tions in exchange for protection from natural enemies by the ants (e.g., Pierce and Easteal, 1986; DeVries, 1991), appear to be particularly successful, with numerous Lepidoptera (e.g., lycaenids, riodinids, and tortricids [Maschwitz et al., 1986, 1987; Fiedler and Maschwitz, 1989; Hölldobler and Wilson, 1990]), Heteroptera (Maschwitz and Klinger, 1974, Maschwitz et al., 1987), as well as Sternorrhyncha and Auchenorrhyncha (Maschwitz, 1990) serving as the trophobiont. Trophobiotic interactions may involve merely the harvesting of honeydew excretions from some Coccoidea, or ants may actually stimulate the trophobiont to exude honeydew by stroking them.

The many thousands of species of scales (Coccoidea), greenflies (Aphidoidea), whiteflies (Aleyrodoidea), plant lice (Psylloidea), and various membracids or fulgorids that live in trophobiosis with ants exhibiting different stages of symbiotic evolution suggest that these associations have evolved independently numerous times. In the most advanced stages of trophobiosis, the relationship between participants is obligatory. Among those obligatory relationships that involve homopterans, ants establish new nests or colonies with their trophobiont, transferring one or more directly from the parent colony. At least 12 *Dolichoderus* (Dolichoderinae) ant species from Southeast Asia were discovered recently to herd more than 24 species of mealybugs in 10 genera (see table 1). These *Dolichoderus* herdsmen establish new colonies by fission and the workers bring with them a self-contained colony of mealybugs (Maschwitz and Hänel, 1985; Dill and Maschwitz, 1998, Maschwitz and Dill, 1998).

In other genera, the trophobiont is brought to the new nest site by young gynes. Gynes of the myrmecophytic ant, *Aphomomyrmex*