YELLOW CARDINAL *Gubernatrix cristata*

Formerly very widespread in Argentina and common in Uruguay, with outlying populations in Paraguay (possibly now extinct) and southernmost Brazil, this distinctive emberizid has been trapped intensively as a cagebird for over a century and is now rare everywhere except locally in the southern parts of its range.

**DISTRIBUTION**

The Yellow Cardinal (see Remarks 1) has been recorded from Paraguay, extreme southern Brazil (Rio Grande do Sul), Uruguay and eastern Argentina from Salta south to Río Negro. Unless otherwise indicated, coordinates in the following account are taken from OG (1968), Paynter (1985) and Rand and Paynter (1981) and records at individual localities are of single birds, pairs or an unspecified number of birds collected or observed.

**Paraguay**

Sclater and Hudson (1888-1889) gave Paraguay as a range state, but this was presumably a guess. Bertoni (1914) questioned its occurrence (although he later ambiguously claimed it for the “Chaco”: Bertoni 1939), Hellmayr (1938) believed no authentic record existed, and neither Ridgely and Tudor (1989) nor Hayes *et al.* (1991) listed it for the country. However, two specimens in BMNH were taken at “Villa Rica” (Villarrica), Guairá department, on 12 May and 10 October 1905 (see Population), and two others (in BMNH and MCZ) are simply labelled “Paraguay” (that in BMNH before 1886).

**Brazil**

There appear to be just a few records, all from Rio Grande do Sul: between Tapes and Camaquã, November 1980 (see Belton 1984-1985), apparently the northernmost record in the country; São Lorencó (= São Lorencó do Sul), undated (Hellmayr 1938, Belton 1984-1985); Jaguariô, a nineteenth century record (von Ihering 1899); a cattle ranch north of “Tahym” (Taim), July 1931 (specimen in AMNH); on the Uruguayan border south of Santa Victoria (Santa Vitória do Palmar), August 1931 (three specimens in AMNH); the westernmost part of the state, occasionally (Belton 1984-1985).

**Uruguay**

Records (roughly from north to south) are: (*Paysandú*) near rio Daymán, where eight birds were observed on 2 May 1978 (Arballo 1990); (*Tacuarembó*) Caraguatá (=Cuchilla Caraguatá, 32°14’S 54°59’W), April 1930 (specimen in MCZ); (*Cerro Largo*) arroyo del Cordobés (32°30’S 55°19’W), 28 km north of Cerro Chato (untraced), March 1970 (specimen in MNHNM); (*Río Negro*) Rincón de Baygorria (c.32°50’S 56°50’W), April 1960 (specimen in MNHNМ); (*Treinta y Tres*) unspecified (Cuello and Gerzenstein 1962); (*Soriano/Flores*) rincón of Arroyo Grande and Arroyo Ojosmín (33°08’S 57°09’W), May 1893 (Aplin 1894); (*Lavalleja*) “Minas” (=Lavalleja department), undated (Tremoleras 1920); (*Colonia*) Nueva Palmira, April 1927 (specimen in MACN); arroyo de las Limetas, Estancia San Jorge (c.34°10’S 58°13’W), January 1970 (three specimens in MNHNМ); (*Canelones*) unspecified (Tremoleras 1920); (*Maldonado*) north of Gruta la Salamanca (untraced), May 1964 (specimen in MNHNМ); (*Rocha*) Lazacono, February 1921 (Wetmore 1926); Paso Alamo, on the arroyo Sarandi (33°47’S 53°35’W), February 1921 (Wetmore 1926); San Vicente (=Castillos, 34°12’S 53°50’W), January 1921 (Wetmore 1926).

**Argentina**

Records by provinces (roughly from north to south) are:

(*Salta*) Rivadavia, where the species was found nesting in 1967 (Hoy 1969);

(*Formosa*) “eastern Formosa” (no further details given) (Olrog 1979, hence presumably Nores *et al.* 1983, Ridgely and Tudor 1989);

(*Chaco*) occurrence assumed (Lynch Arribálzaga 1920; hence or also the distribution maps in Narosky and Yzurieta 1987, Ridgely and Tudor 1989, and Canevari *et al.* 1991);

(*Misiones*) savannas in the south of Misiones, undated (Olrog 1979, hence presumably Ridgely and Tudor 1989);

(*Tucumán*) “Tucuman”, October 1899 (Lillo 1902, Hartert and Venturi 1909) and February 1904 (specimen in AMNH);

(*Santiago del Estero*) Gramilla (27°18’S 64°37’N), November 1963 (Nores *et al.* 1991, whence coordinates);

(*Corrientes*) Esteros de Iberá, August 1972 (specimen in LSUMZ); at 29°S, where three pairs were observed (de Azara 1802-1805), these records being attributed to this province by Wetmore (1926);
Mercedes, January and February 1953 (two specimens in MACN); Estancia Rincón del Ombú (29°28’S 57°50’W), September 1961 (three specimens in AMNH), October 1961 (six specimens in AMNH and LSUMZ); Curuzú-Cuatiá, between April and May 1917 (Marelli 1918); Estancia Barrancas (untraced but apparently on the right – i.e. Corrientes – side of the río Guayquiraró: Paynter 1985), January-February 1873 (Doering 1874);

(Santa Fe) northern Santa Fe, where the species was reported nesting (Pereyra 1938); Nueve de Julio department (28°50’S 61°20’W), undated (Giai 1950); La Gallareta (29°34’S 60°23’W), where two nests were found in November 1974 (de la Peña 1987); Estancia Los Molles (30°02’S 60°46’W), “summer” (presumably 1924) (Renard 1924) and September 1932 (Freiberg 1943); Esperanza (presumably the large town in Santa Fe), June 1902 (specimen in MZUSP); banks of the río Paraná near Santa Fe, undated (Gould 1841);

(Entre Ríos) “Entrerrios”, sometime before 1912 (three specimens in BMNH); San Joaquín (presumably Estancia San Joaquín at 30°44’S 59°59’W: see Remarks 2), January 1924 (Friedmann 1927); Santa Elena (30°57’S 59°48’W), November (presumably 1922), (Serié and Smyth 1923) and February 1924 (Friedmann 1927; specimen in MCZ); near Federal, where two pairs were observed in June 1986 (J. C. Chebez in litt. 1992); Estancia Vizcacheras (31°08’S 59°46’W), April 1961 (15 specimens in AMNH, CM and YPM); San Salvador (31°37’S 58°30’W), January 1914 (specimen in MACN); Paraná department (31°40’S 60°00’W), where three birds were collected in January 1927, December 1932 and December 1929 (Freiberg 1943); Paraná, in the 1850s (Burmeister 1861); Ceibas (32°26’S 58°45’W), recently (E. I. Abadie in litt. 1992); Concepción del Uruguay, 1879 (Barrows 1883); “La Soledad” (= Estancia La Soledad, 32°30’S 58°41’W; see Paynter 1985), January 1899 (specimen in AMNH);

(La Rioja) listed without detail by Nores et al. (1983) and shaded on maps in Ridgely and Tudor (1989) and Canevari et al. (1991);

(San Juan) Valle Fertil (Valle Fertil = San Agustín de Valle Fértil 30°38’S 67°27’W), undated (Haene 1987);

(Córdoba) San Francisco del Chañar, present around 1983 (Nores et al. 1983); Capilla del Monte, December 1894 (specimen in BMNH), June 1913 (specimen in ROM); Cosquin (31°15’S 64°29’W), between July and October 1882 (White 1883; also BMNH label data); near Córdoba in the 1850s (Burmeister 1861); Valle de los Reartes (31°55’N 64°34’W), where the species nested in the “spring” of 1903 and it was hunted and observed in November 1916 (Castellanos 1931-1934); Los Cóndores (32°20’S 64°16’W), November 1982 (Nores et al. 1983); San Roque (untraced but presumably near the Lago de San Roque, 31°23’S 64°29’W), Sierra de Córdoba, at 700 m, December 1915 (specimen in CM);

(San Luis) San Martin, 1887 (Bascarán 1887); Sierra de las Quijadas National Park (32°33’S 67°02’W), currently (J. C. Chebez in litt. 1992); Villa General Roca, 1887 (Bascarán 1887); Papagayos (32°41’S 65°00’W), November 1958 (specimen in UNP); near El Trapiche (33°07’S 66°05’W), September 1990 (G. Gil and E. Haene per J. C. Chebez in litt. 1992); Chischara (33°52’S 66°15’W), December 1925 (two specimens in MACN); Batavia, 1987 (Bascarán 1987); “Nabia” (presumably Nava, at 34°47’S 66°35’W), 1987 (Bascarán 1987); Estancia El Bosque (c.35°07’S 65°15’W), September 1916 (four specimens in MACN); Anchorena (35°41’S 65°27’W), Arizona, Bagual and Esperanza (untraced), all four in 1987 (Bascarán 1987);

(Buenos Aires) Escobar (Belén de Escobar, 34°21’S 58°47’W), July 1929 (specimen in MACN); Barracas al Sud (= Avellaneda), November 1900 (Hartert and Venturi 1909); “Conchitas” (= Guillermo E. Hudson, 34°47’S 58°10’W), October 1868 (Selater and Salvín 1868-1869; specimen in AMNH); La Plata, March 1898 (specimen in FMNH) and October 1903 (specimen in MACN); Atalaya (35°02’S 57°32’W), May 1908 (specimen in AMNH); Monte Veloz (35°27’S 57°17’W), August and October 1919 (two specimens in UNP); Bosque del Meridiano (untraced but near “Darregueira” = Darragueira), where nesting in November 1988, this perhaps being the most northern breeding record in the province (Narosky et al. 1990); Villa Iris, November 1958 (specimen in UNP); 20-30 km south of Bahía Blanca, Montes de Oca (38°55’S 63°21’W), Pedro Luro and Villa Longa, currently in all four (Bascarán 1987); “Casas” (= José B. Casás, 40°25’S 62°33’W), October 1960 (specimen in YPM); Carmen de Patagones, currently (Bascarán 1987);

(La Pampa) Parera and Caleufú, currently (Bascarán 1987); General Pico, December 1938 and June 1943 (two specimens in MACN); Conhelo (36°01’S 64°36’W), where the species was found “very common” in November 1922 (Pereyra 1923); Luan Toro (36°12’S 65°02’W), December 1935 (specimen
Gubernatrix cristata

in MACN); Victorica, December 1920 (Wetmore 1926) and currently (Bascarán 1987); Santa Isabel, Telén, Algarrobo de Aguilá, La Copelina, Mahuida and Veinticinco de Mayo, currently in all six (Bascarán 1987); Lihué-Calel National Park (38°02'S 65°33'W), currently (Canevari et al. 1991, M. Babarskas in litt. 1992, G. Gil per J. C. Chebez in litt. 1992); Puelches, currently (Bascarán 1987);

(Río Negro) from Contralmirante Cordero (38°44'S 68°10'W) in the west to Viedma in the east (range as given by Bascarán 1987), specifically: “valley of the Río Negro” (see Remarks 3), September 1871 (Hudson 1872; two specimens in BMNH); in the area between General Conesa, San Antonio Oeste, and Viedma, currently (W. N. Paz per P. González in litt. 1992); Laguna del Monte (45 km east of the San Antonio to Viedma road), January 1989 (M. Pearman in litt. 1992), March 1991 (F. R. Lambert verbally 1992); 37 km south of río Negro (“Rute 3”, i.e. along the San Antonio to Viedma road), October 1960 (specimen in YPM); El Bolson, August 1957 (specimen in LACM; see Remarks 4).

POPULATION The Yellow Cardinal is known to have declined greatly, and to have disappeared from or become very rare in much of its range (Ridgely and Tudor 1989; see below).

Paraguay Despite the scant information available on the species in the country and indeed the general view that it is absent there (see Distribution), it is remarkable that the label of the specimen taken in Villarrica in October 1905 (a date which could indicate breeding) also states: “fairly common”. The complete lack of observations in recent times suggests a clear decline.

Brazil The species is considered to be a scarce resident, being found occasionally throughout the year in southern Rio Grande do Sul near the Uruguayan border (Belton 1984-1985).

Uruguay Gore and Gepp (1978) described the Yellow Cardinal as formerly “very common” in the right habitat but that it had become a scarce resident, a view taken earlier by Alvarez (1933) and Cuello and Gerzenstein (1962). It is nowadays considered to be a very rare bird (R. Vaz-Ferreira verbally 1992).

Argentina Although the Yellow Cardinal has extends widely in the country, it appears to have always been rather uncommon or occasional in most of the northern part of its range, where there are just a few records (e.g. Salta, Tucumán, Santiago del Estero and Misiones, with no precise records from Formosa or Chaco; see Distribution). It is generally accepted that the species has suffered a steep decline elsewhere in its northern range, mainly in Corrientes, Santa Fe, Córdoba, Entre Ríos and northern Buenos Aires (Nores et al. 1983, Narosky and Yzurieta 1987, Bucher and Nores 1988, Krapovickas 1990, Narosky et al. 1990, Canevari et al. 1991; see below). It was presumably once common in Corrientes, Marelli (1918) having found it “common” at Curuzú Cuatía between April and May 1917, and nine specimens (in AMNH and LSUMZ) were taken at Mercedes between 28 September and 6 October 1961. Burmeister (1861) found it common (with “many birds observed”) near Córdoba, although White (1883) referred to it as “uncommon” in the Cosquín area in 1882 and Castellanos (1934) considered it “not abundant” and “rarely seen” in the same province; more recently, Nores et al. (1983) could only find the species in a few localities (see Distribution). In Santa Fe and La Pampa it was considered “very common” (Pereyra 1938), e.g. around Conhelito in the latter in November 1922 (Pereyra 1923), but no more reports suggest it remains so. In Entre Ríos it was also considered “very common” (Pereyra 1938), although in more site-specific reports it was “not rare” in Paraná (Burmeister 1861), “in small numbers” at Concepción del Uruguay (Barrows 1883), “common” at Santa Elena in November (probably 1922) (Serle and Smyth 1923) but “very local and rather scarce” there in February 1924 (Friedmann 1927), with 15 specimens taken at Estancia Las Vizcacheras during the second half of April 1961 (see Distribution); however, a great decline appears to have occurred, as it is now very difficult to find in the province (M. Pearman in litt. 1992), and there appear to be only two recent observations (see Distribution). In most of Buenos Aires the species appears to have been a rather rare bird (Sclater and Hudson 1888-1889), with just a few old records from the north; it is now only present in the south (see below), and it appears that the central-eastern part of the province is out of the species's range.

The Yellow Cardinal is now only to be found locally common in the southern parts of its range in southern Buenos Aires, La Pampa and Río Negro (Bascarán 1987, M. Pearman in litt. 1992), notably in the area between General Conesa, San Antonio Oeste and Viedma, where according to W. N. Paz (per P.
Threatened birds of the Americas

González (in litt. 1992) it is still usual to see flocks of 15-20 birds, and during the breeding season flocks can even increase to 40-50 birds (see Remarks 5).

ECOLOGY  The Yellow Cardinal inhabits open woodland extending into foothills (to about 700 m: see Distribution), semi-open scrub, savannas and shrubby steppes (White 1883, Gore and Gepp 1978, Belton 1984-1985, Narosky and Yzurieta 1987, Ridgely and Tudor 1989). In southern Buenos Aires, La Pampa and eastern Río Negro it is known to be closely associated with the “chañares” Geoffroea decorticans (W. N. Paz per P. González in litt. 1992). The species feeds on grains and seeds (e.g. “verdolaga”, “diente de león”, “acelga silvestre”, “achicoria silvestre”), berries and insects (Bascarán 1987, Canevari et al. 1991). Breeding has been reported in “spring” (Castellanos 1934) and nests have been found in November (de la Peña 1987, Narosky et al. 1990). The nest is placed in a fork of a branch (e.g. in Robinia pseudoacacia: Castellanos 1934), and three to four eggs are laid (Alvarez 1933, Bascarán 1987, Canevari et al. 1991). The incubation period (in captivity) is 13-14 days, by the female only (Bascarán 1987, Röder 1990). The Yellow Cardinal is generally found singly, in pairs or in small groups (Canevari et al. 1991) but flocks sometimes occur (see Population).

THREATS  Constant and chronic exploitation of the Yellow Cardinal as a songbird for the cagebird market has been and remains the most significant threat throughout its range (Barrows 1883, Sclater and Hudson 1888-1889, Gore and Gepp 1978, Carvalho 1985, Ridgely and Tudor 1989, Canevari et al. 1991). In Uruguay individual birds sell for 100,000 pesos (c.US$35) (R. Vaz-Ferreira verbally 1992). Other possible threats affecting the species are unknown, so it is not entirely clear whether trapping is responsible for the species' decline throughout. It seems likely that much habitat would have been converted for or affected by cattle production, but this has not been reported.

MEASURES TAKEN  The species is known to be present in the Lihué Calel and Sierra de las Quijadas National Parks, Argentina (see Distribution). It is listed on Appendix II of CITES, and on Appendix III for Uruguay (Amos 1985, Bascarán 1987).

MEASURES PROPOSED  The trapping of this species has to be curtailed. To achieve this, an investigation will be needed of the trapping business itself and of the market involved, furnishing clearer evidence of the impact of the trade. Specific legal measures may need to be drafted and enforced in Argentina, but this should be matched by a campaign to sensitize consumers to the bird's plight, and by moves to persuade entrepreneurial aviculturists to meet any demand by breeding from existing captive stock. Surveys and studies of the species' distribution and ecology are important in order determine more clearly its status, optimal habitat, year-round needs, and any other threats that may be adversely affecting it. If small protected areas can be established and well wardeden in the few areas in the south of its range where it still survives in some numbers, this would contribute to its greater overall security.

REMARKS  (1) The Yellow Cardinal is the only representative of its genus. 2) Although there are two localities in Entre Ríos bearing this name, the other being at 31°57’S 58°42’W, the one listed is likely to be the locality intended, since it is near Santa Elena, which was visited briefly after San Joaquín (see Friedmann 1927). 3) Although a specific locality is not given, Hudson (1872) indicated that all his collecting took place in the valley and the adjacent high grounds “not much over a hundred miles [c.160 km] from the sea”. (4) This record from the extreme south-west of the province, near the border with Chile, is well away from the known range and perhaps represents an escape rather than a true record. (5) These numbers are noteworthy, and appear to be the largest flocks ever reported, most sources generally referring to either single birds or pairs.