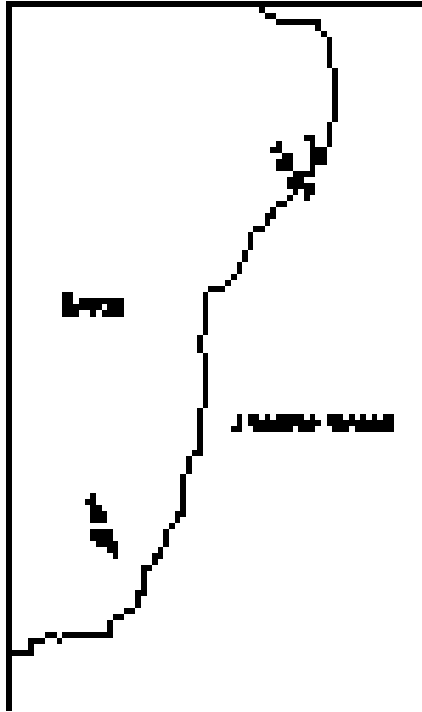


*Serious difficulties face this icterid, which is known with certainty now from only two localities in Brazil, the Rio Doce State Park, Minas Gerais, where the highest number reported to date is c.30, and a site in Alagoas, where the population of c.150 suffered 100% brood-parasitism in 1987.*

**DISTRIBUTION** Forbes's Blackbird (see Remarks 1) is known from two disjunct regions 1,400 km apart in eastern Brazil in the states of Pernambuco, Alagoas, and Minas Gerais.



*Pernambuco* The species was recorded by Forbes (1881) at Vista Alegre and Macuca (both untraced; between Quipapá and Garanhuns), one specimen (the type) being collected at the latter in September 1880 (see Remarks 2). Another specimen was taken at Usina São José, Igarassu, 12 April 1945 (Berla 1946: see Remarks 3). The rio Capibari-mirim (untraced) is included in the range of this species by Sick (1985), but no other detail is given and this record could not be traced to source.

*Alagoas* Records are known from Quebrangulo<sup>1</sup>, November 1951, April 1957 and from 1981 to 1990 (in what is now the Pedra Talhada Biological Reserve: see Measures Taken) (Short and Parkes 1979, Studer and Vielliard 1988, M. Pearman *in litt.* 1990, B. M. Whitney *in litt.* 1991); Usina Sinimbu<sup>2</sup> (near present-day Sinimbu – not Ginimbu as in GQR 1991), February and March 1957 (Short and Parkes 1979, and specimens in MZUSP under Chopi Blackbird *Gnorimopsar chopi* in Pinto [1954a], Pinto and de Camargo [1961] for this and the previous locality); Matriz de Camaragibe<sup>3</sup>, February 1986 (specimen in MNRJ); and Pedra Branca (Murici) in a sugarcane plantation, August 1989 (D. Finch *per* B. C. Forrester *in litt.* 1992).

*Minas Gerais* Older records of the species in this state are: the lower rio Piracicaba at its confluence with the rio Doce<sup>4</sup>, August 1940 (specimens in MZUSP under *G. chopi* in Pinto and de Camargo 1961); and Raul Soares<sup>5</sup>, July and September 1957 (Short and Parkes 1979), specifically (a) 15 km to the north at córrego da Areia, (b) on the right bank of the rio Matipó, and (c) on the ribeirão Preto (specimens in MACN, also FMNH). The Piracicaba/Doce confluence is close to or in the Rio Doce State

Park where the species persists, having been recorded in 1978, 1979 (specimens in DZMG; also G. T. de Mattos *in litt.* 1987), 1983 (Studer and Vielliard 1988), 1987 (M. A. de Andrade *in litt.* 1988, A. Studer verbally 1990) and August 1988 (B. C. Forrester *in litt.* 1992).

**POPULATION** Uncertainties over the reliability of past and present estimates of this species's abundance inevitably arise from its great similarity to the Chopi Blackbird (see Remarks 1). Forbes (1881) claimed the species "rather abundant at one or two localities", and stated that "though local, the bird was common where it occurred, flying about in large flocks, like starlings, in the neighbourhood of sugar-plantations" (see Remarks 2), this report being paralleled by the earliest accounts in the twentieth century that stated it was "common in Pernambuco in areas of extensive cultivation of sugar-cane" (Berla 1946, Sick 1969, 1972). However, while it remains possible that it has sometimes been overlooked in more recent years, as suggested by Ridgely and Tudor (1989), the species was not found at all during surveys conducted in 1973 and 1982 at the known localities where it had been recorded to that date, and was thus thought to be restricted to Quebrangulo in Alagoas and the Rio Doce State Park in Minas Gerais (Studer and Vielliard 1988). There is no further information on the population at Matriz de Camaragibe in Alagoas. At Quebrangulo, a relict population of about 150 birds was calculated to persist in the early 1980s, but it has decreased since (see Threats). No census of the species seems to have been performed at Rio Doce State Park, where "flocks of 8-10 birds" (G. T. de Mattos *in litt.* 1987), "some individuals" (M. A. de Andrade *in litt.* 1988), "c.30" (S. G. D. Cook *in litt.* 1988), "a flock of 40" (B. C. Forrester *in litt.* 1992) and "4-5 birds" (A. Whittaker *in litt.* 1991) have been reported.

**ECOLOGY** Despite earlier accounts of the species's abundance in sugar-cane plantations (see Population), most recent observations and specimens are from forested sites. Sick's (1985) statement that it lives in mangroves is apparently linked to his odd record from the rio Capibari-Mirim (see Distribution). At Quebrangulo, the only place where its ecology has been studied, Forbes's Blackbird lives at the forest edge and in marshy areas nearby (Studer and Vielliard 1988). Food includes fruits and insects, but young are fed exclusively insects, more often grasshoppers, larvae, and butterflies (Studer and Vielliard 1988). Timing of breeding depends on the rainy season, which varies from year to year but usually falls between March and June, nests being placed mostly (38 out of 46 observations) in the crown of cultivated mango *Mangifera indica* trees at or near forest edge, 3-12 m (mean 7 m) above ground, with nest material being gathered from an area of c.200 m radius; there is a delay of several (4-10) days between nest construction and laying, which benefits Shiny Cowbird *Molothrus bonariensis* parasitism (see Threats), average clutch-size being 2.84 (1-4) eggs and incubation period c.13 days with usually two clutches per season and almost all breeding pairs being assisted by 2-4 helpers of their species throughout the breeding cycle (Studer and Vielliard 1988). During the dry season (usually from October to January), flocks of 20-30 birds are formed (Studer and Vielliard 1988).

**THREATS** The species is certainly suffering from habitat loss throughout its range and particularly in the north-east, where deforestation has been massive (e.g. Teixeira 1986). At Quebrangulo, however, it has been found that the population decline in recent years is attributable not only to habitat destruction but also to increasing pressure from the parasitic Shiny Cowbird, which has gradually colonized the region, starting probably in the 1950s and becoming abundant in the 1980s (Studer and Vielliard 1988). Forbes's Blackbird is the preferred host of the Shiny Cowbird at Quebrangulo, where 25 (64%) of all (39) nests studied between 1981 and 1986 were parasitized, this proportion reaching 100% in 1987 when Forbes's Blackbird produced no fledgling of its own from 21 nests observed (Studer and Vielliard 1988).

Although Forbes's Blackbird is not believed to be prized as a songbird pet (Sick 1985), two birds were being offered for sale at Caruaru in 1985 (A. G. M. Coelho *in litt.* 1986). Even if these birds could have been, intentionally or not, mistaken for valued Chopi Blackbirds (see Remarks 1), trade in Forbes's Blackbird should not be underrated as a possible additional factor placing this species at risk.

**MEASURES TAKEN** The species is protected under Brazilian law (Bernardes *et al.* 1990). Efforts to preserve the forests in the Serra das Guaribas at Quebrangulo (Studer 1985) resulted in the creation, in December 1989, of the 4,500 ha Pedra Talhada Biological Reserve (A. Studer verbally 1990), although it is not yet fully paid for and the danger of some forest clearance still hangs over the site: efforts continue to establish and preserve the integrity of the reserve, involving the Associação Nordeste (A. Studer verbally

1992). The species's occurrence in the 37,000 ha Rio Doce State Park may be important, but it is not known how widespread and abundant birds are in this reserve. Experiments to verify the effects of systematic destruction of the cowbird's eggs were started in 1987 (Studer and Vielliard 1988).

**MEASURES PROPOSED** A call for a search of museum collections of the Chopi Blackbird to disclose additional specimens of Forbes's Blackbird (Short and Parkes 1979) is seemingly still valid and might broaden knowledge of the species's (original) range and ecology (see Remarks 1). Surveys of the species's conservation status and ecology at Rio Doce State Park, and continued monitoring of its population at Quebrangulo, as well as a search for other possible relict populations, are the most pressing needs for fieldwork (for example, the records from rio Capibari-mirim, Matriz de Camaragibe and Pedra Branca should be followed up). Further study on the impact of Shiny Cowbird brood-parasitism on the species must be undertaken, and appropriate measures implemented.

**REMARKS** (1) The great morphological similarity of this species and the widespread Chopi Blackbird has been a permanent source of confusion since its discovery in 1880, affecting identification of museum specimens (Short and Parkes 1979) and in the field (e.g. Sick 1985, G. T. de Mattos *in litt.* 1987), but in the latter case the different voices can be used to distinguish the two (G. T. de Mattos *in litt.* 1987, Studer and Vielliard 1988). Believed known until the late 1960s from only two specimens, the possibility was raised that these birds might represent intergeneric hybrids between species of *Agelaius* and *Gnorimopsar* (Meyer de Schauensee 1966, Short and Parkes 1979). (2) Although Vista Alegre is listed by Meyer de Schauensee (1966) as a sight record of this species, and this locality was in general accepted by other authors (e.g. Hellmayr 1937, Pinto 1944), there remains a strong possibility that most of the birds seen by Forbes at both Macuca and Vista Alegre may have been, as he stated himself, the Chopi Blackbird, an abundant and also gregarious species (Short and Parkes 1979). Pinto's (1944) reference to "type specimens collected at Macuca and Vista Alegre" is in error, since only a single female was collected by Forbes and ever mentioned (Forbes 1881, Sclater 1886, Hellmayr 1937, Short and Parkes 1979). (3) Although this record, based on the second correctly identified specimen known, preceded by 20 years the discussion initiated by Meyer de Schauensee (1966; see Remarks 1), this and subsequent authors (in Paynter 1968, Short and Parkes 1979, Ridgely and Tudor 1989) overlooked it.