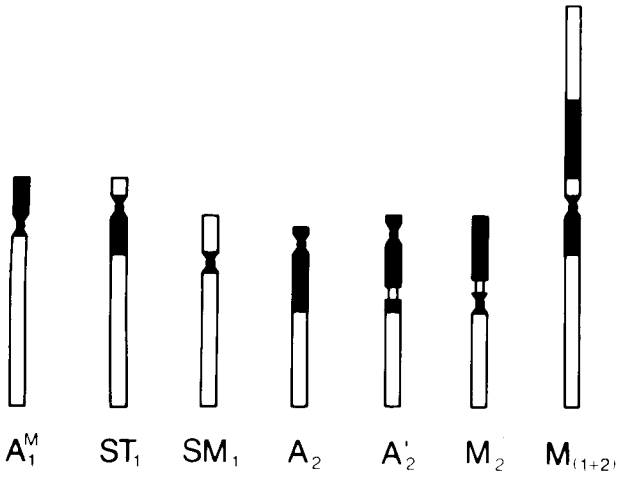

Fig. 1. Schematic representation of polymorphic chromosomes observed in *Myrmecia (pilosula) n=1* and abbreviations of their nomenclature. Chromosome 1: A_1^M a (hypothetical) acrocentric chromosome with extraordinarily elongated heterochromatic short arm (=pseudo-acrocentric); ST_1 a subtelocentric chromosome derived from A_1^M by a pericentric inversion; SM_1 a submetacentric chromosome derived from A_1^M by a pericentric inversion. Chromosome 2: A_2 an acrocentric chromosome with a large heterochromatin block at the proximal region of the long arm; A_2' an acrocentric chromosome derived from A_2 by a chromosomal gap insertion; M_2 metacentric with a totally heterochromatic short arm derived from A_2' by a centromere shift. Chromosome 1 and chromosome 2: $M_{(1+2)}$ a large metacentric chromosome found in the $n=1$ karyotype resulting from a telomere fusion between ST_1 and A_2

(2.5×3 cm^2). The preparation is heated in a steamer (water bath) at 73° C for 3.5 min. After cooling the preparation to ca. 40° C in air, the nylon mesh and the precipitated silver particles are removed with running tap-water, and the slide allowed to dry completely. Best results are obtained if fresh preparations (within 1 day) are used.

As the chromosomal polymorphisms found in *M. (pilosula) n=1* are extremely complicated, in the present text we use the following abbreviations of the chromosomal nomenclature:

A_1^M, ST_1, and SM_1 for chromosome 1
A_2, A_2', and M_2 for chromosome 2
$M_{(1+2)}$ for the $2n=2$ karyotype.

For details see Figure 1.

For the same reason, we formulate polymorphic karyotypes of this species following terminology 'K' devised by Imai and Crozier (1980). For example, the diploid karyotype with one pair of $M_{(1+2)}$ chromosomes is represented $2K=2M_{(1+2)}$ (Fig. 2a), and that having one pair of SM_1 and one pair of A_2' is formulated $2K=2SM_1+2A_2'$ (Fig. 2h).

Results

Chromosomal polymorphism in M. (pilosula) n=1

The *pilosula* colony which was first found at Tidbinbilla (near Canberra) showed a homomorphic karyotype, i.e., one pair of large metacentrics ($2K=2M_{(1+2)}$ in our nomenclature) (Crosland and Crozier 1986; Imai et al. 1988a). Our present observations revealed, however, that this ant species has a chromosome number variation. Diploid chromosome numbers were observed in the range $2n=2$, 3, and 4 (Table 1). Among ten colonies examined, three colonies had homomorphic karyotypes for either $2n=2$ (HI87-151 and 157) or $2n=4$ (HI87-165). The other ones showed heterogeneous chromosome numbers; $2n=2$ or 3 (HI87-148, 150, 153, and 213), $2n=3$ or 4 (HI87-136 and 154), and $2n=2$ or 3 or 4 (HI87-235). For details, see Figures 2 and 3. As each individual had its own stable chromosome number ($2n=2$ or 3 or 4), this chromosome number variation does not result from the so-called B-chromosome.

All of the $2n=2$ karyotypes comprise one pair of large metacentrics (Fig. 2a), but those having $2n=3$ or 4 are

Table 1. Karyological data of *Myrmecia (pilosula) n=1*

Colony codes (HI87-)	No. of chromosomes $2n$	No. indivisual observed	Modal cell no. observed	Diploid karyotype (2K)
136	3	8	160	$1M_{(1+2)}+1SM_1+1M_2$
136	4	7	128	$2SM_1+2M_2$
148	2	1	20	$2M_{(1+2)}$
148	3	9	180	$1M_{(1+2)}+1SM_1+1M_2$
150	2	5	84	$2M_{(1+2)}$
150	3	5	90	$1M_{(1+2)}+1SM_1+1M_2$
151	2	9	180	$2M_{(1+2)}$
153	2	1	20	$2M_{(1+2)}$
153	3	5	100	$1M_{(1+2)}+1SM_1+1M_2$
154	3	3	60	$1M_{(1+2)}+1SM_1+1M_2$
154	4	3	60	$2SM_1+2M_2$
157	2	3	30	$2M_{(1+2)}$
165	4	1	20	$2SM_1+2A_2'$
165	4	5	100	$2SM_1+1A_2+1A_2'$
213	2	3	60	$2M_{(1+2)}$
213	3	7	140	$1M_{(1+2)}+1SM_1+1A_2$
235	2	3	60	$2M_{(1+2)}$
235	3	3	60	$1M_{(1+2)}+1ST_1+1A_2'$
235	4	8	170	$1ST_1+1SM_1+2A_2'$