GREAT CORMORANT (*Phalacrocorax carbo*)

IDENTIFICATION
80-100 cm. Black plumage, with bluish tinge on underparts; bill grey and yellow; black legs; on breeding plumage with a white patch on flanks.

SIMILAR SPECIES
This species is unmistakable in Aragon.

SEXING
Both sexes with similar plumage. Size can be useful in extreme birds: male with wing longer than 352 mm; bill depth (taken in middle) higher than 16 mm. Female with wing shorter than 345 mm; bill depth (taken in middle) shorter than 15 mm.

AGEING
In wintering plumage 4 types of age can be recognized:
- **Juvenile** with brown feathers tipped glossy blue on upperparts; feathers of upperparts and coverts narrow and pointed; underparts generally whitish, with some brown streaking; scapulars and outermost primaries with pointed tips; iris grey brown to blue green.
- **2nd year autumn/3rd year spring** with feathers on crown and nape dark-bluish edged brown; upperparts with glossy feathers but some juvenile brown feathers can be retained; underparts strongly mottled due to emergence of subadult-type feathers, all tinged dark on tips; retained outermost primaries (about 4 to 6) worn and pale; iris esmerald as adult.
- **3rd year autumn/4th year spring** only in birds which have retained the juvenile long outermost primary (10th primary); some birds with brown feathers remaining on neck.
- **Adult** with upperparts black glossed metallic blue or purple; white feathers of chin and side of the head tipped buff; scapulars and outer primaries with rounded tips; iris esmerald-green.
Cormorant. Ageing. Pattern of upperparts:
top left adult; top right 2nd year; left juvenile

Cormorant. Ageing. Pattern of scapulars: left adult;
right juvenile

From top to bottom: adult, 4th year spring, 3rd year
spring, juvenile.
**MOULT**

Complete postbreeding moult, usually starting in July and finished in December; adult birds have a prebreeding moult changing body feathers since January till April. Partial postjuvenile moult including only body feathers; in the summer of the 2nd year starts the moult of fly feathers, which is arrested in autumn retaining 4 to 6 outer primaries and some tail feathers; these unmoulted juvenile feathers are changed in summer of the 3rd year; some birds can retain their outermost primary (10th primary) till their 4th year.

**PHENOLOGY**

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>IX</th>
<th>X</th>
<th>XI</th>
<th>XII</th>
</tr>
</thead>
</table>

**STATUS IN ARAGON**

A common species wintering in the Ebro river and its tributaries, and in the large lakes and dams of the Region.
Great Cormorant

Cormorant. Juvenile: head pattern and iris colour (22-I).

Cormorant. Crown pattern: left 3rd year spring (06-III); right juvenile (22-I).

Cormorant. Nape pattern: left adult (23-III); right 4th year spring (06-III).

Cormorant. Nape pattern: left 3rd year spring (06-III); right juvenile (22-I).

Cormorant. Underparts pattern: left adult (23-III); right 4th year spring ()

Cormorant. Crown pattern: left 3rd year spring (06-III); right juvenile (22-I).
Cormorant. Underparts pattern: left 2nd year autumn (); right juvenile (22-I).

Cormorant. Adult: flank pattern (23-III).

Cormorant. 3rd year autumn: flank pattern ().

Cormorant. Upperparts pattern: left adult (23-III); right 3rd year autumn ().

Cormorant. 2nd year autumn: flank pattern ().

Cormorant. Juvenile: flank pattern (22-I).

Cormorant. Upperparts pattern: left 2nd year autumn (); right juvenile (22-I).
Cormorant. Pattern of chin and neck: left adult (23-III); right 4th year spring (06-III).

Cormorant. Tail: left adult (23-III); right 4th year spring (06-III).

Cormorant. Tail pattern: left 3rd year spring (06-III); right juvenile (22-I).

Cormorant. Pattern of scapulars: left adult (23-III); right 4th year spring (06-III).

Cormorant. Pattern of chin and neck: left 3rd year spring (06-III); right juvenile (22-I).
Great Cormorant

Cormorant. Pattern of scapulars: left 3rd year spring (06-III); right juvenile (22-I).


Cormorant. Pattern of primary coverts. From top to bottom: adult (23-III); 4th year spring (06-III); 3rd year spring (06-III); juvenile (22-I).

Cormorant. 4th year spring: pattern of primaries (06-III).
Great Cormorant


Cormorant. 3rd year spring: pattern of primaries (06-III).


Cormorant. 4th year spring: pattern of secondaries (06-III).
Great Cormorant


Cormorant. 3rd year spring: pattern of secondaries (06-III).

Cormorant. 4th year spring: pattern of wing (06-III).

Cormorant. Adult: pattern of wing (23-III).

Cormorant. 3rd year spring: pattern of wing (06-III).