This poorly known parrot has been found in six areas in Colombia, Ecuador and northern Peru. It may be partly overlooked and more widespread, but as an inhabitant of the upper tropical and lower subtropical zone it is threatened by deforestation, at present mostly so in Colombia.

DISTRIBUTION The Spot-winged Parrotlet is known from 11 specimens collected at eight different localities, with sightings at three additional sites, all falling within six general areas in Colombia, Ecuador and Peru. However, it must often be overlooked by anyone not familiar with its calls (Ridgely 1981a, Davis 1986), and may be more or less continuously distributed in the eastern foothills of the Andes from the Macarena mountains, Meta department, Colombia, to northern San Martín department, Peru (Ridgely 1981a, NK).

Colombia The type was described by Sclater (1862) on the basis of a "Bogotá" specimen, which could have been taken anywhere from the head of the Magdalena valley to the llanos east of the East Andes (Chapman 1917a). Later records (three) are from: Fusagasugá, west slope of the East Andes in Cundinamarca department (Dugand 1945a,b reported eight skins; two are in ANSP, collected July and November 1944) at 4°21'N 74°22'W (Paynter and Traylor 1981; see Remarks); ridge south-west of Entrada, 1,070 m, east slope of the northern end of the Macarena mountains, Meta department (Blake 1962; specimen in BMNH, collected in January 1950, during fieldwork described in Philipson *et al.* 1951), located at either c.3°08'N 73°52'W or c.3°00'N 73°45'W (Paynter and Traylor 1981); San Andrés, Cauca department, undated (Hilty and Brown 1986), located at 2°38'N 76°04'W on the east slope of the Central Andes, at 1,600 m (Paynter and Traylor 1981), apparently erroneously referred to the west slope by Forshaw (1978), Ridgely (1981a) and Hilty and Brown (1986). Hilty and Brown (1986) mentioned eastern Nariño as a probable area.

Ecuador Records (unreferenced coordinates read from IGM 1982) are from: (*Napo*) San Rafael, Coca Falls, 1,200 m (flock of six sighted in June 1979: Ridgely 1980) at 0°03'S 77°32'W; a little below Baeza (one collected March 1899 and another seen: Goodfellow 1901-1902; specimen in AMNH), Baeza located at 1,525 m at 0°27'S 77°53'W (Paynter and Traylor 1977); along the new Hollin-Loreto road, upper tropical zone, south or south-east of Cerro Sumaco, at c.0°47'S 77°47'W (flocks of about 10 sighted by R. A. Rowlett and others in the late 1980s and early 1990s: P. Greenfield *in litt.* 1989, M. Pearman *in litt.* 1991); (*Morona-Santiago*) upper río Upano valley at 1,600 m (flock of 12 sighted in August 1979: Ridgely 1980) at c.2°14'S 78°16'W; Yapitia, 1,625 m, west slope of Cordillera de Cutucú (one in ANSP, collected 25 June 1984; also one in MECN taken about the same time; also sighted daily in flocks of less than 10 individuals at the same locality, between 1,500 and 1,800 m from 22 June to 3 July 1984: Robbins *et al.* 1987) at c.2°40-43'S 78°05-06'W (Robbins *et al.* 1987, NK); (*Zamora-Chinchipe*) north of Zumba, 1,200 m (flock of 18-20 sighted in August 1989: R. S. Ridgely *in litt.* 1989).

Peru Records are from: above San José de Lourdes, Cordillera del Condor, Cajamarca department, July 1976 (Davis 1986; specimen in LSUMZ), San José de Lourdes being at 1,180 m at 5°04'S 78°54'W (Stephens and Traylor 1983); Pomará, "335 m", left bank of lower Marañón river in Amazonas department, July 1924 (specimen in AMNH), located at 500 m ("335 m" on the label seems therefore erroneous) at 5°16'S 78°26'W (Stephens and Traylor 1983); c.15 trail km north-east of Jirillo on the Balsapuerto trail, c.2 trail km past the Jesús del Monte settlement, San Martín department, at 6°03'S 76°44'W, where two specimens were collected and flocks of 5-25 seen daily at 1,350-1,450 m from 26 October to 24 November 1983 (Davis 1986).

POPULATION The Spot-winged Parrotlet must generally be rare (Ridgely 1981a), having been recorded "fairly common" only in the Cordillera de Cutucú (Robbins *et al.* 1987) and in San Martín (Davis 1986). In the Magdalena valley, Colombia, it certainly no longer exists at Fusagasugá, where forest destruction has been nearly total (Ridgely 1981a), and is possibly already extirpated from the entire East Andes (J. I. Hernández Camacho verbally 1991), and although it is recorded from the Macarena buffer

zone, this East Andean outlier is also very heavily disturbed by settlers (J. I. Hernández Camacho verbally 1991; see also Threats); there is a slight possibility that it still occurs at San Andrés, Cauca department, but considering the close proximity of a road, probably no subtropical forest remains there (NK).

ECOLOGY Almost all specimens and sightings have been recorded from tall humid montane forest (David 1986, Hilty and Brown 1986, NK); one specimen in San Martín was actually collected in savannalike habitat, and another nearby in stunted forest on a ridge-top (Davis 1986). In San Martín birds preferred tall humid forest, but were not restricted to it (Davis 1986). O'Neill (1987) thought it "restricted to poor-soil forests" in Peru. Most records are from 1,050 to 1,700 m, although it has been recorded as low as 500 m and possibly as high at 2,300 m (see Distribution). It travels in small flocks of 5-12 (Ridgely 1980, Davis 1986, Robbins *et al.* 1987), sometimes as many as 25 together (Davis 1986), usually flying well above the canopy (Davis 1986), less often low over or through the canopy (Ridgely 1981a, Davis 1986).

The crop and stomach of the Cutucú specimen contained fruit, while one specimen from San Martín had green seeds in its stomach (Davis 1986, J. V. Remsen *in litt*. 1989). Local people at Fusagasugá, Colombia, claimed that this parrot frequently raided maize crops when the grain was ripening, and that it occasionally fed in *Ficus* and *Clusia* trees above the town, close to 2,200 or 2,300 m (Dugand 1945a). The stomach of one collected below Fusagasugá contained numerous small fruits of a loranthacean mistletoe (Dugand 1945a).

The only suggestion of breeding is from Baeza, Ecuador, where Goodfellow (1901-1902) reported seeing only two birds in March. Specimens collected in June (Cordillera de Cutucú), July (Cajamarca and Amazonas) and October–November (San Martín) all had undeveloped gonads (Davis 1986; specimens in AMNH and ANSP), with observations of flocks being from June–August in east Ecuador (Ridgely 1980, Robbins *et al.* 1987) and October–November in San Martín, Peru (Davis 1986).

THREATS The Spot-winged Parrotlet may be in no immediate danger, as much habitat remains in eastern Ecuador and north-eastern Peru (Ridgely 1981a, NK), but in this case it has been chronically under-recorded; however, one observer, noting that it appears very local, has reported rapid deforestation along the Loreto road in Ecuador since its opening in 1988 (M. Pearman *in litt.* 1991), forest in the Cordillera de Cutucú is at some risk (see Threats under White-necked Parakeet *Pyrrhura albipectus*), while the species may nearly have been extirpated from Colombia (Ridgely 1981a, Hilty and Brown 1986), where for example the Macarena National Park is imperilled by invading colonists (Struhsaker 1976, Ridgely 1981a).

MEASURES TAKEN This parrotlet is known to occur in two Ecuadorian protected areas: the Cayambe-Coca Ecological Reserve and the Sangay National Park (Ridgely 1981a). It has been collected in what is now Macarena National Park, Colombia (but see Threats).

MEASURES PROPOSED All three protected areas in which the parrot is known to occur require continued vigilance to maintain their ecological integrity, with the situation in Macarena being especially critical at this time (Ridgely 1981a). Action needed for the Cordillera de Cutucú is outlined in the equivalent section under White-necked Parakeet.

REMARKS Although both 1944 specimens from Fusagasugá are labelled "1,750 m", Dugand (1945a) stated that they were collected below the town, at c.1,600 m; he also mentioned the claim by local people that the species is occasionally found above the town, at 2,200-2,300 m, and suggested that its occurrence in the general area may be seasonal, as a thorough search by one of his assistants in April 1945 failed to locate it, as did the AMNH expedition during late March and early April 1913 (Chapman 1917a); however, J. I. Hernández Camacho (verbally 1991) reported that they were temporarily common at the locality up to the late 1940s, and were then collected in coffee groves.