



BIRDS OF NATIONAL PARK PAKLENICA, CROATIA

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This paper is devoted to a long memory of our friend, colleague and Croatian fighter,
late Ozren Lukić

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The bird fauna of the Croatian National Park »Paklenica« investigated from 1984 to 1996 is presented. During 297 field days 193 bird species (196 with data from other authors) were recorded in the area of National Park and its surroundings, out of which 91 are breeding ones.

Key words: Birds, National Park Paklenica, Velebit Mts., Croatia.

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Predstavljena je fauna ptica Nacionalnog parka »Paklenica« koja je istraživana od 1984. do 1996. Tijekom 297 terenskih dana zabilježeno je 193 vrsta ptica (196 s podacima drugih autora) na području Nacionalnog parka i njegove okolice, od kojih su 91 gnjezdarice.

Ključne riječi: Ptice, Nacionalni park Paklenica, Velebit, Hrvatska.

INTRODUCTION

Some Croatian and foreign ornithologists occasional visits to the National Park (NP) and also »Paklenica« or Velebit Mountain, to which it belongs, were mentioned in a number of published papers (MAŠTROVIĆ 1942; RUCNER D. 1963; RUCNER

R. 1965, 1967; MATVEJEV 1976; SUŠIĆ et al. 1983; ŠKORNIK 1987; LISSAK 1990; LUKAČ et al. 1992; LUKAČ & KARADŽIĆ 1993). Our knowledge on the birds of NP »Paklenica« is still based on simple faunistical data which is usually the case with most of Croatian national parks, except »Risnjak«, »Krka« and »Plitvice« NP. The birds of NP »Paklenica« were described most extensively by R. RUCNER (1967) so far. In a short account she gave a list of 28 bird species. However, it is necessary to get a scientific evaluation on the ornithological importance of the NP on the basis of the more detailed recent investigations.

The NP »Paklenica« covers 3657 ha area¹ in the southern part of Mountain Velebit (Figure 1). Confined between seacoast and central ridge of mountain chain it comprises two canyons and surrounding southern foothills with native pinewoods. It was proclaimed as NP in 1949 because of its exceptional natural beauties of limestone Karst (calcareous rocks), complex geological formation, and large, old forests, rare on southern slopes of Mediterranean mountains. The entire Velebit Mountain is recognized by the United Nations in 1978 as part of the international network of Biosphere Reserves. Formed mostly of limestone and dolomite, Mountain Velebit emerges 145 km along the Adriatic sea as 10–30 km wide natural barrier toward continental interior with the highest peak at 1757 m (Vaganski vrh). Southwestern (seaside) rocky slopes are influenced by the Mediterranean climate while in the interior the subalpine and continental climate prevails on the highest peaks and northeastern (continental) slopes.

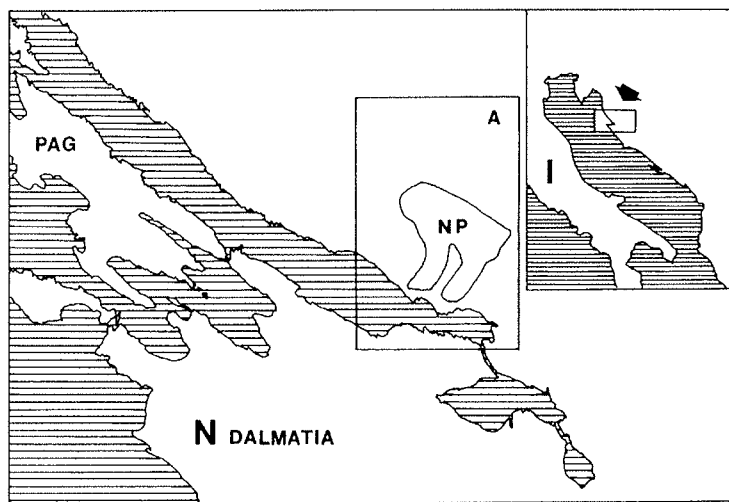


Fig. 1. The National Park »Paklenica« in the southern part of Velebit Mountain (A) at Adriatic coast.

¹ After receiving the paper, the borders of the National park changed.

The main feature of NP are two side by side canyons (Velika Paklenica and Mala Paklenica) 3 km apart with steep cliffs of up to 400 m high and relict forests of Black Pine *Pinus nigra* in the interior. Both canyons penetrate about 6 km into the southern slopes of the Mountain Velebit directly from the seacoast to the deep interior in the foothills of the highest mountain ridge. Permanent springs from the interior flow through the canyons as temporal streams after snowmelt or heavy rain. Such specific geographical position of NP and encounter of very different climate types have formed specific ecological conditions. Rich and varied petrophilic wildlife and vegetation with many endems and relics, characterise both canyons.

This region was comprehensively well botanically investigated (DEGEN 1936–38; ROSSI 1924, 1930; TRINAJSTIĆ 1979, 1995; ŠIKIĆ 1987; FORENBACHER 1990). Southern arid slopes of NP and canyons are rugged karst of bare rocks, crags, ravines, gorges, covered mainly by scrubs, garigues, maquis and submediterranean woodlands. Half of the surface of the NP is covered, mainly in the higher area and interior, largely by forests of European Beech *Fagus sylvatica* (72 %), Black Pine *Pinus nigra* (18 %), Downy Oak *Quercus pubescens*, Eastern Hornbeam *Carpinus orientalis*, European Hop Hornbeam *Ostrya carpinifolia* (6 %). Upper tree-limit of the mountain is marked by belt of Mountain Pine *Pinus mugo*. Other important habitat around boundaries of NP are upland meadows and pastures, agricultural land around villages and seacoast.

MATERIAL AND METHODS

The investigations of NP »Paklenica« have been carried out from 1984 up to August 1996 (Table 1). There are obvious gaps of investigations in February, March, September and November. Field work has been concentrated on inside borders of NP, especially in both canyons since they represent the main phenomenon of NP.

Table 1. Field observations in National Park »Paklenica« and around it through the years (1984–1996) and months.

years	1984	1985	1986	1987	1988	1989	1990	1991	1992	1995	1996	
field days	13	18	24	12	8	13	6	5	58	80	59	
months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
field days	31	15	12	23	51	29	35	30	16	21	2	32

However, important bird habitats outside borders of NP were visited (e.g. rocky sea coast with shingle beaches and mudflats, highest mountain peaks). The area covered with investigation stretched around borders of NP from the sea level up to the highest mountain peaks (Figure 2). The number of birds counted at sea and coastal habitats is referred only to the approximately 10 km of coastal line of the Velebit Channel at the edge of NP from Starigrad-Paklenica to Rovanjaska.

The systematic order, excepting Steppe Buzzard *Buteo buteo vulpinus* (CRAMP et al. 1980), Yellow-legged Gull *Larus cachinnans* and Water Pipit *Anthus spinoletta* (KNOX

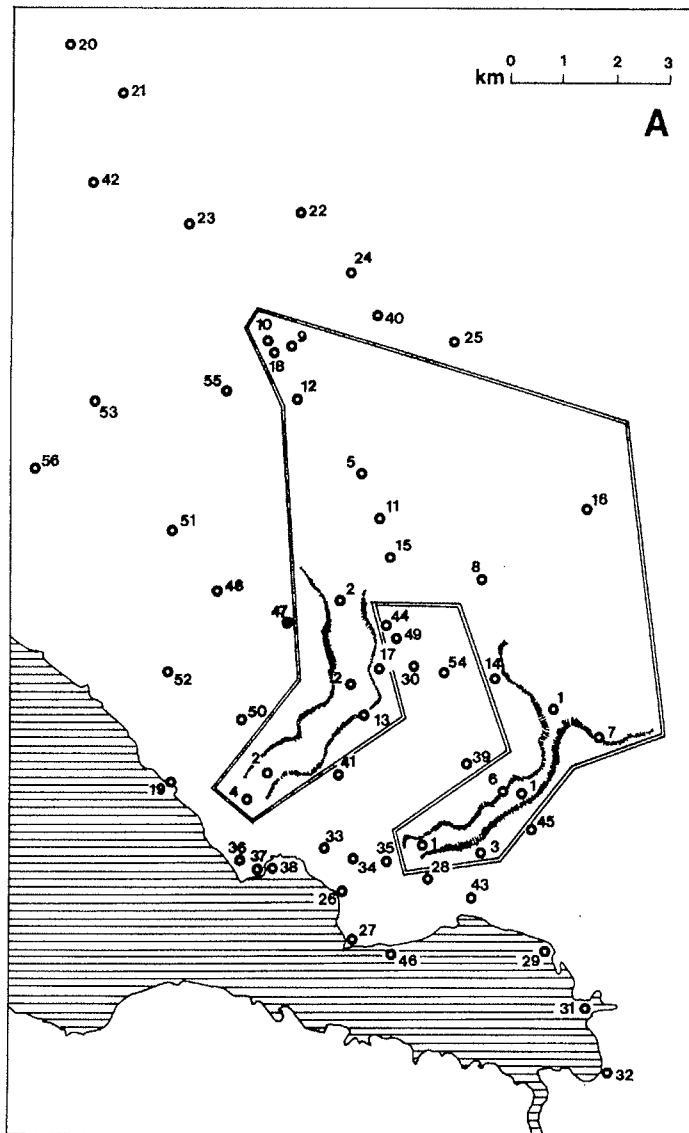


Fig. 2. The area of National Park »Paklenica« and around it (A) covered with investigation during 1984–1996 including visited sites with altitude above sea level (in brackets). Localities inside NP: 1. Canyon Mala Paklenica (50–500m), 2. Canyon Velika Paklenica (20–480m), 3. Didovača (220m), 4. Marasovići (20m); 5. Hrvatski Dom (480m), 6. Kapljarka (300m), 7. Orljača (600–800m), 8. Veliko Močilo (850m), 9. Buljma (1394m), 10. Debelo Brdo (1495m), 11. Klimenta (500–1000m), 12. Brezimerjača (450–1100m), 13. Aniča Kuk (712m), 14. Sv. Jakov (727m), 15. Malo Močilo (600m), 16. Ivine Vodice (1200m), 17. Jurasova Glavica (650m), 18. Tadina Staza (1400m),

1994), and Hooded Crow *Corvus corone cornix*, english names of species and status of birds of NP follow the most favoured division made in the "The »British Birds« List of Birds of the Western Palearctic" (ANONYMUS 1984). Croatian names follow nomenclature of SUŠIĆ & RADOVIĆ (1988). Due to relatively small surface area of NP and for practical reasons, category »Vagrant« is slightly modified. There are following categories:

RESIDENT, or present in all seasons in comparable numbers;

SUMMER VISITOR, present in significantly greater numbers in summer than in other seasons (they are mostly **breeding** species);

WINTER VISITOR, present in significantly greater numbers in winter than in other seasons;

PASSAGE MIGRANT, occurring in greater numbers on migration in spring and/or autumn than in summer or winter;

VAGRANT, occurring so rarely that all records are important to the Croatian list (»rare vagrant«); or birds that occur in NP throughout year only on vagrancy or dispersion without any regular seasonal movements, although breeding regularly elsewhere on the Adriatic sea or Mountain Velebit but not in NP or close around borders of NP (»regular vagrant«).

RESULTS

Inside of the National Park and around its borders we recorded 196 bird species out of which 91 are breeding in this area. All important records for NP and the Croatian list were separately mentioned.

1. Red-throated Diver *Gavia stellata*

Scarce winter visitor and scarce passage migrant at sea around NP. Only few observations in winter and spring:

30.12.1986 Seline – 1 specimen

20.1.1989 Rovanjaska – 1 specimen

21.4.1989 Starigrad – 1 specimen

←

Localities outside NP: 19. Starigrad-Paklenica (m), 20. Počitelj (1540m), 21. Golovrhe (1580m), 22. Badanj (1638m), 23. Javornik (1492m), 24. Marasovac (1450m), 25. Vaganski Vrh (1757m), 26. Seline (m), 27. promontory Pisak (m), 28. Bucići (m), 29. inlet Zečica, 30. valley Grabova Dolina (700m), 31. inlet Modrič, 32. Rovanjaska (m), 33. Jurline (Seline, m), 34. Jusupi (m), 35. Jukići (50m), 36. Večko Polje (m), 37. Široko Polje (m), 38. Przine (m), 39. Rimenić (600m), 40. Babino Jezero (1600m), 41. Bužanića Dolina (200m), 42. Oglavinovac (1236m), 43. Reljani (50m), 44. Škiljići (Malo Močilo) (650m), 45. Perini Doci (600m), 46. Hridi Škrpelji (Bijele Stijene), 47. Vidakov Kuk (866m), 48. Mali Vaganac (700m), 49. Jurline (Malo Močilo) (600m), 50. Tomići (250m), 51. Veliki Vaganac (600m), 52. Dokoze (250m), 53. Veliko Rujno (900m), 54. Jama Vodarica (700m), 55. Stražbenica (1130m), 56. Bojinac (874–1110m), 57. Lisac (1484m; out of map).

2. Black-throated Diver *Gavia arctica*

Winter visitor and passage migrant at sea around NP. Winter records from December to February, usually of small groups but up to 21 specimens counted in January 1987. More spring records from March to May including solitary birds or groups of up to 4 specimens.

3. Little Grebe *Tachybaptus ruficollis*

Winter visitor and passage migrant at sea around NP. All winter records from December to February with up to 22 specimens counted in January 1989. Only one record in March.

4. Great Crested Grebe *Podiceps cristatus*

Winter visitor and passage migrant at sea around NP. Winter records from December to February, occurring singly or in small parties with up to 15 birds counted in February 1987. More spring records in March and May, including groups of up to 7 specimens. One summer observation:

6.6.1996 Modrič – 3 specimens

5. Red-necked Grebe *Podiceps grisegena*

Winter visitor and passage migrant at sea around NP. Several winter records in January and February, with up to 12 specimens counted in February 1987. Several records of groups of 1–3 specimens on migration in March, April, May, August, September and October.

6. Slavonian Grebe *Podiceps auritus*

Scarce winter visitor and passage migrant at sea around NP. Only few records from December to March:

28.12.1985 Seline – 2 specimens

13.1.1996 Starigrad – 2 specimens

26.2.1996 Starigrad – 1 specimen

9.3.1996 Starigrad – 2 specimens

15.3.1996 Starigrad – 2 specimens

7. Black-necked Grebe *Podiceps nigricollis*

Winter visitor and passage migrant at sea around NP. All winter records from December to February. One observation in March and one in April. Occur singly or in small groups with up to 6 specimens counted in January 1989.

8. Cormorant *Phalacrocorax carbo*

Winter visitor and passage migrant at sea around NP. Several winter records in January and February, up to 10 specimens counted in February 1987. Only one record in March.

9. Shag *Phalacrocorax aristotelis*

Regular vagrant. The Shag disperse from the nearest breeding islands at the Adriatic sea and occur throughout the year at sea around NP usually from 1–6 specimens.

10. Night Heron *Nycticorax nycticorax*

Passage migrant at coastal wooded area. Only few records:

- 1.5.1984 Seline – 1 specimen
- 15.7.1995 Starigrad – 2 specimens
- 28.4.1996 Starigrad – 1 specimen
- 29.4.1996 Starigrad – 8 specimens
- 6.5.1996 Starigrad – 3 specimens
- 28.4.1996 Starigrad – 1 specimen
- 29.4.1996 Starigrad – 2 specimens
- 6.5.1996 Starigrad – 5 specimens
- 16.5.1996 Starigrad – 1 specimen
- 17.5.1996 Starigrad – 1 specimen

11. Little Egret *Egretta garzetta*

Passage migrant at coastal habitat around NP. Only few records in April, May and August:

- 1.5.1984 Modrič – 1 specimen
- 24.5.1989 Modrič – 8 specimens
- 26.5.1989 Modrič – 8 specimens
- 31.8.1995 Modrič – 1 specimen
- 1.5.1996 Starigrad – 1 specimen
- 10.5.1996 Starigrad – 1 specimen
- 30.4.1996 Starigrad – 1 specimen

12. Grey Heron *Ardea cinerea*

Winter visitor and passage migrant at coastal habitat around NP. During winter observed mainly in December and January. Many records are also from March to June and from September to October. Appear singly or in small groups of 2–3 specimens, except 7 specimens overflying the sea in April 1985.

13. Wigeon *Anas penelope*

Passage migrant at sea around NP. Only one record:

- 28.3.1996 Starigrad – 2 specimens

14. Teal *Anas crecca*

Passage migrant at sea around NP. Only one record:

- 9.3.1996 Starigrad – 2 specimens

15. Garganey *Anas querquedula*

Passage migrant at sea around NP. Only one record:

15.3.1996 Starigrad – 2 specimens

16. Pochard *Aythya ferina*

Scarce winter visitor at sea around NP. Only one record:

1.2.1987 The Velebit Channel – 6 specimens

17. Ferruginous Duck *Aythya nyroca*

Scarce passage migrant at sea around NP. Only one record:

17.8.1984 – 1 specimen

18. Tufted Duck *Aythya fuligula*

Scarce winter visitor and scarce passage migrant at sea around NP. Only two records:

17.8.1984 Rovanjaska/Seline – 8 specimens

1.2.1987 Rovanjaska/Seline – 5 specimens

19. Common Scoter *Melanitta nigra*

Scarce winter visitor at sea around NP. Only two records:

30.12.1985 Seline – 3 specimens

28.12.1986 Seline – 1 specimen

20. Velvet Scoter *Melanitta fusca*

Winter visitor at sea around NP. Several records from December to February:

28.12.1986 Seline – 4 specimens

30.12.1986 Seline/Rovanjaska – 2 specimens

1.1.1987 Seline/Rovanjaska – 3 specimens

2.1.1987 Seline – 5 specimens

1.2.1987 Seline – 7 specimens

21. Goldeneye *Bucephala clangula*

Winter visitor at sea around NP. Many records from December to February, with up to 19 specimens counted in February 1987.

22. Red-breasted Merganser *Mergus serrator*

Winter visitor and passage migrant at sea around NP. More winter records from December to February, with up to 23 specimens counted in February 1987. All other spring records from March to May, with up to 9 specimens counted in April 1985 and 10 birds in March 1996.

23. Honey Buzzard *Pernis apivorus*

Passage migrant. **Probably breeding** in the forests of NP but no direct evidence. Breeding elsewhere on Mountain Velebit. Several records from April to August:

- 1.5.1984 Seline – 1 specimen
- 2.6.1989 Canyon Mala Paklenica – 1 specimen
- 28.6.1992 Badanj – 1 specimen
- 28.5.1994 Canyon Mala Paklenica – 1 specimen
- 15.7.1995 Canyon Velika Paklenica – 1 specimen
- 12.8.1995 Canyon Mala Paklenica – 1 specimen
- 30.4.1996 Starigrad – 1 specimen
- 1.5.1996 Starigrad – 1 specimen
- 5.5.1996 Canyon Velika Paklenica – 1 specimen
- 15.5.1996 Canyon Velika Paklenica – 4 specimens

24. Black Kite *Milvus migrans*

Scarce passage migrant. Only one autumn record:

- 13.8.1995 Starigrad – 1 specimen

25. Egyptian Vulture *Neophron percnopterus*

Rare vagrant. **Breeding in the past**. A pair bred early in the sixties in NP Paklenica (RUCNER 1967; BIJLEVELD 1974). There is no recent evidence of breeding. Occasional records of singles only in both canyons:

Canyon Mala Paklenica – recorded (RUCNER 1965)

- 28.4.1984 Canyon Mala Paklenica – 1 specimen
- 29.4.1984 Canyon Mala Paklenica – 1 specimen
- 29.4.1985 Canyon Mala Paklenica – 1 specimen
- 20.5.1985 Canyon Velika Paklenica – 1 specimen
- 30.5.1987 Canyon Mala Paklenica – 1 specimen

26. Griffon Vulture *Gyps fulvus*

Resident. Small colony recently breeding on cliffs of both canyons, obviously not over 10 pairs at all. Unfortunately there is no accurate information on the actual number of breeding pairs and their fluctuation. Rough estimates of the number of breeding pairs: Canyon Mala Paklenica – 5–10 pairs (1985), 6–10 pairs (1986), 2–4 pairs (1990), at least 2 pairs (1996); Canyon Velika Paklenica – 3–5 pairs (1985), 1–2 pairs (1990), 5 pairs (1996). Most important observations:

- 28.4.1984 Canyon Mala Paklenica – 7 specimens
- 19.8.1984 Canyon Mala Paklenica – 10 specimens
- 29.4.1985 Canyon Mala Paklenica – 11 specimens; one nest found
- 20.5.1985 Canyon Velika Paklenica – 6 specimens; estimated 3–5 pairs breeding
- Canyon Mala Paklenica – estimated 5–10 pairs breeding

- 29.12.1985 Canyon Mala Paklenica – 9 specimens; four nests found
Canyon Velika Paklenica – 5 specimens
- 30.12.1985 Canyon Mala Paklenica – 12 specimens
- 5.4.1986 Canyon Mala Paklenica – 7 specimens
- 31.12.1986 Canyon Velika Paklenica – 9 specimens
- 24.4.1987 Canyon Velika Paklenica – 3 specimens
- 30.5.1987 Canyon Mala Paklenica – 8 specimens
- 17.4.1988 Canyon Mala Paklenica – 8 specimens
- 6.1.1989 Canyon Mala Paklenica – 4 specimens
- 24.5.1989 Canyon Velika Paklenica – 4 specimens
- 30.6.1989 Canyon Velika Paklenica – 4 specimens
- 24.4.1990 Canyon Velika Paklenica – estimated 1–2 pairs breeding
- 25.4.1990 Canyon Mala Paklenica – estimated 2–4 pairs breeding
- 22.5.1990 Canyon Mala Paklenica – 5 specimens
- 5.1.1991 Canyon Velika Paklenica – 11 specimens
- 5.7.1992 Canyon Velika Paklenica – 3 specimens
- 30.4.1994 Canyon Mala Paklenica – 4 specimens
- 15.7.1995 Canyon Velika Paklenica – 4 specimens
- 12.8.1995 Canyon Mala Paklenica – 5 specimens
- 16.10.1995 Canyon Velika Paklenica – 6 specimens
- 21.10.1995 Canyon Mala Paklenica – 12 specimens
- 1.12.1995 Canyon Mala Paklenica – 8 specimens
- 4.12.1995 Canyon Velika Paklenica – 4 pairs engaged in display flights
- 15.12.1995 Canyon Velika Paklenica – 8 specimens
- 16.12.1995 Canyon Mala Paklenica – 8 specimens
- 24.12.1995 Canyon Velika Paklenica – 8 specimens
- 4.1.1996 Canyon Mala Paklenica – 10 specimens
- 14.1.1996 Bužanića Dolina/Canyon Velika Paklenica – 22 specimens
Canyon Velika Paklenica – estimated/counted 5 pairs breeding
- 15.1.1996 Canyon Mala Paklenica – 2 nests found
- 17.1.1996 Canyon Mala Paklenica – 7 specimens
- 20.1.1996 Canyon Mala Paklenica – 7 specimens
- 21.1.1996 Canyon Velika Paklenica – 9 specimens
- 6.2.1996 Canyon Velika Paklenica – 4 specimens
- 8.2.1996 Canyon Mala Paklenica – 15 specimens
- 10.2.1996 Canyon Mala Paklenica – 9 specimens
- 25.2.1996 Canyon Mala Paklenica – 6 specimens
- 27.2.1996 Vidakov Kuk/Mali Vaganac – 5 specimens

27. Black Vulture *Aegypius monachus*

Rare vagrant. Extinct in Croatia early in this century (SUŠIĆ 1985). Recorded once in NP in 1987:

- 9/11.10.1987 Canyon Velika Paklenica – 1 specimen (ŠKORNIK 1987)

28. Short-toed Eagle *Circaetus gallicus*

Summer visitor and passage migrant. One pair in 1985 nesting at the edge of the canyon Mala Paklenica reared fledged eaglet and Mountain Velebit on foothills of southern arid mountain slope. All observations from April to August, with 1-3 birds included. The earliest and latest observations:

- 5.4.1986 Canyon Mala Paklenica – 2 specimens
- 19.8.1984 Canyon Mala Paklenica – 2 specimens
- 28.8.1995 Canyon Velika Paklenica – 1 specimen

29. Marsh Harrier *Circus aeruginosus*

Scarce passage migrant. Only one spring record:

- 27.4.1988 Canyon Mala Paklenica – 1 specimen

30. Hen Harrier *Circus cyaneus*

Scarce winter visitor and passage migrant. Only few records:

- 6.2.1996 Canyon Velika Paklenica – 1 male
- 8.2.1996 Didovača – 1 female
- 1.5.1996 Starigrad – 1 female
- 30.4.1996 Starigrad – 1 female

31. Goshawk *Accipiter gentilis*

Regular vagrant. **Probably breeding** in the forests of NP but no direct evidence. Breeding elsewhere on Mountain Velebit. Several records:

- 16.8.1984 Canyon Mala Paklenica – 1 specimen
- 23.8.1989 Canyon Mala Paklenica – 1 specimen
- 14.7.1992 Buljma/Vaganski Vrh – 1 specimen
- 16.10.1995 Canyon Velika Paklenica – 1 specimen
- 17.8.1996 Canyon Velika Paklenica – 1 male

32. Sparrowhawk *Accipiter nisus*

Resident. Breeding in the forests of NP and Mountain Velebit. Many records in all seasons in NP and around NP.

33. Buzzard *Buteo buteo buteo*

Resident. Breeding in the forests of NP and Mountain Velebit. Many observations of 1-2 specimens in all seasons in NP and around NP.

Steppe Buzzard *Buteo buteo vulpinus*

Rare vagrant. Only one winter record:

- 25.2.1996 Starigrad – 1 specimen

34. Golden Eagle *Aquila chrysaetos*

Regular vagrant. Resident on Mountain Velebit and only **formerly breeding** inside NP. Two abandoned nests, certainly belonging to this eagle, were found in both canyons but there is no recent proof of breeding inside or around NP. Recent observations indicate possible breeding close around NP. Only several records:

- 9/11.10.1987 Canyon Velika Paklenica – 4 specimens (ŠKORNIK 1987)
- 11.7.1992 Badanj – 1 specimen (immature)
- 12.8.1995 Canyon Mala Paklenica – 2 specimens
- 8.2.1996 Canyon Mala Paklenica – 1 specimen (immature)
- 8.3.1996 Canyon Velika Paklenica – 2 specimens (adult male and female)
- 12.4.1996 Canyon Velika Paklenica – 1 specimen (adult)
- 28.6.1996 Canyon Velika Paklenica – 1 specimen

35. Bonelli's Eagle *Hieraetus fasciatus*

Rare vagrant. Observed twice in NP:

- spring 1981 Canyon Velika Paklenica – observed (SUŠIĆ et al. 1983)
- 25.6.1982 Canyon Mala Paklenica – observed (SUŠIĆ et al. 1983)

36. Osprey *Pandion haliaetus*

Scarce passage migrant at sea around NP. Only one spring record:

- 1.5.1984 Seline – 1 specimen

37. Lesser Kestrel *Falco naumanni*

Scarce passage migrant. Only one autumn record:

- 16.10.1995 Canyon Velika Paklenica – 1 male

38. Kestrel *Falco tinnunculus*

Resident. Breeding in NP, with 4–5 pairs in both canyon (1984–1985) and several pairs in other parts of NP. Many observations in all seasons.

39. Hobby *Falco subbuteo*

Scarce passage migrant. Only two spring records:

- 30.4.1985 Seline – 1 specimen
- 15.5.1996 Canyon Velika Paklenica – 1 specimen

40. Saker *Falco cherrug*

Scarce passage migrant. Only two spring records, most likely same bird:

- 29.4.1985 Canyon Mala Paklenica – 1 specimen
- 30.4.1985 Seline – 1 specimen

41. Peregrine *Falco peregrinus*

Resident. Breeding on the cliffs inside NP. Many observations of 1–2 specimens in all seasons inside and outside NP. One pair breeding several consecutive years, from 1988 to 1995. At least two pairs bred inside NP.

42. Hazel Grouse *Bonasa bonasia*

Resident. Breeding in NP and around NP in the thick forest with undergrowth. Only two records of this secretive bird:

- 28.4.1985 Canyon Velika Paklenica – 4 specimens
- 27.2.1996 Vidakov Kuk/Tomići – 2 specimens

43. Rock Partridge *Alectoris graeca*

Resident. Breeding in NP exclusively on the bare rocky southern slope of mountain. Most numerous in the carst with sparse shrubby vegetation between two canyons.

44. Grey Partridge *Perdix perdix*

Vagrant or introduced as game bird. Occur only at cultivation around villages on the coast. Only one record:

- 6.5.1992 Starigrad – 1 specimen

45. Pheasant *Phasianus colchicus*

Introduced as game bird. Occur only at cultivation around villages on the coast. Only one record:

- 10.6.1989 Seline – 1 specimen

46. Water Rail *Rallus aquaticus*

Scarce winter visitor around NP. Only one record at seacoast:

- 24.2.1996 Starigrad – 1 specimen

47. Spotted Crake *Porzana porzana*

Scarce passage migrant or scarce winter visitor at coastal area around NP. Only one unusual winter record:

- 1.12.1995 Starigrad – 1 specimen

48. Coot *Fulica atra*

Scarce winter visitor at sea around NP. Only few records:

- 30.12.1986 Seline – 10 specimens
- 31.12.1986 Seline/Starigrad – 1 specimen
- 1.2.1987 Rovanjaska – 1 specimen

49. Little Ringed Plover *Charadrius dubius*

Passage migrant and scarce winter visitor at coastal habitat around NP. **Probably breeding** on the coast. One pair in July 1992 exhibited distraction display at shingle beach near Starigrad. Many records from March to August, usually singles or couples, with up to 4 specimens in June 1992 near Starigrad. One exceptional winter record:

16.12.1995 Starigrad – 1 specimen

50. Kentish Plover *Charadrius alexandrinus*

Winter visitor at coastal habitats around NP. Up to 17 birds occur only at tidal mudflats in inlet Modrič:

1.1.1987 Modrič – 17 specimens

1.2.1987 Modrič – 13 specimens

16.1.1988 Modrič – 15 specimens

51. Sanderling *Calidris alba*

Scarce passage migrant at coastal habitats around NP. Only one spring record:

1.5.1984 Seline – 1 specimen

52. Little Stint *Calidris minuta*

Passage migrant at coastal habitats around NP. Only few records in May and July:

1.5.1984 Promontory Pisak – 7 specimens

26.5.1989 Starigrad – 3 specimens

30.7.1995 Starigrad/Seline – 2 specimens

53. Temminck's Stint *Calidris temminckii*

Scarce passage migrant at coastal habitats around NP. Only one autumn record:

27.8.1995 Starigrad – 1 specimen

54. Dunlin *Calidris alpina*

Winter visitor at coastal habitats around NP. Several records in January and February, with up to 15 specimens in January 1991:

1.1.1987 Inlet Modrič – 3 specimens

1.2.1987 Rovanjaska (inlet Modrič) – 5 specimens

16.1.1988 Inlet Modrič – 8 specimens

9.1.1991 Inlet Modrič – 15 specimens

55. Woodcock *Scolopax rusticola*

Winter visitor in forests, woodlands and shrubs on the coast and the lower altitude of southern slopes of NP. Only few records, mostly in pinewoods:

- 31.12.1985 Canyon Mala Paklenica – 3 specimens
1.1.1986 Canyon Mala Paklenica – 1 specimen
23/24.12.1995 Starigrad – 3 specimens
29.12.1995 Starigrad – 3 specimens

56. Spotted Redshank *Tringa erythropus*

Scarce passage migrant at coastal habitats around NP. Only one record:

- 1.5.1984 Promonotory Pisak – 2 specimens

57. Redshank *Tringa totanus*

Winter visitor and passage migrant at coastal habitats around NP. Few records from January to March and in July:

- 1.1.1987 Inlet Modrič – 2 specimens
1.2.1987 Inlet Modrič – 1 specimen
13.3.1987 Inlet Modrič – 1 specimen
30.7.1995 Starigrad/Seline – 2 specimens
20.3.1996 Starigrad – 1 specimen
22.3.1996 Starigrad – 1 specimen
12.7.1996 Starigrad – 3 specimens

58. Green Sandpiper *Tringa ochropus*

Scarce passage migrant at coastal habitats around NP. Only one autumn record:

- 15.8.1984 Rovanjaska – 1 specimen

59. Wood Sandpiper *Tringa glareola*

Scarce passage migrant at coastal habitats around NP. Only two records:

- 1.5.1984 Seline – 1 specimen
6.7.1995 Starigrad – 1 specimen

60. Common Sandpiper *Actitis hypoleucos*

Scarce winter visitor and passage migrant at coastal habitats around NP. Many observations during passage migration from March to May and from July to October, usually including singles or smaller groups from 2 to 13 birds. Only three winter records from December to February, with up to 4 birds counted.

61. Little Gull *Larus minutus*

Scarce winter visitor at sea coast around NP. Only one record:

- 1.1.1987 Starigrad/Rovanjaska – 1 specimen

62. Black-headed Gull *Larus ridibundus*

Winter visitor and passage migrant at sea coast around NP. Many observations in winter and spring from December to May. Most important counts at the coast

were 41 birds (January), 84 (February), 600 (March), 80 (April), 20 (May). Only two records in July:

- 5.7.1995 Starigrad – 1 specimen
- 30.7.1995 Starigrad/Seline – 1 specimen

63. Common Gull *Larus canus*

Winter visitor at sea coast around NP. Only one record:

- 1.2.1987 Inlet Modrič – 30 specimens

64. Yellow-legged Gull *Larus cachinnans*

Regular vagrant. Breeding in close proximity of NP on Adriatic islands. Occur throughout year mainly at sea coast around NP and elsewhere in NP usually overflying mountains slopes. The nearest breeding colonies are at neighbouring Adriatic islands. There are numerous observations, but the most important counts at coast were 59 birds (January), 69 (February), 31 (May), 82 (July), 55 (August), 80 (September), 110 (October), 110 (December).

65. Caspian Tern *Sterna caspia*

Scarce passage migrant at sea coast around NP. Only one record:

- 1.5.1984 Seline – 1 specimen

66. Sandwich Tern *Sterna sandvicensis*

Scarce passage migrant and winter visitor at sea coast around NP. Only few records:

- 24.4.1987 Starigrad – 1 specimen
- 13.3.1987 Starigrad – 3 specimens
- 16.12.1995 Starigrad – 1 specimen

67. Common Tern *Sterna hirundo*

Summer visitor and passage migrant at sea coast around NP. One pair was **breeding** in 1986 on the small rock at the coast close to Seline, but afterwards broken eggs were deserted. The other nearest breeding colonies are at the Adriatic islands. Many observations in April and May but only one in June and July, usually including 2–4 birds.

68. Black Tern *Chlidonias niger*

Scarce passage migrant at sea coast around NP. Only one spring record:

- 1.5.1984 Promontory Pisak – 6 specimens

69. White-winged Black Tern *Chlidonias leucopterus*

Scarce passage migrant at sea coast around NP. Only one spring record:

- 1.5.1984 Seline – 1 specimen

70. Rock Dove *Columba livia*

Resident. Pure wild birds nest in NP, especially in both canyons and on the southern rocky slope including the rocky coast around NP. Usually observed in groups of 5–10 birds, but commonly up to 60–80 birds seen in flock. Roughly 100 pairs bred in both canyons.

71. Stock Dove *Columba oenas*

Scarce winter visitor and passage migrant at the coast around NP. Only two records:

- 16.1.1988 Seline – 18 specimens
- 4.5.1996 Starigrad – 1 specimen

72. Woodpigeon *Columba palumbus*

Winter visitor and passage migrant in NP and around NP. Occur mostly at the lower part of NP and on the coast in forests, woodlands, orchards and cultivation. Only few records:

- 16.1.1988 Seline – 18 specimens
- 27.4.1984 Seline – 1 specimen
- 10.10.1995 Canyon Velika Paklenica – 4 specimens
- 21.10.1995 Seline – 21 specimens

73. Collared Dove *Streptopelia decaocto*

Resident. Breeding on cultivated land and in villages at the edge of NP.

74. Turtle Dove *Streptopelia turtur*

Summer visitor and passage migrant. Breeding in the open area with scattered trees, scrubs and orchards in NP and around NP. All observations from April to September.

75. Cuckoo *Cuculus canorus*

Summer visitor and passage migrant. Breeding in NP and around NP. All observations from April to May and in July.

76. Scops Owl *Otus scops*

Summer visitor and passage migrant. Breeding in NP and around NP mainly in villages but also in lightly forested areas and on rocks in canyons. Several records from April to June:

- 29.4.1984 Seline – 1 specimen
- 30.4.1985 Promontory Pisak – 1 specimen
- 27.4.1988 Canyon Mala Paklenica – 1 specimen
- 25.5.1988 Starigrad – 1 specimen

- 23.5.1989 Canyon Velika Paklenica – 4 specimens
- 24.4.1990 Canyon Velika Paklenica – 2 specimens
- 11.5.1992 Starigrad – 1 specimen
- 17.6.1992 Starigrad – 1 specimen
- 27.4.1996 Canyon Velika Paklenica – 5 specimens
- 5.5.1996 Starigrad – 1 specimen
- 16.5.1996 Starigrad – 3 specimens

77. Eagle Owl *Bubo bubo*

Resident. Breeding in both canyons of NP and around NP. Only few records:

- 28.12.1985 Canyon Mala Paklenica – 2 specimens
- 27.4.1996 Canyon Velika Paklenica – 2 specimens
- 4.6.1996 Starigrad – 1 specimen

78. Little Owl *Athene noctua*

Resident. Breeding in NP and around NP. Only one record:

- 23.9.1995 Starigrad – 1 specimen

79. Tawny Owl *Strix aluco*

Resident. Breeding in NP and around NP in the forests, woodlands, parkland and urban areas with scattered trees. Several records:

- 24.6.1992 Badanj – 4 specimens
- 28.6.1992 Badanj – 1 specimen
- 10.7.1992 Badanj – 2 specimens
- 30.9.1995 Veliki Vaganac – 2 specimens
- 21.10.1995 Starigrad – 1 specimen
- 22.12.1995 Starigrad – 1 specimen
- 29.12.1995 Starigrad – 1 specimen
- 13.3.1996 Starigrad – 1 specimen

80. Nightjar *Caprimulgus europaeus*

Summer visitor and passage migrant. Breeding in NP and around NP. Only two records:

- 1.5.1984 Promontory Pisak – 1 specimen
- 15.8.1984 Rovanjaska – 1 specimen
- 29.4.1996 Starigrad – 1 specimen (fresh corpse found on the road)

81. Swift *Apus apus*

Summer visitor and passage migrant. **Breeds around NP** on buildings in villages. Many observations from April to September mainly on the coast.

82. Pallid Swift *Apus pallidus*

Scarce vagrant. Only one record on the coast in July:

13.7.1996 Starigrad – 2 specimens

83. Alpine Swift *Apus melba*

Summer visitor and passage migrant. Breeds in NP and around NP on high cliffs, rock faces and cavities. Few colonies nesting in both canyons. Rough population estimates for entire NP was 30 pairs in 1985 and 40 pairs in 1992. Many observations from April to August (including one in October by ŠKORNIK (1987)) mainly in canyons, but Alpine Swift occur elsewhere. Most important records:

- 28.4.1984 Canyon Mala Paklenica – 60 specimens
- 16.8.1984 Canyon Mala Paklenica – 54 specimens
- 1.5.1985 Canyon Velika Paklenica – 40 specimens
- 5.4.1986 Canyon Mala Paklenica – 7 specimens
- Canyon Velika Paklenica – 10 specimens
- 9/11.10.1987 Canyon Velika Paklenica – 100 specimens (ŠKORNIK 1987)
- 25.5.1989 Canyon Mala Paklenica – 40 specimens
- 23.8.1989 Canyon Mala Paklenica – observed
- 24.4.1990 Canyon Velika Paklenica – 60 specimens
- 30.6.1992 Canyon Velika Paklenica – 40 specimens
- 20.7.1995 Canyon Velika Paklenica – 105 specimens
- 11.8.1995 Canyon Velika Paklenica – 48 specimens
- 25.8.1995 Canyon Velika Paklenica – 10 specimens
- 28.8.1995 Canyon Velika Paklenica – 1 specimen
- 6.4.1996 Canyon Celika Paklenica – 30 specimens

84. Kingfisher *Alcedo atthis*

Winter visitor and passage migrant at coastal habitats around NP. Many records of 1–2 birds from July to February exclusively at seacoast.

85. Bee-eater *Merops apiaster*

Summer visitor and passage migrant. **In 1988 and 1989 two pairs bred in NP** at the entrance of the canyon Mala Paklenica in the bed of temporal stream. The highest number in NP and around NP was counted in August on migration and range from 21 to 40 birds. Many records from May to August:

- 16.8.1984 Seline – 21 specimens
- 17.8.1984 Seline – 25 specimens
- 19.8.1984 Seline – 6 specimens
- 27.5.1988 Seline – 1 specimen
- Canyon Mala Paklenica – 2 pairs bred (occupied nesting hole)
- 25.5.1989 Canyon Mala Paklenica – 2 pairs bred (occupied nesting hole)
- 26.5.1989 Starigrad – 2 specimens

- 23.8.1989 Canyon Mala Paklenica – 40 specimens
- 11.5.1992 Starigrad – observed
- 27.5.1992 Starigrad – observed
- 8.8.1995 Starigrad – 5 specimens
- 12.8.1995 Canyon Mala Paklenica – 8 specimens
- 14.8.1995 Dokoze/Veliko Rujno – 6 specimens
- 27.8.1995 Starigrad – 30 specimens
- 30.8.1995 Starigrad – 5 specimens
- 13.5.1996 Starigrad – 1 specimen

86. Hoopoe *Upupa epops*

Summer visitor and passage migrant. Breeds in NP and around NP most often at coast and lower altitude. Roughly 10 pairs nests in entire NP. Many records from April to August, mostly singles or 2–3 specimens.

87. Wryneck *Jynx torquilla*

Summer visitor and passage migrant. Breeding in NP and around NP, but mainly at coast and lower altitude. Roughly 15 pairs bred in NP. Many records from April to August.

88. Grey-headed Woodpecker *Picus canus*

Resident, including seasonal movement. Breeding in NP in interior forests. Several records:

- 30.6.1989 Hrvatski Dom/Brezimenjača – 1 specimen
- 10.12.1995 Škiljići/Jurline – 1 male
- 8.3.1996 Canyon Velika Paklenica – 1 specimen
- 27.4.1996 Hrvatski Dom – 2 specimens
- 11.5.1996 Hrvatski Dom/Martinovo Mirilo – 1 specimen
- 28.6.1996 Canyon Velika Paklenica – 1 male

89. Green Woodpecker *Picus viridis*

Regular vagrant. Only two records on the coast:

- 31.12.1986 Seline/Starigrad – 1 specimen
- 12.9.1995 Starigrad – 1 specimen

90. Black Woodpecker *Dryocopus martius*

Resident, including seasonal movements. Breeding in NP in interior forests. Several records:

- 20.6.1992 Hrvatski Dom – 1 specimen
- 9.12.1995 Marasovići/Canyon Velika Paklenica – 1 specimen
- Malo Močilo – 2 specimens

- 10.12.1995 Škiljići/Jurline – 2 specimens
- 30.12.1995 Hrvatski Dom/Ivine Vodice – 2 specimens
- 2.1.1996 Hrvatski Dom/Malo Močilo – 3 specimens
- 17.2.1996 Hrvatski Dom/Klimenta – 2 specimens
- 27.4.1996 Canyon Velika Paklenica – 1 specimen
Hrvatski Dom – 1 specimen
- 11.5.1996 Hrvatski Dom/Martinovo Mirilo – 1 specimen

91. Great Spotted Woodpecker *Dendrocopos major*

Resident, including seasonal movements. Breeding in NP in interior forests. On the coast and at lower altitude present regularly from August to March except only one record in June. Most important records:

- 16.8.1984 Seline – 1 specimen
- 30.6.1989 Starigrad – 1 specimen
- 7.8.1995 Starigrad – 1 specimen
- 14.8.1995 Dokoze/Veliko Rujno – 2 specimens
- 30.9.1995 Veliki Vaganac – 1 specimen
Veliki Vaganac/Bojinac – 1 specimen
- 2.1.1996 Jama Vodarica/Jurasova Glavica – 1 specimen
- 8.3.1996 Starigrad – 1 specimen

92. Syrian Woodpecker *Dendrocopos syriacus*

Regular vagrant. Only one winter record on the coast:

- 23.1.1996 Starigrad – 1 specimen

93. Middle Spotted Woodpecker *Dendrocopos medius*

Regular vagrant. **Probably breeding** in NP in interior forests but no direct evidence. Only one record:

- 20.6.1992 Hrvatski Dom – 1 specimen

94. White-backed Woodpecker *Dendrocopos leucotos*

Regular vagrant. **Probably breeding** in NP in interior forests but no direct evidence. Only few winter records:

- 29.12.1995 Klimenta – 1 specimen
- 30.12.1995 Hrvatski Dom/Ivine Vodice – 1 specimen
- 18.2.1996 Hrvatski Dom/Buljma – 1 specimen

95. Lesser Spotted Woodpecker *Dendrocopos minor*

Regular vagrant. **Probably breeding** in NP in interior forests but no direct evidence. Only one record:

- 30.6.1989 Hrvatski Dom/Brezimenjača – 1 specimen

96. Short-toed Lark *Calandrella brachydactyla*

Regular vagrant. Recorded on the relation from Starigrad to Seline (RUCNER 1965).

97. Crested Lark *Galerida cristata*

Resident. **Breeding mainly around NP** on the coast on cultivation, cleared sites around villages and dry hillsides with sparse vegetation. At least 20 pairs bred around NP at coast.

98. Woodlark *Lullula arborea*

Resident. Breeding in NP and around NP at higher altitude on grasslands along the foothills of mountain slopes. In winter occur mainly at coast, usually in flocks containing 5–30 specimens. Most important records:

- 12.8.1995 Canyon Mala Paklenica/Jurline/Canyon Velika Paklenica – 6 specimens
- 14.8.1995 Veliko Rujno – 6 specimens
- 15.8.1995 Veliko Rujno – 2 specimens
- 30.9.1995 Veliki Vaganac/Bojinac – 1 specimen
- Veliko Rujno – 6 specimens

99. Skylark *Alauda arvensis*

Resident. Breeding in NP and around NP on open grassland areas. Most important records:

- 1.5.1984 Promontory Pisak – 2 specimens
- 28.4.1985 Grabova Dolina – 1 specimen
- 27.7.1988 Oglavinovac – several males
- 12.10.1995 Starigrad – 6 specimens
- 8.12.1995 Starigrad – 1 specimen
- 8.3.1996 Starigrad – 4 specimens
- Škiljići – 1 specimen
- 12.3.1996 Starigrad – 13 specimens
- 28.3.1996 Starigrad – 26 specimens

100. Sand Martin *Riparia riparia*

Scarce passage migrant, mostly at coastal habitat around NP. Only two records:

- 1.5.1984 Promontory Pisak – 1 specimen
- 15.9.1995 Starigrad – 3 specimens

101. Crag Martin *Ptyonoprogne rupestris*

Summer visitor and passage migrant. Few small colonies breeding in NP in both canyons and around NP at cliffs on mountain slopes. At least 50 pairs breeding in NP. All records from March to October, including also one observation of ŠKORNIK (1987) in October. Most important observations:

- 28.4.1984 Canyon Mala Paklenica – 14 specimens and 8 nests; estimated
15–20 breeding pairs in canyon
- 19.8.1984 Canyon Mala Paklenica – 20 specimens
- 27.4.1985 Canyon Mala Paklenica – 30 specimens
- 28.4.1985 Canyon Mala Paklenica – 33 specimens
Canyon Velika Paklenica – 30 specimens
- 20.5.1985 Canyon Velika Paklenica – 8 specimens
Canyon Mala Paklenica – 15 specimens
- 5.4.1986 Canyon Mala Paklenica – 1 specimen
- 30.5.1987 Canyon Mala Paklenica – 14 specimens
- 9/11.10.1987 Canyon Velika Paklenica – observed (ŠKORNIK 1987)
- 25.5.1988 Canyon Velika Paklenica – 10 specimens
- 23.8.1989 Canyon Mala Paklenica – 1 specimen
- 14.6.1992 Starigrad – 1 specimen
- 20.6.1992 Hrvatski Dom – 6 specimens
- 21.6.1992 Buljma – 2 specimens
- 5.7.1992 Canyon Velika Paklenica – 10 specimens
- 10.7.1992 Buljma – 9 specimens
- 4.7.1995 Marasovići/Canyon Velika Paklenica – 28 specimens
- 20.7.1995 Canyon Velika Paklenica – 28 specimens
- 12.8.1995 Canyon Mala Paklenica – 6 specimens
- 25.8.1995 Canyon Velika Paklenica – 30 specimens
- 23.9.1995 Starigrad – 11 specimens
- 10.10.1995 Canyon Velika Paklenica – 50 specimens
- 14.10.1995 Canyon Velika Paklenica – 15 specimens
- 16.10.1995 Canyon Velika Paklenica – 2 specimens
- 21.10.1995 Seline/Canyon Mala Paklenica – 8 specimens
- 21.3.1996 Canyon Velika Paklenica – 7 specimens
- 28.3.1996 Canyon Velika Paklenica – 4 specimens
- 6.4.1996 Canyon Velika Paklenica – 5 specimens (2 birds already building nest)
- 27.4.1996 Canyon Velika Paklenica – 19 specimens

102. Swallow *Hirundo rustica*

Summer visitor and passage migrant. **Breeding around NP**, especially at human settlements on the coast. Many records from March to August, but mainly all from coastal area with man-made buildings. Most important observations:

- 15.8.1984 Rovanjaska/Seline – 40 specimens
- 17.8.1984 Seline – 30 specimens
- 18.8.1984 Seline/Starigrad 30 specimens
- 19.8.1984 Canyon Mala Paklenica – 3 specimens
- 27.4.1985 Seline – 21 specimens
- 1.5.1985 Marasovići – 5 specimens
- 20.5.1985 Canyon Mala Paklenica – 16 specimens
- 25.4.1987 Jukići – 50 specimens

- 25.5.1989 Jukići – 15 specimens
- 19.6.1992 Marasovići 15 specimens
- 30.8.1995 Starigrad – 15 specimens
- 15.9.1995 Starigrad – 65 specimens
- 24.9.1995 Starigrad – 5 specimens
- 16.3.1996 Starigrad – 2 specimen

103. Red-rumped Swallow *Hirundo daurica*

Scarce summer visitor. **Breeding** at coast on human buildings **around NP** at least from 1989. One pair bred at Starigrad in 1989, 1992 and 1994. Most important observations:

- 23.–26.5.1989 Starigrad – 2 specimens (pair) and nest under road culvert
- 31.5.–21.7.1992 Starigrad – 2 specimens (pair) building nest and breeding
on the ceiling under veranda of cottage
- 12.8.1992 Starigrad – 4 specimens
- 28.5.1994 Seline – 2 specimens
- 21.5.1996 Seline – 1 specimen
- 27.6.1996 Starigrad – 1 specimen

104. House Martin *Delichon urbica*

Summer visitor and passage migrant. Breeding around NP in human settlements along coast, but small wild nesting colonies exist on rock wall in both canyon. All records from April to September. Most important observations:

- 27.4.1984 Canyon Mala Paklenica – 8 specimens
- 28.4.1984 Seline – 22 specimens
- 19.8.1984 Canyon Mala Paklenica – 20 specimens
- 27.4.1985 Canyon Mala Paklenica – 40 specimens
- 29.4.1985 Perini Doci – 8 specimens
- 22.6.1986 Canyon Velika Paklenica – 6 specimens (breeding)
- 24.4.1987 Canyon Velika Paklenica – 5 specimens
- 25.4.1987 Canyon Mala Paklenica – 20 specimens
- 25.5.1988 Canyon Velika Paklenica – 40 specimens
- 24.5.1989 Starigrad – 14 specimens
- 19.4.1992 Canyon Velika Paklenica – 4 specimens
- 6.5.1992 Starigrad – 30 specimens
- 19.6.1992 Canyon Velika Paklenica – 4 specimens
- 30.6.1992 Canyon Velika Paklenica – 4 nests on rock wall
- 5.7.1992 Canyon Velika Paklenica – 6 specimens
- 15.7.1995 Canyon Velika Paklenica – 9 specimens
- 14.9.1995 Starigrad – 100 specimens
- 18.9.1995 Starigrad – 200 specimens
- 24.9.1995 Starigrad – 12 specimens
- 27.4.1996 Starigrad/Canyon Velika Paklenica – 75 specimens

105. Tawny Pipit *Anthus campestris*

Summer visitor and passage migrant. Breeding in NP on dry mountains slope with sparse vegetation and around NP in dry open areas on the coast. All observations from March to August:

- 27.4.1984 Seline – 1 specimen
- 28.4.1984 Jukići – 1 specimen
- 1.5.1984 Promontory Pisak – 1 specimen
- 15.8.1984 Rovanjaska – 1 specimen
- 16.8.1984 Jukići – 2 specimens
- 30.4.1985 Jukići – 2 specimens
- Seline – 1 specimen
- 25.4.1987 Seline – 3 specimens
- 7.5.1989 Canyon Mala Paklenica – 1 specimen
- 28.5.1994 Jukići/Rimenić – 1 specimen
- 12.8.1995 Canyon Mala Paklenica – 2 specimens
- 14.8.1995 Dokoze/Veliko Rujno – 3 specimens
- 15.8.1995 Veliko Rujno – 1 specimen
- 28.3.1996 Starigrad – 40 specimens

106. Tree Pipit *Anthus trivialis*

Summer visitor and passage migrant. Breeding at higher altitudes in interior of NP, especially at forests edge and in areas with clearings and scattered trees. Most important observations:

- 27.4.1984 Seline – 5 specimens
- Jukići – 3 specimens
- 30.4.1984 Promontory Pisak – 11 specimens
- 27.4.1985 Jukići – 8 specimens
- 29.4.1985 Canyon Mala Paklenica – 1 specimen
- Perini Doci – 4 specimens
- 1.5.1985 Orljača – 1 specimen
- 27.7.1988 Oglavinovac – observed
- Javornik – observed
- 22.6.1992 Buljma/Badanj – 6 singing males
- 23.6.1992 Buljma – 2 singing males
- 27.6.1992 Badanj/Javornik – 5 singing males
- Golovrhe – 7 specimens (4 singing males)
- 28.6.–3.7.1992 Badanj – 4 singing males
- 10.7.1992 Badanj – 2 singing males
- 15.9.1995 Starigrad – 2 specimens
- 18.9.1995 Starigrad – 9 specimens

107. Meadow Pipit *Anthus pratensis*

Winter visitor and passage migrant mainly at coastal grassland around NP. All records from September to March. Most important observations:

- 1.1.1986 Canyon Mala Paklenica – 1 specimen
- 2.1.1986 Seline – 18 specimens
- 28.12.1986 Seline – 40 specimens
- 1.1.1987 Seline/Rovanjska – 33 specimens
- 1.2.1987 Seline – 4 specimens
- 16.1.1988 Starigrad/Rovanjska – 29 specimens
- 29.9.1995 Starigrad – 1 specimen
- 9.10.1995 Starigrad – 6 specimens
- 8.12.1995 Starigrad – 10 specimens
- 10.2.1996 Starigrad – 10 specimens
- 10.1.1996 Starigrad – 14 specimens
- 26.2.1996 Starigrad – 4 specimens
- 9.3.1996 Starigrad – 8 specimens
- 15.3.1996 Starigrad – 12 specimens

108. Water Pipit *Anthus spinoletta*

Resident, most probably with altitudinal movements. Breeding in NP at high altitude on mountain slopes and plateaus with meadows and grassland, descending and wintering mainly on the coast. Excepting one January record on the coast, all others are from June to July on the highest interior of the mountain and NP. Most important observations:

- 16.1.1988 Starigrad/Rovanjska – 2 specimens
- 22.6.–1.7.1992 Badanj – 1–2 singing males
- 27.6.1992 Javornik – 2 singing males
- 10.7.1992 Buljma/Badanj – 1 specimen
- 14.7.1992 Buljma/Vaganski Vrh – 11 specimens
- Vaganski Vrh – 1 specimen
- Babino Jezero – 5 specimens
- 15.7.1992 Marasovac – 3 specimens
- 16.7.1992 Buljma – 1 specimen

109. Yellow Wagtail *Motacilla flava*

Passage migrant. Recorded only in April, August and September, including three subspecies:

- 27.4.1984 Seline – 1 specimen
- 17.8.1984 Seline – 1 specimen
- 19.8.1984 Seline – 3 specimens
- 15.9.1995 Starigrad – 5 specimens

- 18.9.1995 Starigrad – 8 specimens
M. flava cinereicapilla 27.4.1984 Seline – 2 specimens
 29.4.1985 Perini Doci – 5 specimens
M. flava flava 1.5.1984 Promontory Pisak – 20 specimens
M. flava feldegg 27.4.1985 Jukići – 2 specimens
 30.4.1985 Jukići – 2 specimens

110. Grey Wagtail *Motacilla cinerea*

Resident. At least 10 pairs breeding in NP in Canyon Velika Paklenica by flowing spring with rocks and stones. Wintering mainly around coast and at lower altitude in NP.

111. Pied Wagtail *Motacilla alba*

Summer visitor, passage migrant and scarce winter visitor. Breeding in NP and around NP. Observed throughout year, except in January, July and November. Most important observations:

- 27.4.1985 Seline – 1 specimen
 13.3.1987 Starigrad – 2 specimens
 Seline – 5 specimens
 24.5.1989 Canyon Velika Paklenica – 1 specimen
 26.5.1989 Starigrad – 1 specimen
 30.6.1989 Starigrad – 3 specimens
 23.8.1995 Starigrad – 1 specimen
 11.9.1995 Starigrad – 2 specimens
 14.10.1995 Starigrad – 20 specimens
 16.10.1995 Canyon Velika Paklenica – 1 specimen
 20.10.1995 Starigrad – 15 specimens
 9.12.1995 Marasovići/Canyon Velika Paklenica – 1 specimen
 10.12.1995 Škiljići – 1 specimen
 7.2.1996 Starigrad – 1 specimen
 10.2.1996 Starigrad – 1 specimen
 8.3.1996 Škiljići – 1 specimen
 6.4.1996 Starigrad – 1 specimen
 27.4.1996 Canyon Velika Paklenica – 1 specimen (building nest in crevice on rock)

112. Dipper *Cinclus cinclus*

Regular vagrant. The Dipper occurred in NP only once in spring at running water of permanent spring in canyon:

- 8.3.1996 Canyon Velika Paklenica – 2 specimens

113. Wren *Troglodytes troglodytes*

Winter visitor and passage migrant. All observations from October to April. Most important observations including one in April:

- 29.12.1985 Canyon Mala Paklenica – 4 specimens
- 6.1.1989 Canyon Mala Paklenica – observed
- 24.4.1990 Canyon Velika Paklenica – observed
- 5.3.1996 Canyon Velika Paklenica – 2 specimens
- 14.3.1996 Starigrad – 2 specimens
- 21.3.1996 Canyon Velika Paklenica – 1 specimen
- 16.10.1995 Canyon Velika Paklenica – 2 specimens
- 30.11.1995 Canyon Velika Paklenica – 3 specimens
- 8.12.1995 Starigrad – 5 birds
- 10.12.1995 Hrvatski Dom/Malo Močilo – 4 specimens
- 14.12.1995 Canyon Velika Paklenica – 3 specimens
- 30.12.1995 Hrvatski Dom/Ivine Vodice – 8 specimens
- 2.1.1996 Hrvatski Dom/Malo Močilo – 3 specimens
- 17.1.1996 Canyon Mala Paklenica – 7 specimens
- 21.1.1996 Starigrad/Canyon Velika Paklenica – 4 specimens
- 6.2.1996 Starigrad/Canyon Velika Paklenica – 2 specimens
- 8.2.1996 Canyon Mala Paklenica – 1 specimen
- 10.2.1996 Starigrad – 2 specimens
- 19.2.1996 Hrvatski Dom – 1 specimen

114. Dunnock *Prunella modularis*

Resident. Breeding in NP and around NP at higher altitude in tree-line scrub. At least 20 pairs bred from Golovrhe to Vaganski Vrh. In winter it occurs at lower altitude and at coast around NP. All summer observations from June to July at top mountain zone (Buljma, Badanj, Vaganski Vrh, Golovrhe). Other observations from October to March mainly from the coast, including several records in NP and at higher altitude:

- 16.10.1995 Canyon Velika Paklenica – 1 specimen
- 30.11.1995 Canyon Velika Paklenica – 1 specimen
- 9.12.1995 Malo Močilo – 1 specimen
- 14.1.1996 Bužanića Dolina – 1 specimen

115. Alpine Accentor *Prunella collaris*

Resident with seasonal altitudinal movements. Breeding in NP and around NP above tree limit on rocky areas. At least 10 pairs bred from Golovrhe to Vaganski Vrh. All summer observations from June to July at top mountain zone (Buljma, Badanj, Vaganski Vrh, Golovrhe). Only few winter observations:

- 29.12.1985 Canyon Mala Paklenica – 2 specimens
- 30.11.1995 Canyon Velika Paklenica – 1 specimen

- 14.1.1996 Bužanića Dolina (Kota 257) – 1 specimen
 17.1.1996 Canyon Mala Paklenica – 1 specimen
 27.2.1996 Canyon Velika Paklenica – 4 specimens

116. Robin *Erithacus rubecula*

Resident but winter mainly at lower altitude and at coast. Breeding in NP and around NP in interior beech forests. At least 50 pairs bred in beech forests and at top mountain zone.

117. Nightingale *Luscinia megarhynchos*

Summer visitor and passage migrant. Breeding from sea coast up to the top mountain zone in NP and around NP. At least 50 pairs bred only in NP. All observations from April to July.

118. Black Redstart *Phoenicurus ochruros*

Resident. Breeding in interior up to the top mountain zone on cliffs, stony areas, rocky slope and buildings in NP and around NP. At least 30 pairs bred in NP and around NP. Wintering mainly at lower altitudes on the coast.

119. Redstart *Phoenicurus phoenicurus*

Passage migrant. Several observations only in April and September:

- 28.4.1984 Jukići – 1 male
 27.4.1985 Jukići – 1 male
 28.4.1985 Grabova Dolina – 1 male
 29.4.1985 Canyon Mala Paklenica – 3 males
 30.4.1985 Canyon Mala Paklenica – 2 males
 4.1988 Canyon Mala Paklenica – 1 specimen
 22.9.1995 Starigrad – 1 specimen
 30.9.1995 Veliki Vaganac/Bojinac – 1 specimen

120. Whinchat *Saxicola rubetra*

Passage migrant. Observed from April to May and from August to September in NP and around NP on the coast.

121. Stonechat *Saxicola torquata*

Scarce passage migrant and winter visitor on the coast around NP. Only few observations:

- 30.12.1985 Seline – 1 specimen
 20.10.1995 Starigrad – 4 specimens
 16.12.1995 Starigrad – 1 specimen
 28.3.1996 Starigrad – 1 specimen

122. Wheatear *Oenanthe oenanthe*

Summer visitor and passage migrant. Breeding in NP and around NP at higher altitudes in open areas with meadows and rocks. At least 10 pairs bred at top mountain zone from Golovrhe to Vaganski Vrh. All summer observations from June to July. Only few observations at lower altitude and on the coast:

- 28.4.1984 Jukići – 1 specimen
- 1.5.1985 Promontory Pisak – 1 specimen
- 16.4.1996 Starigrad – 1 male

123. Black-eared Wheatear *Oenanthe hispanica*

Summer visitor. Breeding in NP and around NP from sea coast to the deep mountain interior on dry foothills with sparse scrub, rocks and stone walls. At least 50 pairs bred in NP. All observations from April to August.

124. Rock Thrush *Monticola saxatilis*

Summer visitor. Breeding in NP and around NP from sea coast to the highest mountain zone on dry slopes with rocks, scree, boulders and sparse shrubs. At least 10 pairs bred in NP. All observations from April to May.

125. Blue Rock Thrush *Monticola solitarius*

Summer visitor. Breeding in NP and around NP from sea coast to the dry mountain interior at rugged precipitous areas, canyons, cliffs, rocks and rocky outcrops. At least 20 pairs bred in NP. All observations from March to August, including one record in October.

126. Ring Ouzel *Turdus torquatus*

Regular vagrant. **Probably breeding around NP** at top mountain zone on grassy slopes with rocks. Only two observations:

- 28.6.1992 Badanj – 1 male
- 15.7.1992 Buljma – 1 specimen

127. Blackbird *Turdus merula*

Resident. Breeding in NP and around NP from sea coast to the highest mountain zone in forests and scrub. At least 200 pairs bred in NP.

128. Fieldfare *Turdus pilaris*

Winter visitor and passage migrant. Observed in NP and around NP at coast, only from January to March:

- 1.2.1987 Rovanjaska/Seline – 30 specimens
- 8.2.1996 Didovača – 53 specimens
- Canyon Mala Paklenica – 23 specimens

- 10.2.1996 Starigrad – 35 specimens
- 18.2.1996 Hrvatski Dom/Buljma – 2 specimens
Buljma – 11 specimens
- 25.2.1996 Starigrad/Canyon Velika Paklenica – 9 specimens
- 27.2.1996 Vidakov Kuk/Tomići – 1 specimen
- 8.3.1996 Rovanjaska – 1 specimen
Starigrad – 1 specimen
- 12.3.1996 Starigrad – 15 specimens
- 13.3.1996 Starigrad – 5 specimens

129. Song Thrush *Turdus philomelos*

Resident. Breeding in NP and around NP in forests with thick undergrowth and ground cover. All observations from February to July and in October. At least 20 pairs bred in NP and around NP. Several observations:

- 28.4.1985 Canyon Velika Paklenica – 1 male
- 1.5.1985 Seline – 1 male
- 24.5.1989 Canyon Velika Paklenica – 1 nest
- 1.7.1992 Badanj – 1 male
- 11.7.1992 Badanj – 1 male
- 21.10.1995 Seline – 1 specimen
- 23.10.1995 Starigrad – 3 specimens
- 7.2.1996 Starigrad – 2 specimens
- 10.2.1996 Starigrad – 2 specimens
- 5.3.1996 Starigrad/Canyon Velika Paklenica – 5 specimens
- 8.3.1996 Canyon Velika Paklenica – 1 specimen
- 21.3.1996 Canyon Velika Paklenica – 2 specimens
- 29.6.1996 Hrvatski Dom – four nests were found

130. Redwing *Turdus iliacus*

Scarce winter visitor and scarce passage migrant. Only two records at coast:

- 28.12.1985 Hridi Škrpelji (Bijele Stijene) – 2 specimens
- 13.3.1987 Seline – 1 specimen

131. Mistle Thrush *Turdus viscivorus*

Resident but on the coast occur only in winter. Breeding in NP and around NP in mountain forests up to the top mountain zone. All summer observations from June to July (Badanj, Lisac, Buljma, Javornik, Oglavinovac). At least 10 pairs bred in NP and around NP. All winter observations from December to March:

- 1.2.1987 Rovanjaska/Seline – 11 specimens
- 5.1.1991 Canyon Velika Paklenica – observed
- 10.12.1995 Hrvatski Dom/Malo Močilo – 3 specimens

- 30.12.1995 Hrvatski Dom/Ivine Vodice – 3 specimens
8.2.1996 Starigrad – 1 specimen
Canyon Mala Paklenica – 1 specimen
10.2.1996 Starigrad – 4 specimens
19.2.1996 Hrvatski Dom – 1 specimen
25.2.1996 Starigrad/Canyon Velika Paklenica – 14 specimens
5.3.1996 Starigrad/Canyon Velika Paklenica – 1 specimen

132. Grasshopper Warbler *Locustella naevia*

Scarce passage migrant. Only one record at coast:

- 2.5.1996 Starigrad – 1 specimen

133. Sedge Warbler *Acrocephalus schoenobaenus*

Passage migrant. Several records from April to June and in September only at coast:

- 29.4.1984 Seline – 1 specimen
2.6.1989 Seline – 1 male
10.6.1989 Seline – 1 male
26.5.1992 Starigrad – 1 singing male
30.5.1992 Starigrad – 1 male
18.9.1995 Starigrad – 2 specimens
23.9.1995 Starigrad – 2 specimens

134. Marsh Warbler *Acrocephalus palustris*

Scarce passage migrant. Only two records at coast around NP:

- 9.5.1996 Starigrad – 1 singing male
10.5.1996 Starigrad – 2 singing males

135. Great Reed-Warbler *Acrocephalus arundinaceus*

Passage migrant. Only few records in spring at coast around NP:

- 29.4.1996 Starigrad – 1 specimen
9.5.1996 Starigrad – 1 specimen
10.5.1996 Starigrad – 1 specimen

136. Icterine Warbler *Hippolais icterina*

Passage migrant. Several records at coast around NP and in NP, all in May and August:

- 1.5.1984 Promontory Pisak – observed
24.5.1989 Canyon Velika Paklenica – 1 specimen
25.5.1989 Canyon Velika Paklenica – 1 specimen

- 22.5.1990 Seline – 2 singing males
Starigrad – 3 singing males
21.8.1995 Starigrad – 1 specimen
23.8.1995 Starigrad – 1 specimen
18.5.1996 Starigrad – 2 specimens

137. Melodious Warbler *Hippolais polyglotta*

Passage migrant. Several records from April to June in NP and at coast around NP:

- 2.6.1989 Seline – 1 specimen
10.5.1990 Canyon Velika Paklenica – 1 singing male
30.4.1996 Starigrad – 5 specimens
1.5.1996 Starigrad – 5 singing males
9.5.1996 Starigrad – 4 singing males
10.5.1996 Starigrad – 4 singing males
24.5.1996 Starigrad – 2 singing males

138. Subalpine Warbler *Sylvia cantillans*

Summer visitor and passage migrant. Breeding in NP and around NP from coast up to the foothills of the mountain. It occurs from April to August in scrubs, shrubs, hedgerows, bushes and thickets. At least 100 pairs bred in NP.

139. Sardinian Warbler *Sylvia melanocephala*

Resident. Breeding in NP and around NP from coast up to the foothills of the mountain. It occurs in scrubs, shrubs, maquis and thickets. At least 50 pairs bred in NP.

140. Orphean Warbler *Sylvia hortensis*

Summer visitor and passage migrant. Breeding in NP and around NP at coast and lower altitude. It occurs from April to August in taller shrubs, lower trees, forests, scrubs, groves, orchards and gardens. At least 100 pairs bred in NP.

141. Lesser Whitethroat *Sylvia curruca*

Summer visitor and passage migrant. Breeding in NP and around NP at top mountain zone in pinewoods, shrubs, scrubs and hedgerows. Migrating usually at coast and lower altitude. Observed from April to July and in September. At least 20 pairs bred in NP at top mountain zone.

142. Whitethroat *Sylvia communis*

Summer visitor and passage migrant. Breeding in NP and around NP. It occurs from April to August in wide variety of habitat as shrubs, scrubs, cultivation and forest edge.

143. Garden Warbler *Sylvia borin*

Passage migrant. Several observations from April to May and July to August in NP and at coast around NP:

- 17.8.1984 Seline – 1 specimen
- 18.8.1984 Canyon Velika Paklenica – 1 specimen
- 30.4.1985 Canyon Mala Paklenica – 2 specimens
- 28.5.1992 Starigrad – 2 specimens
- 7.7.1992 Hrvatski Dom – 1 singing male
- 9.5.1996 Starigrad – 1 specimen
- 10.5.1996 Starigrad – 1 specimen

144. Blackcap *Sylvia atricapilla*

Summer visitor and passage migrant, but resident at coast and lower altitudes. Breeding in NP and around NP from sea coast up to the top mountain zone. It occurs from March to August in thick undergrowth of forest, orchards and gardens. At least 150 pairs bred in NP.

145. Wood Warbler *Phylloscopus sibilatrix*

Summer visitor and passage migrant. Breeding in NP and around NP in interior forests and at higher altitude. Migrating usually at coast and lower altitude. It occurs from April to September in orchards, plantation and forests with sparse shrubs, particularly beech and oak forest. At least 50 pairs bred in NP.

146. Chiffchaff *Phylloscopus collybita*

Resident. Breeding in NP and around NP in interior forests and open areas with scattered trees up to the tree limit at top mountain zone. Wintering mainly at coast and lower altitude. At least 100 pairs bred in NP.

147. Willow Warbler *Phylloscopus trochilus*

Passage migrant. Several observations at lower altitude in NP and from the coast around NP from April to May and from September to October:

- 27.4.1985 Jukići – 1 specimen
- 29.4.1985 Seline – 1 specimen
- Canyon Mala Paklenica – 3 specimens
- 30.4.1985 Canyon Mala Paklenica – 2 specimens
- 25.4.1987 Canyon Mala Paklenica – 1 specimen
- 18.9.1995 Starigrad – 1 specimen
- 12.10.1995 Starigrad – 1 specimen
- 10.5.1996 Starigrad – 2 specimens

148. Goldcrest *Regulus regulus*

Winter visitor and passage migrant. It occurs in NP and around NP in conifer, mixed and broadleaf forests, from sea coast up to the mountain forests. Many ob-

servations from October to March mainly from coast and at lower altitude. There are several winter records at higher altitude:

- 9.12.1995 Malo Močilo – 5 specimens
- 10.12.1995 Hrvatski Dom/Malo Močilo – 6 specimens
- 2.1.1996 Hrvatski Dom/Malo Močilo – 4 specimens
- 18.2.1996 Stražbenica/Hrvatski Dom – 4 specimens

149. Firecrest *Regulus ignicapillus*

Winter visitor and passage migrant. It occurs in NP and around NP in conifer, mixed, broadleaf forests and in shrubby growth, mainly at coast and lower altitude. Observed from September to January:

- 28/29.12.1985 Seline – 3 specimens
- 1.1.1986 Canyon Mala Paklenica – 20 specimens
- 2.1.1986 Seline – 1 specimen
- 3.12.1986 Seline – 4 specimens
- 1.1.1987 Seline – 1 specimen
- 30.9.1995 Veliko Rujno – 6 specimens
- 2.10.1995 Starigrad – 5 specimens
- 19.10.1995 Starigrad – 3 specimens
- 20.10.1995 Starigrad – 4 specimens
- 21.10.1995 Starigrad – 4 specimens
- 23.10.1995 Starigrad – 6 specimens

150. Spotted Flycatcher *Muscicapa striata*

Summer visitor and passage migrant. Breeding in NP and around NP. Migrating usually at coast and lower altitude. It occurs on forest edge, orchards and gardens. Most records from April, May, August and September. Only few evidence for breeding:

- 10.5.1990 Canyon Velika Paklenica – 2 specimens (calling and entering the rock hole)
- 29.6.1996 Canyon Velika Paklenica – nest with three eggs found in rock crevice; a day after fourth egg was found in same nest (Krešimir Leskovar).

151. Collared Flycatcher *Ficedula albicollis*

Scarce passage migrant. Only one record from the coast:

- 18.9.1995 Starigrad – 1 specimen

152. Pied Flycatcher *Ficedulla hypoleuca*

Passage migrant. It occurs in NP and around NP in broadleaf forests, orchards and gardens. Many observations in April, May, August and September, mainly from the coast and at lower altitude.

153. Long-tailed Tit *Aegithalos caudatus*

Resident. Breeding in interior forest of NP. It occurs in forests with thick shrubby growth but usually not at sea coast. Observed in February, March, May and from August to December. Several important records from March to May:

- 25.5.1988 Canyon Velika Paklenica/Hrvatski Dom – observed
- 14.8.1995 Dokoze/Veliko Rujno – 10 specimens
- 8.3.1996 Canyon Velika Paklenica/Hrvatski Dom – 2 specimens
- 21.3.1996 Canyon Velika Paklenica – 3 specimens

154. Marsh Tit *Parus palustris*

Resident. Breeding in interior forest of NP. At least 20 pairs bred in broadleaf forests of NP. In winter descend to lower altitude, sometimes also to the coast. Only few records at lower altitude:

- 9.10.1995 Starigrad – 1 specimen
- 17.1.1996 Canyon Mala Paklenica – 1 specimen

155. Sombre Tit *Parus lugubris*

Resident. Breeding in open broadleaf woods on arid mountain slopes of NP. At least 5 pairs bred in NP. Only few observations:

- 30.12.1986 Seline/Canyon Mala Paklenica – 3 specimens
- 27.4.1988 Canyon Mala Paklenica – observed
- 2.6.1989 Canyon Mala Paklenica – observed
- 30.4.1995 Canyon Mala Paklenica – 3 specimens

156. Willow Tit *Parus montanus*

Resident. Breeding at higher altitude in mountain and subalpine conifer and mixed forests of NP. At least 10 pairs bred in NP.

157. Crested Tit *Parus cristatus*

Resident. Breeding at higher altitude in mountain coniferous forests. Only one record:

- 11.5.1996 Veliko Močilo – 2 specimens

158. Coal Tit *Parus ater*

Resident. At coast occur only out of breeding season. Breeding at high altitude in conifer and mixed forests of NP. At least 20 pairs bred in NP.

159. Blue Tit *Parus caeruleus*

Resident but on the coast occurs mainly out of the breeding season. Breeding in NP in forests of all types. At least 10 pairs bred in NP.

160. Great Tit *Parus major*

Resident. Breeding from the coast up to the tree line in forests, orchards, thickets and gardens. At least 200 pairs bred in NP.

161. Nuthatch *Sitta europaea*

Resident but descends and occurs on the coast mainly out of the breeding season. Breeding in broadleaf and mixed forests of NP. At least 30 pairs bred in NP. One observation in May suggests possible breeding close to the sea:

1.5.1985 Seline – 1 specimen

162. Rock Nuthatch *Sitta neumayer*

Resident. Breeding in NP and around NP on arid rocky slopes and in both canyons on rock outcrops, crags, cliffs, ravines and boulders. At least 20 pairs bred in NP.

163. Wallcreeper *Tichodroma muraria*

Winter visitor. It occurs in NP mainly in canyons on steep and highest rock outcrops, ravines, cliffs and rock walls. Only few records:

28.4.1984 Canyon Mala Paklenica – 1 specimen
1.1.1986 Canyon Mala Paklenica – 1 specimen
6.1.1989 Canyon Mala Paklenica – 1 specimen
17.1.1996 Canyon Mala Paklenica – 3 specimens
27.2.1996 Canyon Velika Paklenica – 1 specimen

164. Treecreeper *Certhia familiaris*

Regular vagrant. **Probably breeding** in mountain forests of NP but no direct evidence. Only few records:

21.6.1992 Brezimenjača – 1 singing male
7.7.1992 Brezimenjača – 1 singing male
18.2.1996 Hrvatski Dom/Buljma – 1 specimen
8.3.1996 Hrvatski Dom – 1 specimen

165. Short-toed Treecreeper *Certhia brachydactyla*

Regular vagrant. Probably breeding in mountain forest of NP but no direct evidence. One observation on the coast suggests that some birds descend toward the sea coast out of the breeding season. Only two records:

30.6.1989 Hrvatski Dom/Brezimenjača – 1 specimen
13.3.1996 Starigrad – 1 specimen

166. Penduline Tit *Remiz pendulinus*

Scarce passage migrant. Observed only on the coast:

17.10.1995 Starigrad – 1 specimen

167. Golden Oriole *Oriolus oriolus*

Summer visitor and passage migrant. Breeding in open broadleaf forests, woodlands and orchards, mainly at coast around NP and at lower altitude in NP. At least 50 pairs bred in NP. Observed from April to August.

168. Red-backed Shrike *Lanius collurio*

Summer visitor and passage migrant. Breeding mainly on the coast around NP and at lower altitude in NP but also at higher altitude, in open habitats with thorny shrubs, hedgerows, forest edges, orchards and groves. At least 50 pairs bred in NP. Observed from April to September.

169. Lesser Grey Shrike *Lanius minor*

Scarce passage migrant. Only two records in June:

2.6.1992 Starigrad – 1 specimen

1.6.1996 Canyon Velika Paklenica – 1 specimen

170. Woodchat Shrike *Lanius senator*

Summer visitor and passage migrant. Breeding exclusively on the coast around NP and at lower altitude in NP, in maquis scrub, shrubs, groves, orchards and forest edges. At least 10 pairs bred in NP and around NP. Observed from April to August.

171. Jay *Garrulus glandarius*

Resident. Breeding in forests of NP and around NP from the coast up to the tree line. At least 30 pairs bred in NP.

172. Nutcracker *Nucifraga caryocatactes*

Regular vagrant. Only one record on the coast:

23.7.1986 Seline – 1 specimen

173. Alpine Chough *Pyrrhocorax graculus*

Resident with seasonal altitudinal movements. Breeding on top mountain zone of NP and around NP in habitats with steep rocky slopes and grassy areas up to the snow line. Outside breeding season descends to lower altitudes and particularly to the steep sea coast almost to the sea level, mostly in flocks of few hundreds birds. Most important observations: 29.4.1984 Canyon Mala Paklenica – 220 specimens

1.1.1987 Seline/Rovanjska – 250 specimens

1.2.1987 Seline – 210 specimens

23.8.1989 Canyon Mala Paklenica – 300 specimens

17.9.1990 Canyon Mala Paklenica – 50 specimens

21.6./16.7.1992 Buljma/Badanj – 2–6 specimens

- 14.7.1992 Vaganski Vrh – 6 specimens
14.10.1995 Canyon Velika Paklenica – 70 specimens
5.3.1996 Canyon Velika Paklenica – 25 specimens
12.4.1996 Modrič – 300 specimens

174. **Hooded Crow** *Corvus corone cornix*

Resident. Breeding mainly on the coast around NP and in NP in the areas with some trees especially at pinewoods and plantations near human settlements and cultivations. At least, few pairs bred in NP and 10 pairs around NP. Many observations on the coast and around NP, but only few records inside NP or near the entrance of NP:

- 30.4.1985 Canyon Mala Paklenica – 2 specimens
17.12.1995 Starigrad/Canyon Velika Paklenica – 1 specimen
21.3.1996 Starigrad/Canyon Velika Paklenica – 1 specimen

175. **Raven** *Corvus corax*

Resident. Breeding in NP and around NP from the sea coast up to the subalpine zone mostly on cliffs and rock faces; few pairs bred in both canyons. At least 6 pairs bred in NP. Most observations of 1–5 specimens, but only once recorded in greater number:

- 27.2.1996 Canyon Velika Paklenica – 20 specimens

176. **Starling** *Sturnus vulgaris*

Passage migrant and winter visitor. Only few observations on the coast around NP in February, March, May and October:

- 1.5.1984 Promontory Pisak – 9 specimens
13.3.1987 Starigrad/Seline – 118 specimens
9.10.1995 Straigrad – 25 specimens
21.10.1995 Seline/Canyon Mala Paklenica – 20 specimens
10.2.1996 Starigrad – 3 specimens
26.2.1996 Starigrad – 4 specimens

177. **House Sparrow** *Passer domesticus*

Resident. **Breeding around NP**, exclusively on the coast close to the human habitation and cultivated areas. At least 500 pairs bred at villages around NP.

178. **Spanish Sparrow** *Passer hispaniolensis*

Scarce breeding bird and passage migrant. Recorded **around NP** on the coast, including at least 15–20 breeding pairs in 1996:

- 11.7.1995 Starigrad (Przine) – 1 male
24.4.1996 Starigrad – 1 singing male

- 8.5.1996 Starigrad – 1 singing male in front of new nest in pinewood
(*Pinus halepensis*)
 21.5.1996 Starigrad – 4 males
 24.5.1996 Starigrad – 4 males
 31.5.1996 Starigrad – 8 males including two nests
 24.6.1996 Starigrad – 2 males including 7 nests in pinewood
 30.6.1996 Starigrad – 3 males in front of nests; one nest with five fledglings
 and one nest containing three eggs; small colony of about 10 pairs
 in pinewood (*Pinus halepensis*)
 12.7.1996 Seline – 1 male on the nest

179. Tree Sparrow *Passer montanus*

Regular vagrant. Occur around NP on the coast, but there are only few observations:

- 29.4.1985 Bucići – 4 specimens
 29.12.1986 Seline – 10 specimens
 8.10.1995 Starigrad – 1 specimen

180. Chaffinch *Fringilla coelebs*

Resident. Breeding in NP and around NP from the coast up to the highest mountain forests. It winters in greater number at lower altitude along the coast in open cultivated areas. Outside the breeding season usually seen in flocks of up to 50–100 specimens. At least 200 pairs bred around NP and in NP. Most important counts:

- 28.12.1985 Seline – 59 specimens
 30.12.1985 Seline – 50 specimens
 2.1.1986 Seline – 80 specimens
 31.12.1986 Seline/Starigrad – 47 specimens
 13.3.1987 Seline – 60 specimens
 30.5.1987 Seline/Canyon Mala Paklenica – 50 specimens
 28.3.1996 Starigrad – 56 specimens

181. Brambling *Fringilla montifringilla*

Winter visitor. It occurs on open cultivated areas around NP on the coast. Few observations:

- 2.1.1986 Seline – 29 specimens
 1.2.1987 Seline – 50 specimens
 10.2.1996 Starigrad – 2 specimen

182. Serin *Serinus serinus*

Resident. Breeding in NP mainly at lower altitude and around NP on the coast. At least 30 pairs bred in NP and around NP. It winters mainly on the coast occurring

in flocks of 10–55 specimens. It occurs on forest edges, clearings with trees and in cultivated areas. The highest count outside breeding season:

- 10.2.1996 Starigrad – 10 specimens
- 28.3.1996 Starigrad – 55 specimens

183. Greenfinch *Carduelis chloris*

Resident. Breeding in NP mainly at lower altitude and around NP on the coast. At least 200 pairs bred in NP and around NP. It winters mainly on the coast in the open cultivated area, occurring in flocks of 10–100 specimens. The highest count outside breeding season:

- 20.9.1995 Starigrad – 38 specimens
- 9.10.1995 Starigrad – 42 specimens
- 10.12.1995 Škiljci – 106 specimens

184. Goldfinch *Carduelis carduelis*

Resident. Breeding in NP and around NP at coast. It winter mainly at coast in more open area, occurring usually in flocks of 10–50 specimens. At least 100 pairs bred in NP and around NP. Highest count outside breeding season:

- 15.9.1995 Starigrad – 32 specimens
- 18.9.1995 Starigrad – 50 specimens
- 20.9.1995 Starigrad – 35 specimens
- 8/9.10.1995 Starigrad – 30 specimens
- 28.3.1996 Starigrad – 50 specimens

185. Siskin *Carduelis spinus*

Resident. Breeding in NP at the highest part of NP in mountain conifer or mixed forests. It winters mainly on the coast but also at lower altitude in NP, occurring usually in small flocks of up to 15 specimens. There are only few observations in summer at the highest altitude of NP:

- 22.6.1992 Buljma – 5 specimens
- 15.7.1992 Buljma – 3 specimens

186. Linnet *Carduelis cannabina*

Resident. Breeding in NP and around NP on the coast, from the sea level up to the highest altitude. At least 100 pairs bred in NP and around NP. It occurs in the open areas with low shrubs, maquis and cultivated areas. It winters mainly on the coast, occurring in smaller flocks of up to one hundred birds. The highest count outside breeding season:

- 9.10.1995 Starigrad – 35 specimens
- 28.3.1996 Starigrad – 73 specimens
- 7.2.1996 Starigrad – 12 specimens

187. Crossbill *Loxia curvirostra*

Regular vagrant. **Probably breeding** in NP. Resident at Mountain Velebit, but no evidence of breeding or permanent presence in NP or around NP. Only one record:

15.7.1992 Marasovac – 12 specimens

188. Bullfinch *Pyrrhula pyrrhula*

Resident. Breeding in NP in mixed and conifer forests at higher altitude. At least 10 pairs bred in NP.

189. Hawfinch *Coccothraustes coccothraustes*

Resident. Breeding in NP and around NP on the coast, from the sea level up to the mountain forests. At least 20 pairs bred in NP. In winter it occurs in smaller groups of up to 15 specimens.

190. Yellowhammer *Emberiza citrinella*

Scarce winter visitor. In winter it occurs only on the coast. Their occurrence in winter seems to be irregular, since it was observed only in 1986 and 1995/96:

30.12.1986 Seline – 30 specimens

8.12.1995 Starigrad – 8 specimens

10.12.1995 Škiljići/Jurline – 2 specimens

16.12.1995 Starigrad – 8 specimens

17.12.1995 Starigrad/Canyon Velika Paklenica – 6 specimens

24.12.1995 Starigrad/Canyon Velika Paklenica – 12 specimen

10.1.1996 Starigrad – 1 specimen

21.1.1996 Starigrad/Canyon Velika Paklenica – 2 specimens

6.2.1996 Starigrad/Canyon Velika Paklenica – 1 specimen

7.2.1996 Starigrad – 2 specimens

191. Cirl Bunting *Emberiza cirlus*

Resident. Breeding in NP and around NP on the coast, from the sea level up to the southern mountain slope and deep interior of both canyons. At least 200 pairs bred in NP and around NP. It occurs in the open areas with scattered trees and shrubs, cultivated areas with hedgerows and orchards. It winters mainly on the coast around cultivation, occurring in flocks of up to 50 specimens. The highest count:

19.1.1996 Starigrad – 20 specimens

20.1.1996 Starigrad – 30 specimens

23.1.1996 Starigrad – 50 specimens

25.1.1996 Starigrad – 45 specimens

192. Rock Bunting *Emberiza cia*

Resident. Breeding in NP and around NP on dry rocky mountain slopes up to tree limit and in canyons. At least 30 pairs bred in NP and around NP. It occurs on rocky slopes with scattered shrubs and trees, but in winter it descends to lower

altitude towards coast. In winter it usually occurs in small groups but flocks of up to 100 specimens are observed on the coast:

- 1.1.1986 Canyon Mala Paklenica – 21 specimens
- 2.1.1986 Seline – 20 specimens
- 29.12.1986 Seline – 100 specimens
- 30.12.1986 Seline/Canyon Mala Paklenica – 25 specimens

193. Ortolan Bunting *Emberiza hortulana*

Summer visitor. Breeding in NP and around NP at higher altitude on mountain hills and in both canyons. It occurs on rough hillsides in open areas with sparse herbage, scattered trees and shrubs. Several observations in April, May and August:

- 28.4.1985 Jurline – 1 male
- 29.4.1985 Seline – 1 male
- 1.5.1985 Orljača – 4 specimens
- 7.5.1989 Canyon Mala Paklenica – 10 specimen
- 12.8.1995 Jurline/Malo Močilo – 1 specimen

194. Reed Bunting *Emberiza schoeniclus*

Scarce winter visitor and passage migrant. Only several records from October to March on the coast:

- 29.12.1986 Seline – 1 specimen
- 21.10.1995 Seline – 5 specimens
- 16.12.1995 Starigrad – 3 specimens
- 10.1.1996 Starigrad – 2 specimens
- 10.2.1996 Starigrad – 1 specimen
- 28.3.1996 Starigrad – 1 specimen

195. Black-headed Bunting *Emberiza melanocephala*

Summer visitor. **Breeding mainly around NP** along the coast. It occurs on cultivated areas, orchards, groves, vineyards, in scrubs and maquis. At least 30 pairs bred around NP along coast. Observed from May to June.

196. Corn Bunting *Miliaria calandra*

Resident. Breeding mainly around NP along the coast. At least 50 pairs bred mainly around NP. It occurs in open cultivated areas and grasslands, edges of forests and in orchards. In winter flocks of up to 40 specimens were observed. Few observations inside NP:

- 27.4.1985 Canyon Mala Paklenica – 3 males
- 30.4.1985 Canyon Mala Paklenica – 1 male
- 7.5.1989 Canyon Mala Paklenica – observed

DISCUSSION

Amongst seven national parks in Croatia, so far only »Plitvička jezera« (RUCNER 1969), »Risnjak« (SUŠIĆ 1988) and »Krka« (STIPČEVIĆ et al. 1990) have nothing else than simple faunistical list of their birds. Other national parks, including »Paklenica«, have neither a complete list of birds nor it is made possible to evaluate their ornithological importance. Marginal treatment of wildlife in the national parks and careless approach to nature conservation without any conservation measures, could lead to the rapid reduction and even extinction of the population of some endangered, protected or sensitive species. Although for majority of protected areas in Croatia basic information on wildlife and its role and importance in functioning of protected ecosystems is still lacking, State Agency for Environmental Protection in Zagreb suggested »possibilities of evaluating protection of nature based on international practice and achievements« (RADOVIĆ 1995). But this simply transcribed »modern methods of management and evaluation of nature« are too much generalised and useless, since it is generally known that complete inventory of wildlife is necessary for evaluation of any protected area. Detailed inventories of wildlife are only partial or still completely lacking for all National parks in Croatia and for many other protected area.

The inventory of birds of any national park is necessary for scientific evaluation, practical protection and usage in promotion and ecotourism as birdwatching. From this standpoint of view, it is very useful to present birdlife of NP »Paklenica« although without complete population estimates. This preliminary summary of bird life in NP is only the basis for future research and management which must be undertaken to preserve most endangered species in NP. With more detailed investigations it is reasonable to expect some minor changes in the total number of breeding birds, migrants and other species recorded in NP.

In the area of NP and its surroundings, 196 specimens species were recorded, out of which 91 are breeding species. The number and diversity of bird species in NP reflect the wealth of various habitat types and climate which change suddenly from the sea level up to the highest subalpine mountain peaks. Some resident birds from continental interior, montane forests and mountain peaks undertake altitudinal migration and spent winter in more favourable Mediterranean. Mostly Woodpeckers, Tits, Nuthatch *Sitta europaea*, Alpine Accentor *Prunella collaris* and Alpine Chough *Pyrrhocorax graculus* descend from higher altitude toward coast or lower altitude to avoid harsh winter condition on the mountain.

The sea and coast around NP are mainly important for wintering and migrating water birds, including Divers, Grebes, Cormorants, Herons, Ducks, Waders, Gulls and Terns. Particularly important coastal habitat is tiny inlet Modrič, fragment wetland surrounded by the rocky coast. Tidal mudflats in inlet Modrič have the greatest importance for waders and other wetland birds but it is specially important as winter feeding ground for group of 13–17 Kentish Plover *Charadrius alexandrinus*. This number represents approximately 10–20 % of the total Croatian breeding population

and these mudflats on the edge of NP are of special interest for protection of the national population of Kentish Plover. The European population of Kentish Plover decreased drastically in recent years and it seems to be one of the most rapidly disappearing wader in Europe (JONSSON et al 1990). Since any other important locality for Kentish Plover was not yet recognized in Croatia, inlet Modrič deserves future evaluation as wetland habitat and should be included in the prospective extension of NP to enhance its biodiversity value.

Coastal plain stretched between the seacoast and foothills of the mountain is dominated by cultivated habitat and comprises mosaical variety of arable land, grasslands, shrubs, scrubs, hedgerows, bushes, thickets, groves, plantation, orchards, vineyards, woodlands, gardens and villages. This habitat at the edge of NP is important mainly for migrating and wintering small song birds particularly Larks, Pipits, Wagtails, Thrushes, Warblers, Flycatchers, Tits, Shrikes, Finches and Buntings.

Southern arid mountain slopes of NP covered with mediterranean and submediterranean vegetation and canyons are characterised by many petrofilic species or typical mediterranean birds breeding in this zone (*Alectoris graeca*, *Columba livia*, *Apus melba*, *Ptyonoprogne rupestris*, *Phoenicurus ochruros*, *Oenanthe hispanica*, *Monticola saxatilis*, *Monticola solitarius*, *Sylvia cantillans*, *Sylvia melanocephala*, *Sylvia hortensis*, *Parus lugubris*, *Sitta neumayer*, *Lanius senator*, *Emberiza cia*, *Emberiza hortulana*). Canyons are important for wintering Wallcreeper *Tichodroma muraria* and Alpine Accentor *Prunella collaris*.

Main features of NP »Paklenica« were canyons »Mala Paklenica« and »Velika Paklenica« with fascinating cliffs, mostly important for their raptor population. However, although being greatest »living« natural phenomenon of NP, birds of prey were constantly threatened by much higher »recreational« interest of human intruders. Such »management« and »wise use of natural resources« is still continuing today under supervision of official staff of NP and (non) responsible governmental »experts« for nature protection. Breeding colony of Griffon Vulture in canyons is only one on the continent in Croatia, holding at least 3–6 pairs in 1990, at least 7 pairs (but obviously not more than 10 pairs) in 1996. It is one of the last remaining resort in Croatia besides population stronghold on Kvarner islands. Some 50–60 »regularly« breeding pairs on Kvarner islands (PERCO et al. 1983), recently were estimates to hold 95–100 pairs on four islands and total population estimates in Croatia is 110–150 pairs (SUŠIĆ 1994). Rough estimates of breeding pairs suggest that NP holds roughly 10 % of the total Croatian population. This nationally important percentage urges a special protection measure and scientific population management which must be taken in NP to reverse obvious declining of this vulture threatened by extinction in the west Palearctic. Unfortunately there is no previous population census or estimates of Griffon Vulture and at present it is impossible to assess human impact on them. Adding the number of breeding pairs from NP in 1996 (7–10 pairs) to the recent population estimates of 95–100 pairs on Kvarner islands (SUŠIĆ 1994) reasonably yield to the total population in Croatia of 110 pairs. The much higher figure of 150 estimated pairs for Croatia (SUŠIĆ 1994) seems to be slightly overestimated since other new breeding locality of Griffon Vultures were not discovered.

There is evidence that disturbance by visitors and unwise permission for rock-climbing on the most steep cliffs in canyons resulted in recent disappearance of some other sensitive birds of prey. Open access for rock climbers in close proximity of the nesting cliffs is the most serious threat for raptors especially in Canyon Velika Paklenica. So Golden Eagle *Aquila chrysaetos* disappears as breeding species in NP and two nests in canyons are deserted at least since 1983. Recent observations of pair indicate reoccupation of territory after period of five years of war during which disturbance by visitors has been greatly reduced. Egyptian Vulture *Neophron percnopterus* also vanish as breeding species (RUCNER 1967; BIJLEVELD 1974) and Griffon Vulture *Gyps fulvus* population obviously declined from 9–15 pairs in 1985/86 to 3–6 pairs in 1990 and 7 in 1996. Other important breeding raptors, particularly endangered due to their habit of breeding on the open and exposed places, include two resident pairs of Peregrine *Falco peregrinus* and Short-toed Eagle *Circaetus galli-cus*. Human presence (tourism or recreation) has become increasingly important in rendering suitable habitat unattractive to raptors, thus further reducing their breeding number (NEWTON 1979). Some raptors, especially larger ones, have been known to desert their nests following a visit by an observer or in response to other prolonged activity nearby. For raptors in NP, there is another source of threatening as declining in livestock rearing and improved sanitary control, eggs collecting, falconers poaching, hunting on the edge of NP and environmental and bait poisoning.

The most prominent part of NP canyons are of special scientific interest for their extraordinary ecological peculiarity of mixed mediterranean and continental climate and vegetation. This phenomenon is already emphasized by RUCNER (1967) and LUKAČ et al. (1992). It influenced the penetration of some mediterranean species deeply in the continental interior and in the reverse direction entrance of some species of continental deciduous beech forests toward mediterranean zone (*Sitta europaea*, *Erithacus rubecula*, *Parus palustris*). Both canyons penetrate perpendicularly through massif of the Velebit Mountain straight from continental interior and opened widely in Mediterranean at coastal plain which is very favourable both for migrants and wintering birds. With their favourable ecological condition, canyons could have an important biological function as a passage »funnel« for small songbirds on their migration over such a natural barrier between continental interior and Mediterranean. This function of canyons as »migration bottleneck« for small songbirds was not considered until now but should be investigated in future.

Typical breeders of deciduous beech forests in NP and around NP are mainly Tawny Owl *Strix aluco*, Grey-headed Woodpecker *Picus canus*, Black Woodpecker *Dryocopus martius*, Great Spotted Woodpecker *Dendrocopos major*, Robin *Erithacus rubecula*, Marsh Tits *Parus palustris*, Nuthatch *Sitta europaea* and Bullfinch *Pyrrhula pyrrhula*.

At the highest altitude of NP and around NP several species breed in the open mountain habitats between the upper tree-limit and the highest peaks. Most typical breeding species of this zone include Water Pipit *Anthus spinoletta*, Alpine Accentor *Prunella collaris*, Wheatear *Oenanthe oenathe*, Black Redstart *Phoenicurus ochruros* and Alpine Chough *Pyrrhocorax graculus*.

Three species have been recorded by some other authors in NP or around NP including Black Vulture *Aegyptius monachus* (ŠKORNIK 1987), Bonelli's Eagle *Hieraetus fasciatus* (SUŠIĆ et al. 1983) and Short-toed Lark *Calandrella brachydactyla* (RUCNER 1965). As we did not find these birds during our period of investigation, all three are mentioned in systematic list without adding to the total number of species. Anyway, for their importance to the Croatian list both unchecked records of Black Vulture and Bonelli's Eagle must be checked in future by relevant national Rarities Committee (CONZEMIUS 1996). The same apply also to record of Steppe Buzzard *Buteo buteo vulpinus*, as it seems that (at least in this century) this eastern subspecies of Buzzard has not been seen in Croatia or its occurrence is so rare. Breeding of Spanish Sparrow *Passer hispaniolensis* is very interesting since that status, distribution and movements of this bird is still enigmatic in Croatia.

Citation of data from »Important Bird Areas in Europe« were avoided, as some Croatian compilers unreasonably enhanced ornithological importance of NP and identification skills of others are not trusty. Several statements in IBA account for NP »Paklenica« are inaccurate and incomplete (see GRIMMETT & JONES 1989). Population estimates for Griffon Vulture, 20 pairs, is slightly overestimated for the period; Golden Eagle and Egyptian Vulture vanished and did not breed long time ago; Lanner Falcon never occurred in NP; Bonelli's Eagle don't breed in NP and their observation must be checked; there are not many breeding pairs of Lesser Grey Shrike as we recorded one bird only twice but without any signs of breeding.

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SAŽETAK

Ptice Nacionalnog parka Paklenica

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Ptice Nacionalnog parka (NP) »Paklenica« do danas nisu temeljito istraživane. Dosadašnja ornitološka valorizacija temeljila se na nekoliko publiciranih radova u kojima je dat nepotpun faunistički popis ili se spominju pojedine vrste. Preliminarna istraživanja od 1984. do 1996. pokazala su da se od 196 vrsta ptica zabilježenih unutar NP i u bližoj okolici, od planinskih vrhova do obale mora, 91 vrsta gnijezdila na području NP. Dvije vrste više se ne gnijezde u NP, crkavica *Neophron percnopterus* i suri orao *Aquila chrysaetos*. Relativno velik broj gnjezdarica odražava raznovrsnost ekoloških niša zbog vertikalnog gradijenta između najviših planinskih vrhova sa subalpskom klimom, preko planinskih padina s kontinentalnom i submediteranskom klimom, do obale s eumediteranskom klimom.

Osobitosti NP čine mnoge mediteranske i petrofilne vrste. Posebnu prirodno-znanstvenu vrijednost NP »Paklenica« predstavljaju vrste koje gnijezde u kanjonima (sivi sokol *Falco peregrinus*, zmijar *Circaetus gallicus*, ušara *Bubo bubo*, bijela čiopa *Apus melba*, hridna lastavica *Ptyonoprogne rupestris*, piljak *Delichon urbica* (prirodno gnijezdilište!), brgljez kamenjar *Sitta neumayer*), na planinskim vrhovima (planinska trepetljika *Anthus spinoletta*, alpski popić *Prunella collaris*, žutokljuna galica *Pyrrhonorax graculus*), u čistim i miješanim planinskim bukovim šumama (lještarka *Bonasa bonasia*, crna žuna *Dryocopus martius*, siva žuna *Picus canus*), te u mediteranskom pojasu na planinskim padinama i uz obalu (jarebica kamenjarka *Alectoris graeca*, pećinska lastavica *Hirundo daurica*, mrka sjenica *Parus lugubris*, strnadica cikavica *Emberiza cia*, vrtna strnadica *Emberiza hortulana*, crnoglava strnadica *Emberiza melanocephala*).

Ornitološki najvredniji dio parka su kanjoni »Velika Paklenica« i »Mala Paklenica« u kojima gnijezdi 10 % (7–10 parova u 1996. godini) hrvatske populacije bjeloglavih supova *Gyps fulvus*. Početna istraživanja pokazuju da brojnost supova opada i stoga je neophodno poduzeti aktivne mjere zaštite ovog prirodnog fenomena NP. Zbog svojih osobina, posebno u kanjonu Velike Paklenice, stijene i litice predstavljaju najatraktivniju turističku ponudu velikom broju alpinista i penjača. Taj način iskorištavanja »prirodnih resursa« u suprotnosti je sa temeljnom definicijom nacionalnog parka i direktno ugrožava gniježđenje ugroženih grabljivica u NP-u.

Morska obala uz nacionalni park je zimovalište i odmaralište velikog broja ptica selica, posebno ptica vodenih staništa (plijenori *Gaviidae*, gnjurci *Podicipedidae*, vranci *Phalacrocoracidae*, čaplje *Ardeidae*, patke *Anatidae*, kulici *Charadriidae*, šljuke *Scolopacidae*, galebovi *Laridae*, čigre *Sternidae*) i malih pjevica (ševe *Alaudidae*, pastirice i trepteljke *Motacillidae*, drozdovi *Turdidae*, cvrkutuše *Sylviidae*, muharice *Muscicapidae*, sjenice *Paridae*, svračci *Laniidae*, zebe *Fringillidae*, strnadice *Emberizidae*). Posebno je

važno blatište u uvali Modrič kao zimovalište za 10–20 % hrvatske populacije morskog kulika *Charadrius alexandrinus*. Kanjoni su važni za zimovanje crvenokrilog litičara *Tichodroma muraria*.

Zbog posebnih ekoloških osobitosti i velikog značenja za zaštitu nekih autohtonih vrsta, posebno grabljivica, NP »Paklenica« je izuzetno vrijedan ornitološki lokalitet i predstavlja velik znanstveno-poučni potencijal. Radi očuvanja cjelovitosti ovog složenog ekosistema nužno je provesti detaljnija faunistička, fenološka i populacijska istraživanja ornitofaune.