

*The Cuban Parakeet has become a rare bird throughout Cuba owing to excessive trapping and the loss of its semi-deciduous woodland and palm savanna habitat, such that it now appears to survive in only a few more remote regions of the country, notably the Península de Zapata and the Cuchillas del Toa; a full status survey should be undertaken to determine whether and what further management is needed.*

**DISTRIBUTION** The Cuban Parakeet was originally recorded throughout Cuba except for La Habana province (Garrido and García Montaña 1975; also García undated), although currently its range has contracted into seemingly rather few core areas (identified below as those from which there are recent records). Even in the second half of the nineteenth century it had disappeared (or was believed to have disappeared) from most of the island, still occurring in the Ciénaga de Zapata (Zapata Swamp), Bahía de Cochinos (Bay of Pigs) region, Trinidad mountains, the Bayamo region and the Isla de la Juventud (Isle of Pines) (Gundlach 1871-1875, 1876), and by 1915 the population in the Zapata Swamp was thought probably the only one west of Camagüey (Barbour 1923, 1943); in fact, it is clear from the dates attaching to the localities enumerated below that both Gundlach and Barbour were allowing their understandable alarm to inflate the confidence they placed in their distributional information. In the following account, records or reports (excluding Isla de la Juventud: see Population) are given from west to east by province, and all coordinates are derived from OG (1963a) or from a reading of ICGC (1978), as follows:

*Pinar del Río* Península de Guanahacabibes, apparently a modern stronghold (Silva 1989a) although never previously listed as a site (and denied as a locality by O. H. Garrido *in litt.* 1991); La Mulata, 22°52'N 83°23'W, where a small flock was seen in 1933 (Rutten 1934) although the species is now regarded as extinct there (O. H. Garrido *in litt.* 1991; but see Remarks 3 concerning El Pan de Guajaibón);

*Matanzas* Península de Zapata, perhaps the single most important (and certainly the best known) site, with many records down to the present, localities within it including Santo Tomás, Soplillar and Caleta Rosario (Gundlach 1871-1875, 1876, Barbour 1923, 1943, Ripley and Watson 1956, Garrido 1980); the northern edge between Buenavista and Australia, January 1991 (M. Sulley and S. Sulley *in litt.* 1991); the Bay of Pigs (Bahía [Ensenada] de Cochinos) region (Gundlach 1871-1875, 1876), including a modern development area called Guamá (see Remarks 2) where the species currently occurs (A. Mitchell verbally 1991) and between which and Playa Girón it has been seen (Dathe and Fischer 1979-1981; M. Sulley and S. Sulley *in litt.* 1991);

*Cienfuegos–Villa Clara–Sancti Spíritus* near Cienfuegos, 1986 (I. Gabrielli *per* P. Bertagnolio *in litt.* 1991); the Trinidad (San Juan) mountains at the junction of these three provinces (Gundlach 1871-1875, 1876, Barbour 1923, 1943, Rutten 1934, Davis 1941, Silva 1981b), including San Juan and San Pablo villages, 1892 (Chapman 1892, Ridgway 1916) and adjacent areas to the north such as Soledad (apparently botanical) Gardens (this is now evidently Pepito Tey, 22°08'N 80°20'W: see Figure 1 in Rutten 1934), presumably in the late 1930s (Barbour 1943), Mina Carlotta, 22°04'N 80°10'W, April 1941 (specimens in CM), Barajaguá, 22°10'N 80°07'W, undated (Bond 1956b), the Hanabanilla Falls, 22°06'N 80°04'W, 1917 (Barbour 1923, 1943), although these are now dammed (ICGC 1978), and the Sierra de Escambray, 22°14'N 79°54'W, apparently recently (Silva 1989a);

*Villa Clara* Remedios, February 1864 (specimens in ANSP, USNM; also Ridgway 1916, Barbour 1923, 1943);

*Sancti Spíritus* Sancti Spíritus, July 1933 (specimen in USNM), although either the town or the province could be intended; near Laguna Taje (21°47'N 79°44'W) at Finca Guasacualo, January 1949 (specimen in USNM); Guasimal, in the 1920s, 21°44'N 79°28'W (Bond 1958); Los Galleguitos, 21°36'N 79°18'W, apparently recently (O. H. Garrido *in litt.* 1991); “Finca Rosamaria”, 1930s (see Remarks 1);

*Ciego de Avila* west and north-west of Júcaro, 1915 (Barbour 1923, 1943);

*Camagüey* the Granja Agrícola near Camagüey town, 1933 (Rutten 1934); Sierra de Najasa, 21°05'N 77°50'W, 1980s (Berovides Alvarez *et al.* 1982, Acosta Cruz and Mugica Valdés 1988, Alfonso Sánchez *et al.* 1988); “San Michel”, 1933 (Rutten 1934), this evidently being San Miguel de Bagá, 21°26'N 77°20'W;

*Granma* the Bayamo region (Gundlach 1871-1875, 1876), within which there is apparently recent evidence of presence on the río Cauto at the coast (Robiller 1990); the extensive Sierra Maestra, identified as a possible (Silva 1981b) and later a certain site (Silva 1989a), although the only other (but inconclusive) supporting evidence seems to be four skins in USNM from December 1901 simply labelled Guamá

(Ridgway 1916; see Remarks 2);

*Holguín* Mayarí on the Bahía de Nipe, February 1904 (specimen in BMNH); La Zoilita mountains in the Sierra del Cristal, centred on 20°26'N 75°30'W, 1985-1986 (Abreu *et al.* 1989, whence coordinates);

*Guantánamo* “Río Seco, San Carlos”, September 1913 (specimen as labelled in USNM), names which only occur (in OG 1963a) in close geographical combination just east of Guantánamo town (a less precise match occurs in Pinar del Río); Capital Virginia, Yateras, December 1917 (specimen in USNM), evidently at 20°18'N 75°03'W, with the untraced Capital Alcachopa, Yateras, January 1918 (specimen in USNM) somewhere nearby; Reserva Natural de Cupeyal, approximately 20°30'N 75°00'W (straddling the border with Holguín), 1985 (Alayón García 1987); on the río Jaguaní, c.20°28'N 74°56'W (read from ICGC 1978), 1987 (O. H. Garrido *in litt.* 1991: see Population); just north of the Cupeyal reserve by the village of Farallones, and just east in the hills of Ojito de Agua, where groups of up to 20 birds were occasionally seen, early 1991 (J. M. Lammertink *in litt.* 1991); Sierra (Cuchillas) del Toa, mid-1980s (Alayón García *et al.* 1987, Silva 1989a) and in particular La Melba, at 20°28'N 74°44'W, evidently recently (O. H. Garrido *in litt.* 1991). There are in addition three localities that cannot be traced with sufficient confidence to be placed correctly in this list (see Remarks 3).

**POPULATION** Generalized accounts of abundance indicate that in the early years of the nineteenth century the Cuban Parakeet was a very common bird throughout the country (d'Orbigny 1839), that by mid-century it was “common” or at least “not rare” (Cabanis 1856, Gundlach 1861), that by the 1870s its range had begun to contract, being found only in certain areas although still common within them (Gundlach 1871-1875, 1872), that it was “disappearing fast” in the first half of the twentieth century (Barbour 1923, 1943) and that, although at mid-century it was still considered “not uncommon in the wilder, heavily forested, parts of Cuba” (Bond 1956b), by the 1970s it was a rare species (Garrido and García Montaña 1975), having declined so alarmingly that urgent protection was considered necessary to prevent its total extinction (García undated). Silva (1981b) also predicted that, without protection of habitat or (at a separate point in his narrative) without captive breeding, total extinction would follow.

On the Isla de la Juventud the species was formerly abundant, but by the 1890s it was rather rare and likely to become extinct within a few years (Gundlach 1893; see Threats); at the start of the twentieth century it was nearly if not entirely exterminated, with none seen and its extinction affirmed by locals (Bangs and Zappey 1905), and it was not found during a year of fieldwork there, 1912-1913 (Todd 1916). Two “recent” (i.e. presumably in the early 1970s) records of flocks in the north (Garrido and García Montaña 1975) were “impugned” by Silva (1981b, 1989a), although he accepted another report that birds had survived on the island until the 1950s.

Older records of its local status elsewhere derive from: Chapman (1892), who found the species common (flocks of 10-20 generally seen) at two out of four study sites in the Trinidad region a century ago; Barbour (1923, 1943), who wrote of only small flocks in the Zapata Swamp, a single small flock near the Hanabanilla Falls, “a few” in the Trinidad mountains, diminishing numbers in the Guantánamo basin, and the probable clearance of all the forest near Júcaro where the species had been abundant in 1915 (adding “this will be one of the next birds to become completely extinct in Cuba, as it already is in the Isle of Pines”); Rutten (1934), who found it common in groups of up to 50 in the Trinidad mountains, saw several flocks near San Miguel de Bagá, and one small group daily near Camagüey town, but only once recorded the species in Pinar del Río (a small flock).

Recent records of its local status are from: Garrido (1980), who found the species not very common on the Península de Zapata (a flock of 42 was seen there in early 1992, but overall it is very rare: L. Fazio *in litt.* 1992), with flocks being seen much less often than those of the White-headed Amazon *Amazona leucocephala*, a perception borne out by the presence of the amazon but not the parakeet in certain general reviews of the avifauna of the area (e.g. García *et al.* 1987, González Alonso *et al.* 1990; see also the map in Wiley 1991); Abreu *et al.* (1989), who in La Zoilita mountains again found the species less frequent than the White-headed Amazon, although the flock-sizes were rather larger with up to 15 birds; and Alayón García (1987) and Alayón García *et al.* (1987), who recorded a few individuals in Reserva Natural de Cupeyal and found birds relatively abundant in the Cuchillas del Toa, these observations deriving from the same fieldwork (the search for the Ivory-billed Woodpecker *Campephilus principalis*; see relevant account) that led to the report (in Forshaw 1989) of the species being locally common in suitable habitat, although less plentiful overall than the White-headed Amazon. There is,

however, a remarkable record by O. H. Garrido (*in litt.* 1991) of a flock of 600-800 birds flying over the río Jaguaní during 1987 searches for the Ivory-bill.

Two general assessments of the species's recent status are less pessimistic than those of García (undated) and Silva (1981b) cited above: first, Silva (1989a) himself, although treating the Cuban Parakeet in a book on threatened parrots, was informed that "it remains common in the western, central and eastern regions of Cuba" (given the island's shape, however, this is unhelpful); second, Robiller (1990) was informed that it is still locally common, despite its overall rarity. Large flocks, judged to be 200-300 strong, were observed in 1986 near Cienfuegos (I. Gabrielli *per* P. Bertagnolio *in litt.* 1991). Assessments of its frequency at Najasa are given in Berovides Alvarez *et al.* (1982), Acosta Cruz and Mugica Valdés (1988) and Alfonso Sánchez *et al.* (1988).

On the basis of all the foregoing, it seems likely that the Cuban Parakeet persists in moderate numbers in several areas where accessibility is poor, and in general it may be that, having suffered an enormous decline (from being one of the most numerous of Cuban endemic birds), it now possesses a relatively small though stable population.

**ECOLOGY** The Cuban Parakeet dwells in savannas (notably where rich in palms of the genera *Copernicia* and *Thrinax*), in areas with many trees on cultivated land, and on the edges of woodland, but not inside woodland itself (Gundlach 1871-1875, 1876, 1893); yet Barbour (1923, 1943) characterized the species as essentially one of virgin forest, while others compromised in calling it a bird of both woodland and palm savanna (Garrido and García Montaña 1975; also García undated) and of barely accessible forests in the mountains, though also of coastal regions and occasionally open country (Bond 1956b, Robiller 1990). Birds have been seen flying over semi-deciduous woodland areas (Alayón García 1987) and over open country with eucalyptus groves (Dathe and Fischer 1979-1981), but while it occupies a variety of such habitats plus degraded patches of evergreen forest and small woodlands in palm savanna, fundamentally it seems to survive only in and near larger tracts of original forest (TAP).

Food consists of tree-fruit, berries, seeds, also nuts, blossoms, and leaf-buds (Robiller 1990). More specifically, Gundlach (1871-1875, 1876) listed the seeds of millet and other grasses, but also those of forest trees such as ayúa *Xanthoxylon*, júcaro *Terminalia*, and also smaller fruits of e.g. mamoncillo *Melicoccus*; Chapman (1892) identified a favourite food as the berries of the royal palm (no scientific name given but presumably *Roystonea regia*, mentioned in Silva 1989a); Barbour (1943) noted birds attracted to the ripening fruit of jobo *Spondias luteus*; and Silva (1981b, 1989a), building on some of the above and adding information of his own, listed guava *Psidium guajava*, mangoes *Mangifera indica*, papaya *Carica papaya*, mamoncillo *Melicoccus bijugatus*, palm nuts (e.g. *Roystonea regia*), sweet pods and seeds of *Cordia collococca* and guaba *Inga vera*, and ripening jobo, adding that on the Isla de la Juventud birds fed almost exclusively on palm nuts and the shoots of *Pinus caribbea*. In the first half of the nineteenth century the species was a crop pest, taking the flowers and fruit of oranges, the heads of maize and the berries (but discarding the seeds) of coffee (d'Orbigny 1839; also or hence Gundlach 1872).

Breeding is deferred until late April or early May, so as to coincide with maximum fruit availability (Chapman 1892). Egg-laying is believed to occur in May, based on well incubated eggs taken in June and July and the fact that many young were already then present; but fresh-laid eggs have been found as late as mid-July (Bond 1958, Balát and González 1982); this may be explained by a single report (in Robiller 1990) that refers to two broods per year, in May and August. Although García (undated) gave the clutch-size as three, it reaches at least five (Balát and González 1982); up to five young were in nest-holes examined (Bond 1958). Nests are placed in hollows in dry, sometimes broken palms *Sabal florida*, in one case recorded at a height of 3 m from the ground (Balát and González 1982); Gundlach (1876) was told of nesting in "jatas" and other palms (Gundlach 1871-1875 indicated fan-palms), otherwise in holes in trees; García (undated) referred to nests in dead trunks of miraguano trees, which Silva (1989a) identified as *Coccothrinax miraguama*. A museum label states "in some palms 2 to 3 nests" (Balát and González 1982), which possibly indicates colonial breeding in a single tree, although it probably refers to small concentrations of nests in stands of palms. Barbour (1923, 1943; also Bond 1958, Silva 1989a) recorded nesting in hollow trees, frequently palms ("palmas canas", for which Rutten [1934] gave the name *Sabal parviflora*), the birds favouring old woodpecker borings and in particular those of Cuban Green Woodpecker *Xiphidiopicus percussus*, often those excavated in arboreal termite nests; Silva (1981b) noted that only active termitaria are used as abandoned ones are too brittle, while Silva (1989a) recorded a case in which the parakeets evicted the woodpeckers from an active nest, and themselves laid a fortnight later.

The incubation period is 22-23 days in captivity (Silva 1981b gave 26), young fledge at 45-50 days, and independence occurs 2-3 weeks after fledging (Bauer 1989, Robiller 1990; see also Silva 1989a).

Some seasonal movements may occur; Davis (1941) referred to flocks occasionally descending from the Trinidad mountains in September and October. Birds sometimes associate with White-headed Amazons (Ripley and Watson 1956, Silva 1989a, Robiller 1990).

**THREATS** The Cuban Parakeet has suffered from a combination of habitat loss, persecution as a crop pest, and exploitation as a trade item. The problem of habitat loss has received little attention, but has almost certainly been highly significant; thus while it is difficult to reconcile Barbour's (1923, 1943) judgement (that the species required virgin forest and was unable to adapt to changed conditions) with other testimony (see Ecology) including the very fact that it was persecuted as a crop pest (see below), his anticipation of the clearance of the only forests where he had found the species abundant (near Júcaro: see Population) suggests an incompletely stated awareness of the impact of the steady, chronic loss of primary habitats during this century. It is, at any rate, intensive clearance of forest that is blamed for rendering it rare in recent years (Bauer 1989).

The species was much persecuted in the last century as an agricultural pest, although no less sought after as a cage-bird (d'Orbigny 1839; also Gundlach 1872). Trapped birds could be either killed or traded, and the evidence is that the latter option was increasingly taken in the second half of the century: Gundlach (1893) reported such a degree of persecution on the Isla de la Juventud that he feared for the bird's survival there (hundreds of young birds exported each year, and many others lost in the capturing process); and indeed Bangs and Zappey (1905) could only confirm that the species had been "exterminated in very recent years", i.e. in the late 1890s. Barbour (1923, 1943) referred to the bird as "stupid to a degree" when being hunted; he reported many being caught for pets, their nests becoming ever more the target of trappers the higher the price they fetched. García (undated) ascribed the species's decline in large part to this chronic exploitation, noting that it was the species most preferred by visitors to Cuba, which at one stage added to the demand for it; legal protection did not, apparently, stop (or immediately stop) the trade to eastern European countries (Silva 1981b). Moreover, the market for the species may continue internally: in 1981 it was noted that palms were commonly being cut near Soplillar in order to obtain young parakeets, and that this had the effect of reducing the number of available nest-sites, and thus of greatly constraining the species, at least in the accessible parts of the Zapata Swamp (de las Pozas and González 1984).

**MEASURES TAKEN** Exportation of the species was (at some unspecified date) prohibited owing to foreign demand (García undated). Silva (1989a) referred to a breeding programme at the Cuban National Zoo, but involving only four birds and without success at his time of writing. The only protected areas which hold the species appear to be the Cupeyal Nature Reserve (Alayón García 1987) and the Península de Zapata National Park (Wiley 1991), although the status of the species in the latter is not clear. Apart from these, ICGC (1978) marks several protected areas that may be of significance: these include the national park and nature reserve (apparently called El Faro and El Veral respectively) on the Península de Guanahacabibes (but the species does not occur on the peninsula, according to one authority: see Distribution), El Pan de Guajaibón Nature Reserve (if this is the El Pan de Guajaibón referred to by Silva 1981b: see Remarks 3), the faunal reserves (Corral de Santo Tomás and Las Salinas) adjacent to the Península de Zapata National Park, the Pico Potrerillo National Park in the Trinidad mountains, La Plata National Park in the Sierra Maestra, the Sierra del Cristal Nature Reserve, and a curious complex centred on the Cuchillas del Toa in which a "Nature Tourism Area" is bordered by three smaller, unnamed national parks and the Jaguaní Nature Reserve. There is a protected area at Najasa in which the species occurs (Berovides Alvarez *et al.* 1982).

**MEASURES PROPOSED** Silva (1989a) identified three issues to address: the preservation of the species's habitat; an investigation of its status and biology; and an evaluation of the need and potential for the establishment of groups in aviaries. Of these the second seems most appropriate to undertake first, since the evidence particularly of its status is somewhat feeble and inconsistent; the first requires careful consideration so that all the threatened endemic birds of Cuba can be integrated into and benefit from any new initiatives on protected areas; while the third is certainly an option worth pursuit by aviculture as a safeguard, but always accepting that the results of the first two initiatives may render it superfluous.



**REMARKS** (1) Silva (1989a) gave “Finca Rosamaria” in “Las Villas”, the only locality in OG (1963a) approximating to this being Central Rosa María, now named Central Aracelio Iglesias, a sugar-processing plant at 22°19’N 79°04’W. (2) According to ICGC (1978), Guamá is a south-facing region of the Sierra Maestra centred on 20°02’N 76°20’W (actually in westernmost Santiago de Cuba province), although a river of that name rises on the north slopes and gives its name to a settlement at 20°12’N 76°38’W (in Granma); but OG (1963a) lists at least another 12 localities of this name, presumably all less significant but not necessarily so in 1901; it is assumed at any rate that the Guamá in question is not the modern locality for the species near the Bay of Pigs, but that this latter is the same as the “Boca de Guama” of Clements (1979). (3) Three localities defy confident attribution. (a) A skin in UMMZ is labelled “Santa María, Oriente, Libana” and dated August 1951, but there is no “Libana” in any gazetteer, and too many Santa Marías; OG (1963a) lists several localities named Líbano or Monte Líbano for the former Oriente province, namely at 20°18’N 75°09’W (very close to Virginia but with no Santa María nearby), 20°03’N 76°03’W (a Santa María is some way north-west), and, perhaps most likely, 21°07’N 76°36’W, i.e. south of Puerto Padre, in a region where there are so many Santa Marías that they are numbered (Onze, Doce, etc.). However, O. H. Garrido (*in litt.* 1991) believed the site would be in the Sierra del Guaso; as there is a río Guaso at 20°02’S 75°09’W (in OG 1963a) the site in question is probably the first, i.e. that at 20°18’S 75°09’W. (b) Four skins in USNM are from “Bayate, Linea Central” and dated early 1910: of several Bayates, two lie on or very near the (presumably) central railway line (as it may have been in 1910), but at opposite ends of the island, at 22°44’N 82°57’W and 20°22’N 75°56’W; O. H. Garrido (*in litt.* 1991) considered the site in question to be the latter. (c) Silva (1981b) referred to El Pan de Guajaibón in “Las Villas” province, but OG (1963a) only lists one such locality, at 22°48’N 83°22’W, which is not in what was formerly Las Villas but is very close to La Mulata and currently a protected area (see Measures Taken).