

# AN INVASIVE SPECIES IN THE FAUNA OF GALAȚI COUNTY – THE JACKAL (*CANIS AUREUS* L., 1758)

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**Abstract.** The jackal is included in the Canidae Gray, 1821 family, falling under the order Carnivora Bowdich 1821. It is an invasive species whose range has spread from the Balkan Peninsula to the North, in Romania. In the South-eastern part of Moldavia (Galați County) it arrived from the Southeast, as the first individuals came from Dobrogea. The area populated by the species continuously extended towards the North and then towards the Northwest. If 6 decades ago, when it was first spotted, the distribution area of the jackal was very small in the Southeast of the county, in 2005 it had already exceeded half of its territory, and today it is reported throughout most of the county. It is a harmful mammal, affecting both wild and domestic species.

## 1. GENERAL INFORMATION

The jackal is an invasive species (Arnold *et al.*, 2011), whose area has extended from the Balkan Peninsula to the North, in Romania. It belongs to the order Carnivora Bowdich, 1821, to the family Canidae Gray, 1821 (Murariu, 1984), along with the wolf, the red fox and the racoon-dog. In size, it is bigger than a fox and smaller than a wolf (Fig. 1). The body is slightly longer than that of a wolf, the snout is as sharp as that of a fox, the ears are sharp, and the fur is rough to the touch. It is a slender mammal with great agility and mobility (it has slender legs). The length of its body can reach 1 m, and the males weigh up to 13.6 kg (Murariu, Munteanu, 2005).



Fig. 1 – Jackal in Vânători commune.

It thrives in vegetation rich in bushes and reeds, especially in floodplains, which provide abundant food and thickets difficult to penetrate (it can also be found in riverside forests). It is a predatory mammal which has, as part of its diet, the following: various rodents (especially mice), birds (wild and domestic alike), hare kits, carcasses. It also attacks deer and wild boar. Its food is highly varied, both of animal and vegetal origin (Fox, 1975). A decisive factor in stabilizing the species is the

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abundance of food. The jackal is active in the evening and at night. When searching for food, the jackal is very bold.

As a north tropical-anatolian-balkan zoological element (Bunescu, 1961), this particular mammal entered Romania by migrating from the Balkan Peninsula, and was first reported in Dolj County by Prof. R. Călinescu (1930).

By migrating from the South, from Bulgaria, the jackal was afterwards spotted in Dobrogea, in the Nisipari area, in Constanța County and in the Jijila area, in Tulcea County (Bunescu, 1961). Between 1970–1989, it became a permanent species in the entire region. In the South it was even hunted between 1972 and 1974. The stable existence and the reproduction of the jackal in Dobrogea, in the 7<sup>th</sup> and 8<sup>th</sup> decades of the past century was “*a real and undisputed fact*” (Almășan, 1995, p. 18). The settling of this mammal in Dobrogea was also the result of the disappearance of the wolf, which is its main predator. Thus, the jackal occupied the latter’s ecological niche.

In 1995, the jackal could be found in Romania on a permanent basis only in Dobrogea and the Danube Valley.

## 2. THE ARRIVAL AND EXPANSION OF THE SPECIES IN GALAȚI COUNTY

Initially, the jackal appeared as an “accidental immigrant” in the fauna of South-eastern Moldova. Bunescu, in 1961, mentions for the first time the existence of the species in the county fauna, in the area of “La forturi”, on the territory of Tuluțești commune, after which it was not seen any further. In 1984 a jackal was shot near Galați Town.

Subsequently, the jackal reappears in 1990/1991 in the Prut valley. We rely on the fact that Almășan (1995) mentioned that on February 24<sup>th</sup>, 1991, 2 jackals were shot in the Dobrina-Huși area (Vaslui County), as the mammal was migrating from South to North, along the Prut valley, crossing thus the latter’s sector in Galați County.

The “origin” of the jackals was Dobrogea, a neighbouring territory of the county, as well as the only one where the species existed at that time (on the Prut-Nistru interfluve, Munteanu and Lozanu – 2004 – do not mention it). Initially, the jackals crossed from Dobrogea to Moldavia, over the frozen Danube.

The first official records of jackal packs date from 2000. We believe that, between 1991–1999, the species existed in the county, all the while being “ignored”, but the number of individuals was not significant. Following the increase of the species population in Dobrogea (data provided by Angelescu in 2002 indicated 561 individuals), through migration, part of it expanded its area in favourable habitats northwest of the Danube, primarily in the Prut valley, but also in the valley of the Siret River.

18 specimens were reported in 2000, all in the area of the Prut-Danube confluence. Since 2001, the jackal has also entered the Siret valley (in the Șendreni area), and in February 2004 the species had already been observed on the territory of Nămolosa commune, near the Neagra forest. Later, from the Prut floodplain, the jackals also entered the Chineja valley, and from the Siret valley they migrate along the Bârlad river. The first jackals were shot in the Covurlui Hills on the territories of Bălășești (in the autumn of 2003 on Hraina hill) and Drăgușeni (February 2005 in the Jerdia area) communes.

The increase of over 5.5 times of the population leads to the species fully occupying, in 2005, the Prut, Danube, Siret and Chineja valleys, as well as the valley of the Bârlad river, up to the Tecuci-Negrilești area. Thus, starting 2005, this mammal was recorded in all the relief units of the county. After 2009, the species became quite constant in the Ghidigeni area, while since 2011 it is observed annually in the middle of the Covurlui Hills (at Adam), and since the beginning of 2019 it also appears in the forest areas east of Barcea commune.

### 3. POPULATION DYNAMICS

According to official statistics (Table 1), starting from the 18 specimens reported in 2000, the population reached 280 in the year 2019 (an increase of over 15 times!). Field observations indicated that the number of jackals was higher.

*Table 1*

The number of jackals detected in the county for the period 2000–2019 (individuals)

Years	2000	2001	2005	2006	2007	2008	2010	2012	2014	2015	2016	2017	2018	2019
Indiv.	18	22	122	142	54	42	16	45	46	68	229	142	182	280

The shift in numbers is due to the variations of feeding opportunities. If these opportunities decrease, the species migrates to other areas with more diverse food sources (it even enters forests), especially since the breeding rate is quite high. There are places (for example the Siret valley between Branișteea and Piscu communes) where there are packs of up to 13–15 individuals.

The area of the species expanded from 62,000 ha in 2001 (13.9% of the county area), to 243,000 ha in 2005 (54.4% of the county area), covering today almost the entire county (without being a stable population anywhere).

In Galați County, the expansion of this mammal is also a consequence of the disappearance of wolves from ecosystems. However, where the wolf made its presence known, the jackal disappeared, which is a situation recently reported in the Băneasa area.

In some places (Gefu, Suceveni, Oancea, Viile areas) jackals caused damage to some sheepfolds by hunting lambs, kids or younger sheep. A case was registered in 2014, in the county, where 56 domestic goats were killed in one night. In March 2020, an adult roe deer was eaten by jackals in the Căzânești forest area, not far from Târgu Bujor Town. The jackals also ate hare kits (for example in the Covurlui Plain), or roebuck fawns (in the Covurlui Hills). In the Siret valley, they also attacked wild boar sows and their piglets, which the jackals surround and circle until they catch their young. In the spring of 2020, they reached the very edge of some villages (for example Piscu). In the South of the Covurlui Plain, at the beginning of the summer of 2020, there were cases of jackals that attacked adult does.

At the same time, jackals ate the carcasses of wild boars that had died of swine fever.

### 4. SPECIES CONTROL

Between 2001 and 2019, 639 specimens were gathered after being shot (Table 2), of which the majority were those from valley and floodplain areas (Table 3).

*Table 2*

The results of jackal shootings in the county between 2001 and 2019 (individuals)

Years	2001	2003	2004	2005	2006	2007	2008	2013	2014	2015	2016	2017	2018	2019
Indiv.	2	3	6	24	40	22	11	36	18	16	71	25	79	272

*Table 3*

The number of jackals hunted in certain years, divided by physical-geographical units (individuals)

Units / Years	2001	2005	2006	2013	2019
Dunăre-Prut floodplain	–	4	15	11	63
Siret floodplain	2	14	10	11	30
Covurlui Plain	–	1	3	2	20
Covurlui Hills	–	2	6	10	67
Tecuci Plain	–	–	2	1	61
Tutova Hills	–	3	4	1	31
Total	2	24	40	36	272

For the year 2016, the highest number of jackals shot was registered east of Foltești (12) and within Cavadinești communes (8).

## 5. CONCLUSIONS

In the South-eastern Moldavian wild fauna, the jackal was first spotted six decades ago.

If initially it was rarely and sporadically found, today it has become quite common. An invasive species, it has gradually expanded its geographical area in the past decades, from the Southeast of the county to the North and then the Northwest. The expansion was favoured by the prolificacy of the species, as well as by the abundant food to be found in river valleys, especially in the case of the massive breeding in the Prut valley, which acts as a state border area between Romania and the Republic of Moldova, thus rarely disturbed by humans, and where hunters cannot act. If in the years 2005–2006 the jackals were more solitary, at present, in some floodplain sectors, the size of the packs has reached 13–15 individuals. If two decades ago there were a few dozen individuals, today they number in the hundreds.

The jackal is a harmful mammal, which causes losses for wild and domestic species alike. Thus, between 2001 and 2019, 639 specimens were gathered after being shot.

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