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## Overview of sand martin (*Riparia riparia*) localities in the Czech Republic

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**A b s t r a c t :** During years 1992-2005, we performed a systematic search for the presence of sand martin colonies throughout the Czech Republic. Here we show a list of all sand martin nesting localities found, together with all available literature sources related to the area of the Czech Republic. Breeding of sand martins was confirmed in 66 out of 76 districts of the Czech Republic at 427 localities occupied since 1992 (Fig. 1) and another 313 localities occupied earlier in the 19<sup>th</sup> or 20<sup>th</sup> century. The combined data should serve as a comparative material necessary during the process of creating new protected areas aimed to allow sustainable existence of the sand martin population in the Czech Republic, as sand martins are strictly dependent on the mining activities almost all native nesting places were destroyed in the last decades by regulation of river banks.

**K e y w o r d s :** *Riparia riparia*, Czech Republic; sandpit; breeding colonies; river banks

### Introduction

Sand martin (*Riparia riparia*) is the least abundant species of the family Hirundinidae breeding in the Czech Republic. Its population has been thought to be relatively stable over the last few decades, just fluctuating in correlation with weather conditions on the nesting and wintering places (see e.g. SZÉP 1995). Since 1992, the first of the authors of this paper organise the long-term census of sand martin population in the Czech Republic. The census results were surprising as the Czech sand martin population is not stable nor fluctuating, but rapidly decreasing (HENEBERG in press.). This unexpected trend was further corroborated by data from other European countries, e.g. England (BAILIE et al. 2006). It was found that the Czech sand martin population is gradually decreasing together with the decline in number of occupied localities. The rest of the population was found to be present in a few remaining colonies, which increased dramatically in size making the species more vulnerable. The recent changes of the Czech sand martin population seems to be the most conspicuous since the switch from natural-based nesting places to human-made mining places. Thus we decided to make a first overview of current sand martin nesting places in the Czech Republic as they were registered by the authors and their co-workers during 1992-2005. Together with the current data we added all the available literature sources about the occurrence of sand martins in various regions

of the Czech Republic during previous times. The data presented below should serve as a basis for the evaluation of sand martin population trends, which we were desperately missing during pioneer times of our work on the sand martin population census. Last but not least, the data presented here should serve as a comparative material needed in the case of creation of protected areas aimed to sustain and increase the sand martin population.

### **Material and methods**

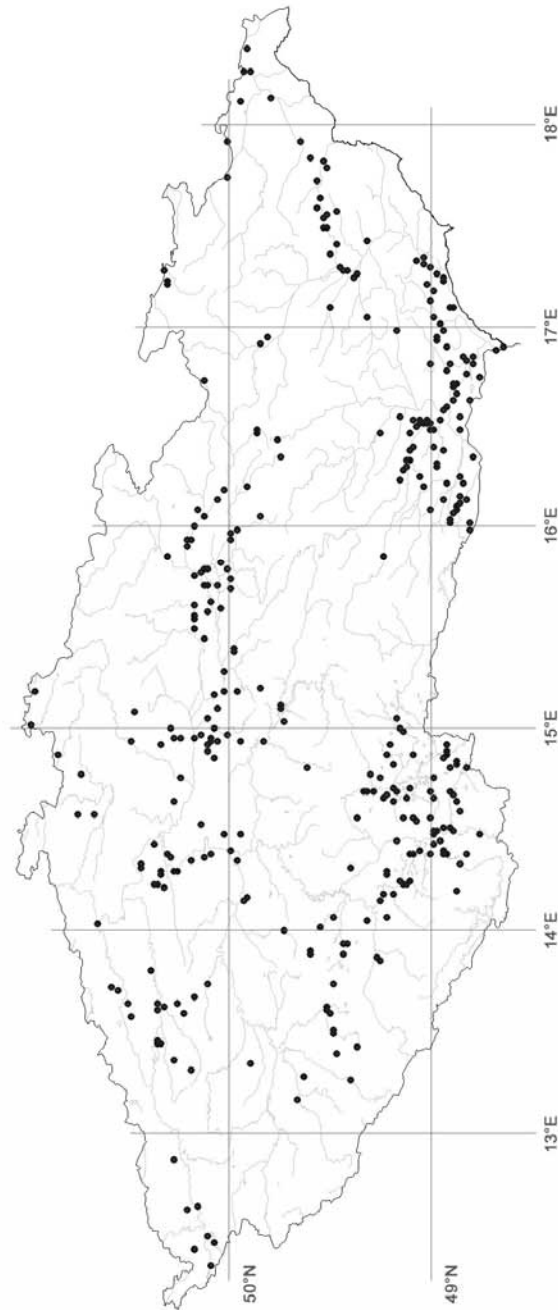
The sand martin monitoring was performed in the years 1992-2005 between June, 15<sup>th</sup>, and September, 30<sup>th</sup>. Until the beginning of this period almost all sand martin holes are dug (HENEBERG unpubl.). After June, 15<sup>th</sup> almost only experimental holes of juvenile individuals are dug. The end of the period was chosen because of high autumn precipitation causing annual collapses of many embankments, which might also misrepresent results of the monitoring. We had mostly counted the exact number of holes in each colony; large colonies were counted using photographs of banks, rarely only estimations were used.

As the "hole" we had registered each cavity dug by sand martins, having a minimal depth of 5 cm (conf. STONER 1936, KUHNEN 1978). Shorter cavities usually disappear quickly because of erosion, and these cavities were not counted. During the monitoring, we had counted all holes in breeding banks including holes dug by sand martins in previous years, but we observed that these were usually not reused for the next nesting. As "unoccupied" colonies were mentioned, which contained only markedly old holes (grass or spider-webs in tunnel openings) or those, where the observer had verified the absence of sand martins on the locality in the given year. All such colonies were also included in the list of colonies, but the absence of birds on such localities is marked. Sometimes, just a number of pairs was recorded. In such cases, it is clearly marked in the list of localities (No. of holes/pairs).

### **Results and discussion**

During the years 1992-2005, we performed a systematic search for the presence of sand martin colonies throughout the Czech Republic. Extensive search for the breeding colonies combined with data-mining from previously published papers and unpublished thesis and reports led to the confirmation of breeding of sand martins in 66 out of 76 districts of the Czech Republic (Fig. 1). The combined data shown in Tab. 1. should serve as a comparison necessary during the process of creating new protected areas aimed to allow sustainable existence of the sand martin population in the Czech Republic. The Czech sand martin population is strictly dependent on the mining activities as almost all native nesting places were destroyed during the last decades by regulation of river banks. As shown, there were almost no records about the sand martin breeding in man-made biotops in the 19<sup>th</sup> century, when the oldest data are available (FRIČ 1872, LITOŠICKÝ 1888, KNĚŽOUREK 1885 in BUREŠ et al. 1995, SCHWAB & RZEHAČ in HUDEC et al. 1966); the whole population seemed to be dependent on the presence of river banks only. During the 20th century river bank regulation started heavily, but sand martins as

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**Fig. 1:** Distribution of sand martin (*Riparia riparia*) localities in the Czech Republic occupied in years 1992-2005.

r-strategists were able to find substitutive localities in an increasing number of sandpits and clay pits emerging as a result of enhanced building and construction activity (ADÁMEK 1939, PRŮCHOVÁ 1980, VONDRÁČEK & ŠUTERA 1992, etc.). The last, but most important change appeared after political turnover in 1989. Most of the sandpits were returned to private owners, and the mining law was changed. Both these factors resulted in increasingly higher numbers of large, extensively mined sandpits, together with the disappearance of most of the small mining places being of low financial interest or being owned by persons or municipalities not willing to continue with mining activities any more. It resulted in an unprecedented increase of the number of pairs in each colony together with the pronounced decrease of the number of available breeding localities.

As a solution of these problems we began with steps leading to the creation of protected areas simplifying financing of the breeding bank management from public sources. Currently, first protected areas are established. The approval procedures led us to the creation of the list presented in Tab. 1, as it was desperately needed for arguing about the necessity of sand martin protection in each respective district. Until now only some data from several districts and a short cumulative summary of the status of the sand martin population in the Czech Republic were published (ŠÍREK & POHANKA 1992, JEŘÁBKOVÁ & HENEBERG 2001, HENEBERG in press.).

As it was published previously that the common size of sand martin colonies should be in tens, maximally hundreds of pairs (JÓZEFÍK 1962), colonies of the size of more than 1000 holes are shown in **bold**. Such an enormous occurrence of large sand martin colonies was not recorded anywhere else, but the increasing colony size seems to be a current pan-European trend. HENEBERG (in press.) summarised that in western Europe even colonies with more than 250 holes were not recorded until 1950 and any colonies with more than 500 holes until 1975.

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### Zusammenfassung

Zwischen 1992 und 2005 wurde in der Tschechischen Republik eine systematische Suche nach Uferschwalben (*Riparia riparia*) -Kolonien durchgeführt. Die Ergebnisse sind in einer Liste aller Uferschwalben-Nistplätze zu sehen, wofür auch alle Literaturquellen bezüglich der Tschechischen Republik ausgewertet wurden. Uferschwalben brüteten in 66 von 76 Bezirken der Tschechischen Republik. Seit 1992 wurden 427 Brutgebiete genützt (Abb. 1), weitere 313 Brutgebiete sind aus früheren Zeiten des 19. und 20. Jahrhunderts bekannt. Die Daten sollen Vergleichswerte liefern, die notwendig sind, um neue Schutzgebiete für die nachhaltige Existenz der tschechischen Uferschwalbenpopulation zu schaffen. Da in den letzten Jahrzehnten fast alle natürlichen Brutgebiete durch Flussuferregulierung zerstört wurden, sind Uferschwalben heute völlig von Abbaugebieten abhängig.

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**Table 1.** List of localities recorded during the sand martin monitoring during the years 1992-2005 grouped according to each respective district of the Czech Republic. If there were any data available published previously in the respective district, they are mentioned at the end of a list of localities of each district as "other localities not confirmed during the monitoring".

#### **district Benešov**

Předbořice – slope, 390 m a.s.l., 49.36N, 14.49E; 6 holes (1996), 13 holes (1997), no bank available (1998 and later)

Soutice – sandpit, 378 m a.s.l., 49.43N, 15.03E; 20 holes (1999), 10 holes (2000), disused (2002)

other localities not confirmed during the monitoring:

Bystřice u Benešova – heap of top soil – 48 holes in 1986 (BRANDL 1987)

Poříčí nad Sázavou – slope – "huge amount" of holes in 1961 and before (Anonymus 1998)

#### **district Beroun**

Běleč – sandpit, 270 m a.s.l., 49.54N, 14.10E; 460 holes (1999), 350 holes (2000), no bank available (2002 and later)

Liteň I. – sandpit, 266 m a.s.l. – mining since 80th years, 49.54N, 14.10E; 65 holes (1999), occupied (2000), 105 holes (2001), 41 holes (2002), 85 holes (2003)

Liteň II. – sandpit, 266 m a.s.l. – sandpit close to the roadfork from Karlštejn to Liteň and Běleč, 49.55N, 14.09E, 1088 holes (2003), **1667 holes** (2004), 1237 holes (2005)

#### **district Brno – město**

Brno-Černovice 1 – sandpit, 210 m a.s.l., 49.10N, 14.39E; 1160 holes (1999), note: tens of pairs in 1989 (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)

Brno-Černovice 2 – sandpit, 210 m a.s.l., 49.10N, 14.39E; 600 holes (1999)

Brno-Kníničky – eroded bank of the river dam, 225 m a.s.l., 49.14N, 16.30E; occupied (1992-1997), 3 holes (1998), 20 holes (1999); note: few tens of pairs in 1989 (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997), >25 pairs in 1993 (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)

#### **district Brno – venkov**

Bratčice – Ledce – sandpit, 215 m a.s.l., 49.03N, 16.32E; sandpit opened in 1997/98; 1 hole (1998), disused (1999-2000), sandpit recultivated (2001)

Bratčice – "the old" – sandpit, 215 m a.s.l., 49.02N, 16.33E; 1297 holes (1999), **2900 holes** (2000), 2300 holes (2001), 1036 holes (2002), 1553 holes (2003), 1455 holes (2005), note: 400-500 pairs in 1985, 500-600 pairs in 1986 (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)

Čučice – sandpit, 334 m a.s.l., 49.08N, 16.16E; 500 holes (1999), 408 holes (2003), 931 holes (2004), 670 holes (2005)

Hrušovany u Brna 1 – sandpit, 210 m a.s.l., 49.02N, 16.34E; occupied (1995-1996), 903 holes (1997), 379 holes (1999), 600 holes (2000), 4 holes (2001), 150 holes (2003), occupied (2004), 442 holes (2005), note: 150-200 pairs in 1985, 800-1000 pairs in 1987, min. 1000 pairs in 1992 (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)

Hrušovany u Brna 2 – sandpit, 220 m a.s.l., 49.01N, 16.33E; sandpit opened in 1998/99; occupied (1999), **4300 holes** (2000), 500 holes (2001), disused (2002), 36 holes (2003), 378 holes (2004), 596 holes (2005)

Ivančice – claypit, 210 m a.s.l., 49.06N, 16.22E; 70 holes (2003)

Ivančice – Kounické předměstí – sandpit, 210 m a.s.l., 49.05N, 16.22E; occupied (1994-1996), 20 holes (1997), 20 holes (2004)

Mělčany – sandy top of the stone quarry, 265 m a.s.l., 49.04N, 16.34E; 200 holes (1997), 180 holes (1998), 170 holes (1999), 150 holes (2000), 130 holes (2001), note: very low occupancy rate

Modřice 1 – claypit, 225 m a.s.l., 49.08N, 16.35E; 257 holes (1999)

Modřice 2 – sandpit, 225 m a.s.l., 49.08N, 16.35E; 426 holes (1999)

Modřice 3 – sandpit, 225 m a.s.l., 49.08N, 16.35E; 884 holes (1999), note: 400-500 pairs in 1983 (VANĚK in MARTIŠKO et al. 1997), 10 pairs in 1987 (VLAŠIN & VANĚK in MARTIŠKO et al. 1997), unoccupied in 1990 (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)

Moravské Bránice – trať – slope, 205 m a.s.l., 49.05N, 16.25E; 6 holes (1999)

Němčice u Ivančic – sandpit, 211 m a.s.l., 49.05N, 16.22E; 20 holes (2004)

- Nové Bránice – střelnice – sandpit, 198 m a.s.l., 49.04N, 16.26E; 250 holes (1999), 668 holes (2000), 256 holes (2001), 140 holes (2002), 422 holes (2003), 262 unoccupied holes (2004), 180 unoccupied holes (2005)
- Nové Bránice – za střelnici – pískovna, 198 m a.s.l., 49.04N, 16.26E; sandpit opened in 2001/02; 862 holes (2002), **1224 holes** (2003), 1203 holes (2004), 700 unoccupied holes (2005)
- Ořechov – sandpit, 302 m a.s.l., 49.05N, 16.30E; 306 holes (1999), **1756 holes** (2000), 416 holes (2001), 505 holes (2003), 799 holes (2004), 559 holes (2005), breeding bank recultivated after the breeding season 2005 to the form unsuitable for nesting of sand martins
- Ořechov – slope on the scrapheap behind the sandpit – slope, 303 m a.s.l., 49.05N, 16.30E; slope occurred in 1998/99; unoccupied (1999-2000), 1 hole (2001), no bank available (2002 and later)
- Oslavany – Černá – sandpit, 230 m a.s.l., 49.06N, 16.20E; 300 holes (1999), 72 holes (2000), 593 unoccupied holes (2003), 442 unoccupied holes (2004), 230 unoccupied holes (2005), note: 200-250 pairs in 1988 (KUBÍČEK in MARTIŠKO et al. 1997)
- Oslavany – Dolina – sandpit, 230 m a.s.l., 49.07N, 16.19E; 30 holes (1999), 30 holes (2002), recultivated (summer 2002)
- Žabčice 1 – sandpit, 210 m a.s.l., 49.00N, 16.34E; 1124 holes (1997), 182 holes (1998), **2000 holes** (1999), 1200 holes (2000), 262 holes (2001), 951 holes (2002), 250 holes (2003), 669 holes (2004), 264 holes (2005)
- Žabčice 2 – sandpit, 215 m a.s.l., 49.00N, 16.34E; occupied (at least 1992-1996), 900 holes (1997), **1427 holes** (1998), 567 holes (1999), unoccupied (2000), no bank available (2001 and later)
- Žabčice 3 – sandpit, 205 m a.s.l., 48.59N, 16.33E; occupied (1996), 29 holes (1997), 4 holes (1998), unoccupied (1999-2000), no bank available (2001 and later)
- Žabčice 3 – heap of top soil, 205 m a.s.l., 48.59N, 16.33E; 22 holes (1997), 22 unoccupied holes (1998-2000), no bank available (2001 and later)
- Žabčice 4 – gravelsandpit, 207 m a.s.l., 49.00N, 16.33E; no bank available (1992-1994), occupied (1999), 63 holes (2000), 96 holes (2001), unoccupied due to too intensive mining (2002-2004), 815 holes (2005)

other localities not confirmed during the monitoring:

- Rebešovice – claypit – 50-100 pairs in 1983 (VLAŠIN & VOJANEC in MARTIŠKO et al. 1997)
- Medlov (river Jihlava) – river bank – 3 nestplaces up to 100 pairs (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)
- Modřice (river Svratka) – river bank – 3 pairs in 1983 (VANĚK in MARTIŠKO et al. 1997)
- Modřice (confluence of Svratka and Bobrava) – river bank – active colony in 1983 (VANĚK in MARTIŠKO et al. 1997)

**district Břeclav**

- Františkův rybník – claypit, 168 m a.s.l., 48.53N, 16.51E; 10 pairs (1997), 5 pairs (1998), 5 pairs (1999), 10 pairs (2000), 5 pairs (2001), 15 pairs (2002), 10 pairs (2003), 60 pairs (2004), 30 pairs (2005)
- Hrušky – Hrubé díly – sandpit, 185 m a.s.l., 49.48N, 16.59E; occupied (1992-1997), 60 holes (1998), 101 holes (1999), 293 holes (2000), 67 holes (2001), recultivated, no bank available (2002 and later)
- Charvátská Nová Ves – sandpit, 164 m a.s.l., 48.46N, 16.51E; occupied (1992), no bank available (1993 and later)
- Ivňá (river Jihlava) – riverbank, 173 m a.s.l., 48.56N, 16.34E; occupied (1995-1996), 100 holes (1999), 8 holes (2000), unoccupied (2001), no bank available (2002 and later), note: tens of pairs in 1985 (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)
- Ladná (trench for the power pole placement during the railway corridor construction) – trench, 160 m a.s.l., 48.49N, 16.53E; dugged out in 1997; 4 holes (1997); filled up in 1997
- Ladná (trench for the power pole placement during the railway corridor construction) – trench, 160 m a.s.l., 48.49N, 16.53E; dugged out in 1997; 2 holes (1997); filled up in 1997
- Ladná (trench for the power pole placement during the railway corridor construction) – trench, 160 m a.s.l., 48.49N, 16.53E; dugged out in 1997; 8 holes (1997); filled up in 1997
- Ladná – Stará Břeclav (left bank of river Dyje) – river bank, 160 m a.s.l., 48.48N, 16.52E; 6 pairs (1986), 2 pairs (1987), 10 pairs (1988), 25 pairs (1989), 37 pairs (1990), 29 pairs (1991) (1986-1991 HUBÁLEK 1997), 35 pairs (1992), 10 pairs (1993), 17 pairs (1994), 18 pairs (1995), occupied (1997), 22 pairs (1998), 20 pairs (1999), 2 pairs (2003), 4 pairs (2005)

- Lednice – island Ovčí in Zámecký pond – bank of an pond island, 172 m a.s.l., 48.48N, 16.48E; slope occurred in 2004/05; 15 holes (2005)
- Milovice (u Milovického lesa) – slope, 180 m a.s.l., 48.51N, 16.42E; occupied (2001-2003), 50 holes (2004), occupied (2005)
- Mušlov – sandpit, 198 m a.s.l., 48.47N, 16.40E; occupied (1992-1995), 200 holes (1996), **1342 holes** (1997), 887 holes (1998), 67 holes (1999), 325 holes (2000), 567 holes (2001), 242 holes (2002), 9 holes (2003), unoccupied (2004), 75 holes (2005), note: 100-150 pairs in 1986 (MATUŠKA in MARTIŠKO et al. 1997)
- Novosedly – gravelsandpit, 199 m a.s.l., 49.51N, 16.30E; 92 holes (1998), 78 holes (1999), 68 holes (2000), 74 holes (2001), 19 holes (2002), 17 holes (2003), 16 unoccupied holes; only holes occupied by field sparrows (2004), unoccupied (2005)
- Novosedly – claypit, 199 m a.s.l., 48.50N, 16.31E; 161 holes (2001), no bank available (2002-2003), 24 holes (2004), no bank available (2005)
- Novosedly – heap of top soil above the claypit, 199 m a.s.l., 48.50N, 16.31E; 71 holes (2001), no bank available (2002 and later)
- Novosedly – heap of top soil above the gravelsandpit, 199 m a.s.l., 49.51N, 16.31E; 5 holes (1999), unoccupied (2000), 5 holes (2001), unoccupied (2002 and later)
- Pavlov – trench, 245 m a.s.l., 48.52N, 16.40E; occurred in 2003/04; 100 holes (2004)
- Podivín (Hruštičky) – gravelpit, 165 m a.s.l., 48.59N, 16.51E; unoccupied, but at 17.5.2003 5 sand martins observed (2003)
- Pohořelice – heap of top soil; 181 m a.s.l., 48.59N, 16.31E; occurred in 1999/2000; 3 holes (2000), no bank available (2001 and later)
- Pohořelice (bridge) – wall of the bridge, 184 m a.s.l., 48.58N, 16.31E; occurred in 1994/95; 18 holes (1995); no bank available (1996 and later)
- Pouzdrány – sandpit, 195 m a.s.l., 48.55N, 16.37E; occupied (1993-1994), **3425 holes** (1995), 2397 holes (1996), 492 holes (1997), 2226 holes (1998), 2195 (1999), 2892 holes (2000), 2060 holes (2001), 862 holes (2002), 1524 holes (2003), 94 unoccupied holes (2004), 1030 holes (2005), note: 300-350 pairs in 1986, 350-400 pairs in 1987, 1000-1200 pairs in 1988, 1000-1200 pairs in 1989, 200-300 pairs in 1992 (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)
- Rabensburg (bank of river Dyje on the Czech side) – river bank; 155 m a.s.l., 48.39N, 16.55E; 1 hole (1996), 50 holes (1998), occupied (2000), 1 hole (2001), another huge colony is on the Austrian side (HUBÁLEK in litt.)
- confluence of rivers Dyje and Morava – river bank; 150 m a.s.l., 48.37N, 16.56E; occupied (1998)
- Stará Břeclav – sandpit, 160 m a.s.l., 48.46N, 16.53E; 10 holes (1999), occupied (2000), 350 holes (2001), 2 holes (2002), 5 holes (2003), 60 holes (2004), 50 holes (2005)
- Stará Břeclav – slope in the dyke of a road close to the entrepot, 160 m a.s.l., 48.46N, 16.53E; occurred in 1996/97, 30 holes (1997), no bank available (1998 and later)
- Stará Břeclav – trench, 160 m a.s.l., 48.46N, 16.53E; occurred in 1996/97, 15 holes (1997), no bank available (1998 and later)
- Strachotín – sandpit, 170 m a.s.l., 48.54N, 16.38E; 950 holes (2001), 475 holes (2003), 428 holes (2004), 498 holes (2005), note: very low occupancy rate in 2001-2005; 800-1000 pairs in 1983, 400-500 pairs in 1985, later unoccupied (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)
- Strachotín – slope mined due to house construction, 170 m a.s.l., 48.54N, 16.38E; occurred in 2003/04; **1134 holes** (2004), 700 unoccupied holes (2005), short description of the situation in 2004 and photo of the locality in HENEKBERG (2006)
- Valtice I. A – sandpit, 193 m a.s.l., 48.44N, 16.47E; occupied (2000), 252 holes (2001), 161 holes (2002), 135 holes (2003), 371 holes (2004), 160 holes (2005)
- Valtice I. B – sandpit, 193 m a.s.l., 48.44N, 16.47E; occurred in 1999/2000; occupied (2000), 98 holes (2001), unoccupied (2002), 49 holes (2003), 13 holes (2004), no bank available (2005)
- Valtice II. – sandpit, 192 m a.s.l., 48.44N, 16.47E; occurred in 1998/99; occupied (1999), 120 holes (2000), 41 holes (2001), 16 holes (2003), 25 holes (2004), 216 holes (2005)
- Velké Pavlovice – claypit, 182 m a.s.l., 48.54N, 16.49E; 1 hole (2001)
- Zaječí (Kalvárie) – sandpit, 180 m a.s.l., 48.52N, 16.45E; occupied (1995), **3087 holes** (1996), 650 holes (1997), 2708 holes (1998), 2430 holes (1999), 2673 holes (2000), 2902 holes (2001), 462 holes (2002), 128 holes (2003), 969 holes (2004); recultivated, no bank available (2005), note: hole numbers in years 2002-2003 are shown without approx. 600-700 unused 1-2 years-old-holes; min. 50 pairs in 1988, min. 300 pairs in 1993 (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)

- Zaječí (Kalvárie) – slope which occurred during the construction of a new shooting range, 240 m a.s.l., 48.52N, 16.44E; occurred in 1999/2000; 206 holes (2000), no bank available (2001 and later)
- Zaječí – gravelsandpit 1, 164 m a.s.l., 48.51N, 16.45E; occupied (1994-1996), 16 holes (1997), 8 holes (1998), 32 holes (1999), 6 holes (2000), 8 holes (2001), no bank available (2003 and later)
- Zaječí – gravelsandpit 2, 164 m a.s.l., 48.51N, 16.45E; 7 holes (2003), unoccupied (2004), 9 holes (2005)
- Zaječí – gravelsandpit 3, 164 m a.s.l., 48.51N, 16.45E; 292 holes (2003), 161 holes (2004), 210 holes (2005)
- Zaječí – gravelsandpit 4, 164 m a.s.l., 48.51N, 16.45E; 696 holes (2004), 250 holes (2005)
- Zaječí – gravelsandpit 5, 164 m a.s.l., 48.51N, 16.45E; 20 holes (2005)
- Zaječí (vinice) – slope, 210 m a.s.l., 48.52N, 16.45E; 86 holes (1996), **1400 holes** (1997), 252 holes (1998), 381 holes (1999), 165 holes (2000), 165 unoccupied holes (2001), 165 unoccupied holes (2002), 165 unoccupied holes (2003)

other localities not confirmed during the monitoring:

- Křivé jezero (river Dyje) – breeding in 1992 (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)
- Nová Ves – sandpit – 5-10 pairs in 1989 (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)
- Pouzdrány – trench in fields – ~100 pairs in 1986 (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)
- Přibice (river Jihlava) – river bank – breeding in 90th years (MARTIŠKO et al. 1997)
- Sedlec, pond Nesyt – bank of a pond island – 30-40 pairs in 1992 (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)
- number of colonies occurred during the construction of water dam Nové Mlýny on river Dyje in 80th years, mostly in the vicinity of villages Pasohlávky, Dunajovice, Mušov, Dolní Věstonice, Pavlov, Šakvice, Nové Mlýny, etc.; some smaller nestplaces were located to the heaps of mined top soil (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)

#### district Česká Lípa

- Česká Lípa (Žízňkov) – sandpit, 258 m a.s.l., 50.40N, 14.35E; 8 holes (1999), note: 30-100 pairs in 1965-1976; 400 pairs in 1977-1983; 100 holes in 1984, 30 unoccupied holes in 1988, 520 occupied holes in 1989, 400 pairs in 1990 (HONCŮ 1992), two large colonies in 1989-1990 (VONDRÁČEK & ŠUTERA 1992)
- Stráž pod Ralskem (Dubnice) – sandpit, 370 m a.s.l., 50.44N, 14.47E; 170 holes (1999), occupied (2003), note: the disappeared colony was reoccupied in 1988; ~100 pairs in 1991 (VONDRÁČEK & ŠUTERA 1992)
- Sloup v Čechách – bank of a fishpond, 290 m a.s.l., 50.45N, 14.35E; 25 holes (2000), 25 holes (2001), 32 holes (2002), 32 holes (2004)

other localities not confirmed during the monitoring:

- Brniště (Tlustec) – quarry – 25-40 pairs in a sandy slope in 1982-1990 (HONCŮ 1992)
- Břehyně-Bezděz (military area) – new colony formed in 1989 (VANIČEK in VONDRÁČEK & ŠUTERA 1992)
- Česká Lípa – sandpit – breeding, 19th century (ANKERT 1896)
- Česká Lípa – dyke of the railway – breeding, 19th century (ANKERT 1896)
- Česká Lípa (Dubice) – 30 pairs in 1967-1984, 4-5 pairs in 1985, 130 holes in 1988, unoccupied in 1990 (HONCŮ 1992)
- Česká Lípa (Hůrka) – ditch – 25 pairs in 1985 (HONCŮ 1992)
- Česká Lípa (n.p. Nářadí) – heap of top soil – tens of pairs for a few subsequent years since 1979 (HONCŮ 1992)
- Česká Lípa (Ramš) – slope – 4 pairs in 1988 (HONCŮ 1992)
- Česká Lípa (Rasová Hůrka) – sandpit – 10 pairs since 1967 for a few subsequent years (HONCŮ 1992)
- Česká Lípa (southern parts) – heap of top soil – 150 holes/100 pairs in 1990
- Česká Lípa (Stará Lípa) – claypit – 4 pairs in 1988 (HONCŮ 1992)
- Česká Lípa (Žízňkov) – slope – 200 pairs in 1988, no bank available in any other year (HONCŮ 1992)
- Doksy (summer theatre) – sandstone rock-occupied previously, not during 80th years (HONCŮ 1992), ~15 pairs (VONDRÁČEK & ŠUTERA 1992), unoccupied in 2003 (own data)
- Hamr na J. – two colonies in 1960 (KOHOUT in VONDRÁČEK & ŠUTERA 1992), one colony with 10-12 pairs in years 1957-1973 (NEVRLÝ 1974)
- Hamr u České Lípy (Hamerský pond) – bank of a fishpond – 10 pairs in 1957, 12 pairs in 1971-1973, unoccupied in 1984-1990 (HONCŮ 1992)

- Hamr u České Lípy – slope – 20-40 pairs in 1983-1990 (HONCŮ 1992)  
 Horní Police – breeding, beg. of the 20th century (WURM 1912), 1920s (MICHEL 1929)  
 Horní Libchava, Okřešice, Zákupy – breeding, beg. of the 20th century (WURM 1912)  
 Hradčany – trench – few pairs in 1988 (HONCŮ 1992)  
 Chlum – slope – 30 pairs in 1979-1983, later abandoned (HONCŮ 1992)  
 Jestřebí – sandpit – 100 pairs in 30th years of the 20th century (SCHUSTER 1937), 50-80 pairs in 1965 (VONDRÁČEK & ŠUTERA 1992)  
 Mimoň (Boreček) – sandpit – 20 unoccupied holes in 1984 (HONCŮ 1992); unoccupied in 2003 (own data)  
 Obrok – sandpit – 20 pairs in 1983 (HONCŮ 1992)  
 Postrelná – sandpit – 10 pairs in 1968, destroyed in 1972 (HONCŮ 1992)  
 Provodín – sandpit – over 100 pairs in 30th years (SCHUSTER 1937 in HONCŮ 1992); 400 pairs in 1963-1975; 100 holes/50 pairs in 1976-1990; 100 pairs in 1990 (HONCŮ 1992), 120 holes in 1990 (VONDRÁČEK & ŠUTERA 1992), unoccupied in 2003 (own data)  
 Provodín (U Srní) sandpit – 40 holes in 1990 (VONDRÁČEK & ŠUTERA 1992)  
 Provodín – trench – 25 holes/10 pairs in 1990 (HONCŮ 1992)  
 Radvanice – sandstone rock – 2 pairs breeding in 1967-1968  
 Ralsko (Srní potok) – sandpit – 30 pairs in 1982, 30-40 pairs in 1983-1990  
 Robeč (stream Robečský in the "Peklo" reserve) – stream bank – occupied according to local nature trail; not controlled during any breeding season  
 Sedlišťský fishpond – eroded bank of a fishpond – 25 pairs in 1974 (NEVRLÝ 1974)  
 Sloup v Čechách – colony at least in years 1929-1939 (TIEZE 1940 in VONDRÁČEK & ŠUTERA 1992)  
 Staré Splavy – four colonies totalling 50 holes, beg. of the 20th century (LOOS 1928 in VONDRÁČEK & ŠUTERA 1992)  
 Stráž pod Ralskem (area of uranium mines) – 10-20 pairs in 1989 (H. DOUBKOVÁ in VONDRÁČEK & ŠUTERA 1992)  
 Stráž pod Ralskem (Dubnice) – slope – 40-50 pairs in 1982; occupied up to at least 1990 (HONCŮ 1992)  
 Stráž pod Ralskem (Lipka, Lubovská křižovatka) – slope – 98 holes in 1984, 14-15 pairs in 1985 (HONCŮ 1992)  
 Stráž pod Ralskem (Sedlický pond) – bank of a fishpond – 25 pairs in 1971-1972; destroyed in 1973, but renewed later; 20-30 pairs in 1981; 50 pairs in 1982; 100 holes in 1984 (HONCŮ 1992)  
 Stráž pod Ralskem (vyluhovací pole VP-7) – slope – 10-15 pairs in 1982 (HONCŮ 1992)  
 Stráž pod Ralskem (vyluhovací jáma u Novin pod Ralskem) – slope – 25 pairs in 1990 (HONCŮ 1992)  
 Velký Grunov – sandpit – occupied regularly since 1980; 80 holes (VONDRÁČEK & ŠUTERA 1992), 150 holes in 1984, 15 pairs in 1985, occupied in 1986-1990 (HONCŮ 1992)  
 Žandov – sandpit – 4 holes/2 pairs in 1990

#### district České Budějovice

- Březí u Trhových Svin – sandpit, 470 m a.s.l., 48.50N, 16.35E; occupied (1992-1993), 208 holes (1994), 252 holes (1995), 267 holes (1996), 331 holes (1997), 25 holes (1999), 12 holes (2000), 11 holes (2001), 6 holes (2002), unoccupied (2003-2005), note: nesting since late 80th years (ZÁVORA in HENEBERG 1997b)  
 České Budějovice (teplárna) – heap of sand, 385 m a.s.l., 48.58N, 14.29E; occupied (1995)  
 Dobrá Voda u Českých Budějovic – claypit, 410 m a.s.l., 48.58N, 14.30E; occupied (1992-1994), 8 holes (1995), 77 holes (1996), 85 holes (1997), 69 holes (1998), 54 holes (1999), 42 holes (2000), 36 holes (2001), 5 holes (2002), unoccupied (2003), note: 20 pairs in 1990 (BÜRGER in HENEBERG 1997b)  
 Hlincova Hora – silagepit, 550 m a.s.l., 48.59N, 14.34E; 20 holes (1992), no bank available (1993 and later)  
 Hluboká nad Vltavou (fishpond Bezdrev) – bank of the fishpond, 390 m a.s.l., 49.02N, 14.24E; occupied (1992-1996), 198 holes (1997), 172 holes (1998), 169 holes (1999), 131 holes (2000), 115 holes (2001), 61 holes (2002), 7 unoccupied holes (2003), note: occupied in 1880s (BAYER 1888 in HENEBERG 2006), and later (BREHM 1928)  
 Hluboká nad Vltavou (fishpond Bezdrev) – slope in a dam of a pond, 390 m a.s.l., 49.02N, 14.24E; occurred in 1995/96, 20 holes (1996), 3 holes (1997), unoccupied (1998-1999), no bank available (2000 and later)  
 Homole (obalovna) – heap of sand, 400 m a.s.l., 48.56N, 14.27E; occurred in 1993/94, occupied (1994), no bank available (1995 and later)

- Jílovce – sandpit, 494 m a.s.l., 48.53N, 14.42E; occupied (1995), 190 holes (1996), 20 unoccupied holes (1997-2001), unoccupied (2002-2005), note: abandonment of the colony in 1997 due to the shooting and other disturbances mentioned in BÍCEK (1997)
- Kolný – sandpit, 525 m a.s.l., 49.04N, 14.34E; occupied (1992-1994), 668 (1995), 190 (1996), 469 holes (1997), 550 holes (1998), 547 holes (1999), 661 holes (2000), 265 holes (2001), unoccupied (2002), 152 holes (2003), 342 holes (2004), 271 holes (2005), note: colony present already in 70th years (HENEBERG 1997b)
- Lékařova Lhota – quarry, 420 m a.s.l., 49.05N, 14.15E; occupied (1994), no bank available (1996 and later)
- Lhotice – heap of top soil, 515 m a.s.l., 49.03N, 14.33E; occurred in 2003/04, 96 holes (2004)
- Lniště 1 – sandpit, 460 m a.s.l., 48.50N, 14.36E; 2 holes (1994), unoccupied (1995), no bank available (1996), unoccupied (1997-1998), 3 holes (1999), unoccupied (2000-2001), no bank available (2002 and later)
- Lniště 2 – sandpit, 450 m a.s.l., 48.50N, 14.36E; no bank available (1992-1993), unoccupied (1994), 8 holes (1995), unoccupied (1996), no bank available (1997 and later)
- Mladé – sandpit, 422 m a.s.l., 48.57N, 14.30E; 266 holes (1995), unoccupied (1996), no bank available (1997), unoccupied (1998), 5 holes (1999), 5 holes (2000), no bank available (2001 and later), note: sandpit opened in 1986; about 15-20 pairs of sand martins was nesting there since that time (EDELMAANN & KLÍMA in HENEBERG 1997b)
- Mladé – ashdump, 415 m a.s.l., 48.58N, 14.30E; no bank available (1992-1995), 77 holes (1996), 88 holes (1997), 24 holes (1998), 16 holes (1999), 29 holes (2000), 10 unoccupied holes (2001), 3 unoccupied holes (2002), no bank available (2003 and later)
- Munice – sandpit, 396 m a.s.l., 49.04N, 14.23E; 450 holes (1995), 128 holes (1996), 349 holes (1997), 268 holes (1998), 336 holes (1999), 213 holes (2000), 332 holes (2001), 263 holes (2002), 54 almost unoccupied holes (2003), 38 almost unoccupied holes (2004)
- Nová Ves u Českých Budějovic – sandpit, 490 m a.s.l., 48.55N, 14.31E; 1 hole (1996), unoccupied (1997-1998), no bank available (1999 and later)
- Nové Hodějovice – sandpit, 405 m a.s.l., 48.57N, 14.30E; 7 holes (1995), unoccupied (1996), no bank available (1997 and later)
- Nové Hradce – sandpit, 489 m a.s.l., 48.48N, 14.49E; 39 holes (1994), 16 holes (1995), 41 holes (1996), 57 holes (1997), 88 holes (1998), 191 holes (1999), 361 holes (1999), 198 holes (2001), 608 holes (2002), 148 holes (2003), 48 holes (2004), 12 holes (2005), note: 40 occupied holes in 1985 and 1986 (FRENCL in HENEBERG 1997b)
- Olešník – claypit, 419 m a.s.l., 49.05N, 14.23E; 20 holes (1999), 20 holes (2000), 20 holes (2001)
- Pardovice – sandpit, 380 m a.s.l., 49.09N, 14.27E; 17 holes (1997), 12 holes (1998), 68 holes (1999), 24 holes (2000), 72 holes (2001), 3 holes (2002), unoccupied (2003 and later)
- Roudné – sandpit, 392 m a.s.l., 49.56N, 14.29E; 12 holes (1994), 11 holes (1995), 1 hole (1996), no bank available (1997 and later)
- Římov – sandpit, 430 m a.s.l., 48.52N, 14.30E; occupied (1992), 10 holes (1993), 10 pairs (1994), 5 pairs (1995-1996), occupied (1997), 4 holes (1998), unoccupied (2002-2003)
- Spolí – sandpit, 445 m a.s.l., 48.59N, 14.42E; occupied (1992-1993), 372 holes (1994), 767 holes (1995), 15 holes (1996), 242 holes (1997), 268 holes (1998), 174 holes (1999), 144 holes (2000), 71 holes (2001), 150 holes (2002), unoccupied (2003), 117 holes (2004), 43 holes (2005)
- Střížov – sandpit, 445 m a.s.l., 48.53N, 14.31E; occupied (1992-1994), 29 holes (1995), 10 holes (1996), unoccupied (1997-2002), no bank available (2003 and later), note: occupied at a turn of 1980s and 1990s years (THEINER in HENEBERG 1997b)
- Ševětín – sandpit, 480 m a.s.l., 49.07N, 14.34E; occurred in 1992/93, occupied (1993-1996), 9 holes (1997), 9 unoccupied holes (1998-1999), unoccupied (2000-2002), no bank available (2003 and later)
- Šindlový Dvůr – heap of sand, 410 m a.s.l., 48.58N, 14.26E; 5 holes (1992), no bank available (1993 and later)
- Trhové Sviny (Gama) – slope, 460 m a.s.l., 48.51N, 14.39E; 48 holes (1994), occupied (1995), 67 holes (1996), unoccupied (1997), 65 holes (1998), occupied (1999-2000), no bank available (2001 and later), note: colony observed already at turn of 1980s/1990s years (ZÁVORA in HENEBERG 1997b)
- Trpnouze – peat mine, 472 m a.s.l., 48.51N, 14.50E; occupied (1992-1995), 115 holes (1996), occupied (1997-1998), 100 holes (1999), occupied (2000-2002), note: colony observed already in 1977 by KUČERA in KOTLABA (1980)

- Třebeč – sandpit, 465 m a.s.l., 48.52N, 14.41E; occupied (1992), 178 holes (1993), 400 holes (1994), 884 holes (1995), 489 holes (1996), 182 holes (1997), 289 holes (1998), 485 holes (1999), 476 holes (2000), 166 holes (2001), 237 holes (2002), 389 holes (2003), 493 holes (2004), 193 holes (2005)
- Vrábče – sandpit, 500 m a.s.l., 48.55N, 14.24E; 71 holes (1993), 65 unoccupied holes (1994), 60 unoccupied holes (1995), 45 unoccupied holes (1996), 38 unoccupied holes (1997), 32 unoccupied holes (1998), 21 unoccupied holes (1999), unoccupied (2000), no bank available (2001 and later)
- Vrábče (soukromá) – sandpit, 502 m a.s.l., 48.55N, 14.23E; occupied (1992), 11 holes (1993), unoccupied (1994-1996), 6 holes (1997), unoccupied (1998), 13 holes (1999), unoccupied (2000-2005)
- Záblatíčko – sandpit, 407 m a.s.l., 49.08N, 14.15E; occupied (1995), 81 holes (1996), 63 holes (1997), 11 holes (1998), 131 holes (1999), 63 holes (2000), 9 holes (2001), 21 holes (2002), 6 unoccupied holes (2003-2004), unoccupied (2005), note: traditionally occupied locality (KLOUBEC & KLIMEŠ 1995)
- Zahorčice 125 – sandpit, 500 m a.s.l., 48.55N, 14.24E; 18 holes (1995), 10 holes (1996), 8 unoccupied holes (1997-1999), unoccupied (2000-2005)
- Zahorčice 175 – heap of soil, 500 m a.s.l., 48.55N, 14.24E; 3 holes (1995), no bank available (1996 and later)

other localities not confirmed during the monitoring:

České Budějovice (building ground of the housing estate Máj) – trenches – nesting in 1983 (BOHÁČ in HENEBERG 2006)

#### district Český Krumlov

- Domoradice – heap of sand, 520 m a.s.l., 48.50N, 14.20E; no bank available (1992-2005)
- Chvalšiny – slope, 620 m a.s.l., 48.51N, 14.12E; 7 holes (1995), no bank available (1996-2005)
- Kaplice – heap of scoria, 537 m a.s.l., 48.44N, 14.29E; 20 holes (1994), unoccupied (1995-1996), no bank available (1997-2005)
- Kaplice – heap of gravelsand, 537 m a.s.l., 48.44N, 14.29E; 40 holes (1993), unoccupied (1994-1996), no bank available (1997-2005)
- Nesměň – sandpit, 545 m a.s.l., 48.48N, 14.32E; occupied (1993)
- Staré Dobrkovice – sandpit, 490 m a.s.l., 48.49N, 14.17E; occupied (1994), 16 holes (1995), unoccupied (1996), no bank available (1997-2005)

#### district Děčín

other localities not confirmed during the monitoring:

- Děčín (claypit), Františkov, Benešov, Vilsnice, Rozbělesy (sandpit) – nesting in 1929 and before (MICHEL 1929)
- Děčín – drainage pipes in the dyke of a railroad in Děčín-main train station – nesting in 1929 and before (MICHEL 1929)
- Děčín and Markvartice – nesting at turn of 20th and 30th years (PRINZ 1932)
- Dobkovice – sandpit – 14 pairs in 1980, 17 holes/14 pairs in 1982, 3 pairs in 1983, filled with the garbage in 1984 (J. MAREK in VONDRÁČEK & ŠUTERA 1992)
- Velké Bukoviny – sandpit – 50 pairs in 1982, 8 pairs in 1986, recultivated in 1987 (J. MAREK in VONDRÁČEK & ŠUTERA 1992)
- Vilsnice – road dyke – 9 pairs in 1991 (BERANOVÁ et al. 1999)
- Vilsnice – drainage pipes in the dyke of a road Ústí nad Labem-Děčín – 3 pairs in 1990 (VONDRÁČEK & ŠUTERA 1992)

#### district Havlíčkův Brod

- Budeč – sandpit, 402 m a.s.l., 49.50N, 15.13E; 20 holes (1999), 6 holes (2000)

#### district Hodonín

- Bzenec-přívov (south) – sandpit, 182 m a.s.l., 48.55N, 17.16E; 1400 holes (1999), 880 holes (2000), 280 holes (2001), 780 holes (2003), **1500 holes** (2004), note: 1200 holes in 1985 (HORAL in MARTIŠKO et al. 1997), 400-600 pairs in 1992 (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997), 1300 pairs in 1994 (ZANÁT in MARTIŠKO et al. 1997)



Bzenec-přívov (north) – sandpit, 182 m a.s.l., 48.57N, 17.18E; 720 holes (1999), 455 holes (2000), **1150 holes** (2001), 610 holes (2003), 960 holes (2004), note: 890 holes in 1985 (HORAL in MARTIŠKO et al. 1997)

Bzenec-Přívov to Rohatec, river Morava – river bank, 165 m a.s.l., 48.55N, 17.17E; 120 holes (1999), 290 holes (2000), 30 holes (2001), 265 holes (2003), 35 holes (2004), note: few breeding colonies with up to 100-150 pairs in 1992, total number of pairs in 1992 about few hundreds (MARTIŠKO & REJMANOVÁ in MARTIŠKO et al. 1997)

Čejč – sandpit, 165 m a.s.l., 48.57N, 16.58E; 280 holes (1999), unoccupied (2000)

Čejč (Čejčské jezero) – bank of a channel, 183 m a.s.l., 48.57N, 16.58E; 12 pairs (2003), 6 pairs (2004)

Čejkovice, trať Hájek – claypit, 208 m a.s.l., 48.54N, 16.56E; occupied (2002), 8 pairs (2003), unoccupied (2004)

Čejkovice (Chobot) – claypit, 48.54N, 16.56E; 160 holes (1999), unoccupied (2000)

Dubňany (Jarohněvický pond) – pond island, 200 m a.s.l., 48.56N, 17.03E; 25 holes (2004)

Hodonín – claypit, 167 m a.s.l., 48.52N, 17.08E; 100 holes (2000), 6 holes (2003)

Hodonín (EHO) – ashdump, 167 m a.s.l., 48.52N, 17.08E; 15 holes (2003), 50 holes (2004), note: 700-2000 pairs in 1988 (ŠIMEČEK & ZAŇÁT in MARTIŠKO et al. 1997)

Hovorany, trať Louky – sandpit, 193 m a.s.l., 48.57N, 16.59E; 190 pairs (2003), 90 pairs (2004)

Mistřín – sandpit, 175 m a.s.l., 48.58N, 17.05E; 530 holes (1999), 260 holes (2000), 200 holes (2001)

Moravský Písek – sandpit, 177 m a.s.l., 48.59N, 17.20E; occupied (1992-1999), 56 holes (2000)

Mutěnice (skládky TKO Hraničky) – claypit, 183 m a.s.l., 48.55N, 17.01E; 40 pairs (2003), unoccupied (2004)

Mutěnice (fishpond Třetí Zbrod) – pond island, 175 m a.s.l., 48.55N, 17.01E; 175 holes (1999), 140 holes (2000), 20 holes (2003), 30 holes (2004)

Pánov u Hodonína – trenches at the military base, 175 m a.s.l., 48.53N, 17.08E; 90 holes (2000), note: ~120 pairs in 1994 (ZAŇÁT in MARTIŠKO et al. 1997)

Těmice – claypit, 180 m a.s.l., 49.00N, 17.15E; 920 holes (1999), **1085 holes** (2000), 420 holes (2001), 667 holes (2004)

Vlkoš – sandpit, 180 m a.s.l., 48.59N, 17.10E; 120 holes (1999), 62 holes (2000), 100 holes (2001)

Vracov – sandpit, 195 m a.s.l., 48.58N, 17.13E; 190 holes (1999), 142 holes (2000)

other localities not confirmed during the monitoring:

Čejkovice – slope (vineyard terraces) – 140 pairs at 4 nestplaces in 1994 (ZAŇÁT in MARTIŠKO et al. 1997)

Hovorany – slope (vineyard terraces) – 33 pairs in 1994 (ZAŇÁT in MARTIŠKO et al. 1997)

Jarohněvický fishpond – bank of a pond island – ~20 pairs in 1994 (ZAŇÁT in MARTIŠKO et al. 1997)

Mutěnice – slope – 100-120 pairs in 1988 (ZAŇÁT in MARTIŠKO et al. 1997)

Skoronice – sandpit – ~200 pairs (ŠIMEČEK in MARTIŠKO et al. 1997)

Strážnické Pomoraví (PP Osýpané břehy) – riverbank – breeding (KOUPILOV 2004)

Šardice – trench for the house foundations – 140 holes in 1994 (ZAŇÁT in MARTIŠKO et al. 1997)

### district Hradec Králové

Běleč nad Orlicí – sandpit, 240 m a.s.l., 50.12N, 15.56E; 31 holes (2004), 111 holes (2005)

Kosičky 1 – sandpit, 229 m a.s.l., 50.10N, 15.34E; occupied (1992-1997), 37 holes (1998), 30 holes (1999), 80 holes (2000), 6 holes (2001), unoccupied (2003), 443 holes (2004), 110 holes (2005)

Obědovice – Kratonohy – sandpit, 236 m a.s.l., 50.10N, 15.35E; 150 holes (2000), 314 holes (2001), 257 holes (2003), 674 holes (2004), **1567 holes** (2005), note: 485 holes in 1979 (PRŮCHOVÁ 1980)

Pamětník – sandpit, 217 m a.s.l., 50.07N, 15.28E; occupied (1992-1998), 150 holes (1999), 10 holes (2000), 26 holes (2001), 845 holes (2005)

Písek – sandpit, 227 m a.s.l., 50.10N, 15.31E; occupied (1997-1998), 20 holes (1999), 2600 holes (2000), 536 holes (2001), 592 holes (2003), 491 holes (2004), 705 holes (2005)

Písek – trench in the area of a sandpit, 227 m a.s.l., 50.10N, 15.31E; occurred in 2004/05, 27 holes (2005)

Roudnice 2 – sandpit, 235 m a.s.l., 50.10N, 15.38E; unoccupied (1997), 50 holes (1998), 50 holes (1999), 150 holes (2000), 42 holes (2001), 5 holes (2003), 275 holes (2004), 142 holes (2005)

Roudnice – Kratonohy – sandpit, 235 m a.s.l., 50.10N, 15.38E; 50 holes (2003), 18 holes (2004), unoccupied (2005)

Smiřice nad Labem – sandpit, 240 m a.s.l., 50.18N, 15.53E; 20 holes (2000), 42 holes (2003), 15 holes (2004), 20 holes (2005)

Třebechovice pod Orebem (Křmovice) – sandpit, 240 m a.s.l., 50.11N, 15.58E; 70 holes (1999), unoccupied (2005)

Třebechovice pod Orebem (Krňovice to Stenkov), river Orlice – river bank, 238 m a.s.l., 50.12N, 15.58E; occupied (1992-2003), 20 holes (2004)

other localities not confirmed during the monitoring:

Dobřenice – slope – 285 holes in 1979 (PRŮCHOVÁ 1980)

Káranice – sandpit – 220 holes in 1979 (PRŮCHOVÁ 1980)

Roudnice – sandpit – 550 holes in 1979 (PRŮCHOVÁ 1980)

Smiřice – sandpit – breeding in an artificially renewed breeding bank (STOJAN 2005)

#### **district Cheb**

Dřenice – sandpit, 465 m a.s.l., 50.04N, 12.26E; 300 holes (1998), **1022 holes** (1999), 1000 holes (2000), 786 holes (2001), 410 holes (2002), 239 holes (2003), 536 holes (2004)

Dřenice II. – sandpit, 465 m a.s.l., 50.04N, 12.26E; no bank available (1992-1999), 800 holes (2000), 320 holes (2002), 820 holes (2003)

Obilná – sandpit, 440 m a.s.l., 50.06N, 12.28E; 150 holes (1998), 492 holes (1999), 380 holes (2000), 560 holes (2001), 242 holes (2003), 78 holes (2004), 272 holes (2005)

Skalka – sandpit, 463 m a.s.l., 50.05N, 12.19E; 10 holes (1998), note: occupied in 1977 (M. MATTAS in ŠEDO 1979)

Skalná (excavation Nová Ves II.) – claypit, 460 m a.s.l., 50.10N, 12.24E; 200 holes (1998), 243 holes (1999), unoccupied (2000-2001), 160 holes (2002), 647 holes (2003)

other localities not confirmed during the monitoring:

Milíkov – sandpit – 1 pair at 5.6.1978 (D. JÄGER in ŠEDO 1980)

Pomezná – sandpit – tens of breeding pairs in 1992 (JR, ZV & J. MAŘIK in TĚŽÁL 1993)

Suchá – ~5 pairs in 1992 (ZV & P. KOLMAN in TĚŽÁL 1993)

#### **district Chomutov**

Chbany – gravelsandpit, 283 m a.s.l., 50.20N, 13.26E; 10 holes (1999), 836 holes (2004), 600 holes (2005)

other localities not confirmed during the monitoring:

Čermníky u Chomutova – nesting in 20th/30th years (NÄHRING 1932)

Čachovice – nesting in 30th years (LIPSER 1937 in VONDRÁČEK & ŠUTERA 1992)

#### **district Chrudim**

Poděčely u Chroustovic (Beziny) – gravelsandpit, 274 m a.s.l., 49.57N, 16.01E; 91 holes (1999), 41 holes (2001), unoccupied (2003), note: breeding in 1988 (CIBULKA in LEMBERK 2001), ~100 holes in 1995, 170 holes in 1996 (MRLÍKOVÁ 1996)

other localities not confirmed during the monitoring:

lower reaches of river Chrudimka – river bank – breeding in 19th century (MIKURA in LEMBERK 2001)

Hrochův Týnec – claypit – breeding in 1991 (CIBULKA in LEMBERK 2001), 100 holes in 1995, 30 holes in 1996 (MRLÍKOVÁ 1996)

Kostelec u Heřmanova Městce – sandpit – ~130 holes in 1989-1992 (LEMBERK 2001), 50 holes in 1995, 215 holes in 1996 (MRLÍKOVÁ 1996)

Luže (river Novohradka) – river bank – 12 holes in 1999 (LEMBERK 2001)

Městec u Chroustovic – sandpit – ~50 holes in 1997, ~25-30 holes in 1998-1999 (LEMBERK 2001)

Přestavky – sandpit – 50 holes in 1995, unoccupied in 1996 (MRLÍKOVÁ 1996)

Rabštejnská Lhota – sandpit – ~20 holes in 1989 (first year of nesting on this locality – LEMBERK 2001), 10 holes in 1995, 120 holes in 1996 (MRLÍKOVÁ 1996), 30 holes in 1997 (BARTA 2000)

Skuteč – 6 pairs in 1976, later disappeared (HARANT 1980)

Tuněchody – breeding in 1988-1989 (CIBULKA in LEMBERK 2001)

Úhřetická Lhota (river Novohradka) – river bank – 10 holes in 1995, 3 holes in 1996 (MRLÍKOVÁ 1996)

Úhřetická Lhota (river Chrudimka) – river bank – 20 holes in 1979 (PRŮCHOVÁ 1980), 15 holes in 1998 (LEMBERK 2001)

Zalazany – sandpit – breeding in 1988-1989 (CIBULKA in LEMBERK 2001), ~200-250 holes in 1990-1994 (LEMBERK 2001), 30 holes in 1995, unoccupied in 1996 (MRLÍKOVÁ 1996), unoccupied in 1997-2000 (LEMBERK 2001)

Zderaz – breeding in 1983 (CIBULKA in LEMBERK 2001)

**district Jeseník**

Kolnovice (by the way to Terezín) – sandpit, 340 m a.s.l., 50.19N, 17.19E; 40 holes (1999), no bank available (2005), note: first breeding probably in 1990 – 30 holes (GÁBA & TUŠA 1991)

Supíkovice (lower-located parts of the village) – gravelsandpit, 407 m a.s.l., 50.18N, 17.15E; 50 holes (1999), 24 holes (2000), 6 holes (2001), 34 holes (2003), no bank available (2005), note: gravelsandpit opened in 1982, sand martins present immediately in 1982; breeding irregularly since that time, 100 holes in 1990 (GÁBA & TUŠA 1991)

Velké Kunětice – sandpit, 340 m a.s.l., 50.18N, 17.16E; 10 holes (2005)

other localities not confirmed during the monitoring:

Vidnava – gravelsandpit – breeding irregularly since 1965, in late 1980s incl. 1990 regularly few tens of pairs (GÁBA & TUŠA 1991)

**district Jičín**

other localities not confirmed during the monitoring:

Hrdloňovice – sandpit – "traditionally occupied", 50 occupied holes in 1997 (MRKÁČEK 2000)

Kamenice – sandpit – 250-300 pairs in early 80th years, 56 pairs in 1986, 34 pairs in 1987 (PRŮCHOVÁ 1988)

Ryj u Sobotky – breeding in 1960 (SAMŠIŇÁK in MRKÁČEK 2000)

**district Jihlava**

other localities not confirmed during the monitoring:

Jihlava-Pávov – heap of sand – 4 pairs in 1980 (SLAVÍK 1982)

**district Jindřichův Hradec**

Bor – sandpit, 480 m a.s.l., 48.53N, 14.49E; occupied (1994-1995), 340 holes (1996), 501 holes (1997), 122 holes (1998), 39 holes (1999), 3 holes (2000), 5 holes (2001), 5 holes (2002), unoccupied (2003-2005)

Branná – heap of peat, 442 m a.s.l., 48.58N, 14.46E; occurred in 1992/93, occupied (1993), mucked (1993/94)

Cep II. – sandpit, 454 m a.s.l., 48.55N, 14.52E; occupied (1995), 498 holes (1996), occupied (1997-1998), **1030 holes** (1999), 635 holes (2000), 500 holes (2001), 521 holes (2002), 650 holes (2003), unoccupied (2004-2005)

Cep II. (erosion furrow more far from Suchdol) – erosion furrow, 454 m a.s.l., 48.55N, 14.52E; 17 holes (1996), no bank available (1997 and later)

Cep II. (erosion furrow more close to Suchdol) – erosion furrow, 454 m a.s.l., 48.55N, 14.52E; 22 holes (1996), no bank available (1997 and later)

Františkov – heap of top soil, 458 m a.s.l., 48.54N, 14.56E; no bank available (1992-1995), occupied (2003), 6 holes (2004), 4 unoccupied holes (2005)

Hlavatecký fishpond – bank of the pond island, 49.05N, 14.43E; 4 pairs (2002)

Horní Žďár – sandpit, 460 m a.s.l., 49.07N, 15.00E; 25 holes (1998), 4 holes (1999), unoccupied (2000-2002)

Hrdlořezy – peat mine, 473 m a.s.l., 48.51N, 14.51E; no bank available (1992-2005)

Jindřichův Hradec (čistička) – sandpit, 470 m a.s.l., 49.08N, 15.01E; 390 holes (1998), 26 holes (1999), 38 holes (2000), 56 holes (2001), 31 holes (2002), 43 holes (2003), 25 holes (2004), 95 holes (2005)

Jindřichův Hradec (JHTrans) – trench, 470 m a.s.l., 49.08N, 15.01E; occurred in 2004/05, 45 holes (2005)

Jindřiš – sandpit, 475 m a.s.l., 49.09N, 15.04E; 15 holes (1998), 33 holes (1999), 26 holes (2000), 12 holes (2001), unoccupied (2002-2003), no bank available (2004-2005)

Jindřiš – trench for the house foundation, 478 m a.s.l., 49.09N, 15.04E; occurred in 1998/99, 11 holes (1999), landed up due to the end of construction work (1999/2000)

Kardašova Řečice – sandpit, 440 m a.s.l., 49.10N, 14.50E; 25 holes (1996), 1 hole (1997), 14 holes (1998), 45 holes (1999), 130 holes (2000), 6 holes (2001), 82 holes (2002), 53 holes (2003), 65 holes (2004), no bank available (2005)

Kardašova Řečice – trench, 440 m a.s.l., 49.10N, 14.50E; occurred in 1998/99, 141 holes (1999), landed up (1999/2000)

- Kardašova Řečice – heap of top soil, 440 m a.s.l., 49.10N, 14.50E; occurred in 1999/2000, 10 holes (2000), 134 holes (2001), 12 holes (2002), unoccupied (2003), no bank available (2004 and later)
- Klenov u Kardašovy Řečice – sandpit 468 m a.s.l., 49.12N, 14.53E; 70 holes (1996), 12 holes (1997), 342 holes (1998), 250 holes (1999), 217 holes (2000), 24 holes (2001), 87 holes (2002), unoccupied (2003), 5 holes (2004), unoccupied (2005)
- Klenov u Kardašovy Řečice – heap of top soil, 468 m a.s.l., 49.12N, 14.53E; occurred in 1997/98, 26 holes (1998), 20 holes (1999), no bank available (2000 and later)
- Lomnice nad Lomnicí – pískovna, 438 m a.s.l., 49.05N, 14.43E; occupied (1992), no bank available (1993 and later)
- Mazelov – sandpit, 435 m a.s.l., 49.06N, 14.40E; 366 holes (1992), unoccupied (1993-2003)
- Nová Ves nad Lužnicí (feldspar deposit) – sandpit, 472 m a.s.l., 49.49N, 14.57E; 65 holes (1996), 60 holes (1997), 166 holes (1998), 144 holes (1999), 87 holes (2000), 10 holes (2001), 88 holes (2002), unoccupied (2003), no bank available (2004-2005)
- Nová Ves nad Lužnicí (sand deposit) – sandpit, 472 m a.s.l., 49.49N, 14.57E; occupied (1994-1995), 155 holes (1996), 30 holes (1997), 28 holes (1998), 30 holes (1999), unoccupied (2000-2005)
- Plavsko – sandpit, 464 m a.s.l., 49.04N, 14.53E; occurred in 1997/98, unoccupied (1998-1999), 17 holes (2000), unoccupied (2003)
- Slavošovice-Borky – sandpit, 470 m a.s.l., 48.58N, 14.40E; occupied (1992-1994), 90 holes (1995), 139 holes (1996), unoccupied (1997-1998), 12 holes (1999), 12 holes (2000), 7 holes (2001), 3 holes (2002), unoccupied (2003-2005)
- Stráž nad Nežárkou – sandpit, 440 m a.s.l., 49.04N, 14.53E; unoccupied (1994-2005)
- Suchdol – erosion furrow, 456 m a.s.l., 48.54N, 14.53E; occurred in 1995/96, 16 holes (1996), no bank available (1997 and later)
- Suchdol – sandpit, 455 m a.s.l., 48.54N, 14.54E; occupied (1992-1994), 250 holes (1995), 40 holes (1996), 12 holes (1997), 12 holes (1998), 12 holes (1999), unoccupied (2000-2002), no bank available (2003-2005)
- Tušť I. – sandpit, 456 m a.s.l., 48.52N, 14.54E; 358 holes (1996), 350 holes (1998), no bank available (1998-2005)
- Velký Ratmírov – sandpit, 530 m a.s.l., 49.11N, 14.56E; occupied (1992-1997), 11 holes (1998), 45 holes (1999), 231 holes (2000), 514 holes (2001), 582 holes (2002), 353 holes (2003), 304 holes (2004), 226 holes (2005)

other localities not confirmed during the monitoring:

Frahelž – sandpit – large colony in 1967 (TRPÁK 1967)

#### **district Karlovy Vary**

Čankov – sandpit, 418 m a.s.l., 50.16N, 12.51E; 15 holes (1994), 15 holes (1995)

other localities not confirmed during the monitoring:

Nejda – heap of sand – occupied in 1981-1983 (KLABNÍK in RUCKÝ in litt.)

Ostrov – heap of sand – 10 pairs in 1981 (Těťál in Šedo 1982), 17 pairs in 1982 (KLABNÍK in ŠEDO 1983)

#### **district Karviná**

Bohumín township (border meanders of river Odra) – river bank, 198 m a.s.l., 49.55N, 18.19E; 300 holes (2005), note: nesting of sand martins in border meanders of river Odra in 2003 mentioned in OBRDLÍK et al. (2003)

Dolní Lutyně – sandpit, 217 m a.s.l., 49.54N, 18.26E; 500 holes (2005)

Pudlov – gravelsandpit, 201 m a.s.l., 49.53N, 18.19E; 1 hole (2003)

other localities not confirmed during the monitoring:

Albrechtice u Karviné (river Stonávka) – riverbank – 15 holes in 1963 (HUDEC et al. 1966)

Karviná (Louky nad Olší) – gravelsandpit – breeding from 1930s at least up to 1960 (HUDEC et al. 1966)  
river Olše before confluence with Odra – riverbank – starting nesting in 1930s, part of the banks recultivated in 1930s, in the rest of them sand martins were recorded up to 1961 - 28 holes in 1958 close to Skřečůň, 23 holes in 1959 close to Skřečůň, 13 holes in 1961 close to Rychvald (HUDEC et al. 1966)

Stonava – gravelsandpit – 50 holes (VALOŠEK in HUDEC et al. 1966)

Vrbice (river Odra) – riverbank – 58 holes in 1951 (HUDEC et al. 1966)

**district Kladno**

Černuc II. – gravelsandpit, 192 m a.s.l., 50.19N, 14.13E; 370 holes (2000), occupied (2001), 1138 holes (2002), 1234 holes (2003), **1840 holes** (2004), 723 holes (2005)

Uhy – gravelsandpit, 199 m a.s.l., 50.16N, 14.18E; 100 holes (2004), 300 holes (2005)

**district Klatovy**

Beňovy u Klatov – sandpit, 403 m a.s.l., 49.23N, 13.15E; 10 holes (2005)

Číhaň – sandpit, 650 m a.s.l., 49.21N, 13.25E; 60 holes (2000)

Makov – sandpit, 430 m a.s.l., 49.27N, 13.23E; 10 holes (1997), unoccupied (1998), no bank available (1999 and later), note: 20 partially occupied holes in 1992 (RC in TĚTÁL 1993)

other localities not confirmed during the monitoring:

Ložná – septic tank – 15 to 20 pairs in 1977 (O. VÝRUT in ŠEDO 1979)

Pačejov (railway station) – slope – occupied "earlier" (VANĚČEK 1975)

**district Kolín**

Červené Pečky – sandpit, 247 m a.s.l., 49.57N, 15.12E; unoccupied (1998-2002)

Český Brod – sandpit, 230 m a.s.l., 50.04N, 14.52E; 18 holes (2000)

Hradištko I. – sandpit, 195 m a.s.l., 50.03N, 15.11E; 100 holes (1999), 88 holes (2000), 393 holes (2001)

Chotouň – sandpit, 245 m a.s.l., 50.03N, 14.57E; 497 holes (1999), 660 holes (2000), 336 holes (2001), **1091 holes** (2005)

Chotutice – sandpit, 207 m a.s.l., 50.05N, 14.58E; 34 holes (1999), 68 holes (2000), 30 holes (2001), no bank available (2005)

Kachní Louže u Radlic – sandpit, 363 m a.s.l., 49.56N, 14.57E; 10 holes (1999)

Klučov – sandpit, 207 m a.s.l., 50.06N, 14.54E; 5 holes (1999), 30 holes (2000), 15 holes (2001), 18 unoccupied holes (2005)

Kolín – sandpit, 201 m a.s.l., 50.01N, 15.12E; unoccupied (1999), 68 holes (2000), 10 holes (2001)

Kouřim – slope, 268 m a.s.l., 50.00N, 14.59E; 60 holes (1999), 50 holes (2000), 86 holes (2001)

Poříčany – sandpit, 230 m a.s.l., 50.06N, 14.56E; 15 holes (1998), 143 holes (1999), 249 holes (2000), 508 holes (2001), 318 holes (2005)

Radim – sandpit, 205 m a.s.l., 50.04N, 15.01E; 58 holes (1999), 34 holes (2000), no bank available (2005)

Skramníky – sandpit, 226 m a.s.l., 50.05N, 14.57E; 3 holes (1999), 647 holes (2000), 931 holes (2001), 221 holes (2005)

Starý Kolín – sandpit, 202 m a.s.l., 50.01N, 15.18E; 13 holes (1999), 43 holes (2000), 21 holes (2001), note: breeding in late 80th years (ŠKAPA in JEŘÁBKOVÁ & HENEBERG 2001)

Uhlířská Lhota – sandpit, 235 m a.s.l., 50.05N, 14.23E; 10 holes (1999), no bank available (2004-2005)

Veltruby – sandpit, 190 m a.s.l., 50.04N, 15.11E; no bank available (1992-1998), 127 holes (1999), 193 holes (2000), 340 holes (2001), unoccupied (2003), 10 holes (2004), note: 10 holes in 1983 (BENEŠ in JEŘÁBKOVÁ & HENEBERG 2001), 13 holes in 1986 (JEŘÁBEK in JEŘÁBKOVÁ & HENEBERG 2001)

Vítězov – sandpit, 238 m a.s.l., 50.03N, 15.07E; no bank available (1992-1997), unoccupied (1998), 271 holes (1999), 368 holes (2000), 221 holes (2001), note: 120 holes in 1983 (DVOŘÁK in JEŘÁBKOVÁ & HENEBERG 2001), 350 holes in 1989 (POMYKAL in JEŘÁBKOVÁ & HENEBERG 2001)

Vrbová Lhota – sandpit, 188 m a.s.l., 50.06N, 15.04E; 205 holes (2000), 68 holes (2001), unoccupied (2002)

Zárybník u Klášterní Skalice – sandpit, 250 m a.s.l., 50.01N, 14.29E; 175 holes (1999), 268 holes (2000), 48 holes (2001), note: 5 holes in 1983, 170 holes in 1984, 70 holes in 1985, 50 holes in 1987, 120 holes in 1989 (FOLTÝN & POMYKAL in JEŘÁBKOVÁ & HENEBERG 2001)

other localities not confirmed during the monitoring:

Cerhenice – sandpit – ~100 pairs in years 1985-1987 (DVOŘÁK in JEŘÁBKOVÁ & HENEBERG 2001), unoccupied in 1999 (own observation); occupied colony in the remaining bank of the almost recultivated sandpit (RRA Střední ČECHY 2004)

Jelen (Konárovice) – sandpit – 200 holes in 1983, 15 pairs in 1984 (BENEŠ in JEŘÁBKOVÁ & HENEBERG 2001), 40 pairs in 1985 (FOLTÝN in JEŘÁBKOVÁ & HENEBERG 2001), no bank available in 1999-2005 (own observation)

Ohře – sandpit – 80 holes in 1986 (FOLTÝN in JEŘÁBKOVÁ & HENEGER 2001), no bank available in 1999-2005 (own observation)

Týnec nad Labem – heap of top soil – 10 holes in 1983 (DVOŘÁK in JEŘÁBKOVÁ & HENEGER 2001), no bank available in 1999-2005 (own observation)

Veltruby – trench – 15 holes in 1990 (JEŘÁBEK in JEŘÁBKOVÁ & HENEGER 2001), no bank available in 1992-2005 (own observation)

#### **district Kroměříž**

Hulín – sandpit, 181 m a.s.l., 49.18N, 17.28E; 50 holes (1997)

#### **district Kutná Hora**

Buda – slope, 373 m a.s.l., 49.44N, 15.07E; 76 holes (1998), 15 holes (1999), unoccupied (2000), 4 holes (2001), unoccupied (2002-2003), no bank available (2004-2005)

Buda (close to the railway station Horka nad Sázavou) – sandpit, 350 m a.s.l., 49.44N, 15.08E; occupied (1998), unoccupied (1999), 34 holes (2000)

Chotusice 5 – sandpit, 222 m a.s.l., 49.58N, 15.24E; 26 holes (1997), 3 unoccupied holes (2005)

Žehušice (skládká SÚS) – slope, 212 m a.s.l., 49.58N, 15.25E; 13 holes (2000)

#### **district Liberec**

Horní Řasnice – gravelsandpit, 410 m a.s.l., 50.58N, 15.12E; 19 holes (1999), unoccupied (2000-2001), note: 30 pairs in 1987, occupied in 1989 (VONDRÁČEK 1988 in VONDRÁČEK & ŠUTERA 1992)

Václavice 1 – sandpit, 310 m a.s.l., 50.51N, 14.53E; 50 holes (1997), unoccupied (1998), 22 holes (1999), unoccupied (2001)

Václavice 2 – sandpit, 310 m a.s.l., 50.51N, 14.53E; 12 holes (1999), unoccupied (2001)

Višňová (river Smědá) – river bank, 228 m a.s.l., 50.59N, 15.02E; occupied (1992-2000), 200 holes (2001), unoccupied (2003-2004)

other localities not confirmed during the monitoring:

Černousy – 30-40 pairs in 1914 (KNESCHE & SCHUBERT in VONDRÁČEK & ŠUTERA 1992)

Černousy (river Smědá) – river bank – 20 pairs in 1989 and 1990 (VONDRÁČEK & ŠUTERA 1992)

Horní Řasnice – 6 pairs in 1927 (PAX 1932)

Příšovice – 10 pairs in the newly-emerging gravelsandpit in early 1970s (POJKAR 1973 in MRKÁČEK 2000); large colony up to 1977, when 50 holes in 3 subcolonies were present, 1978 100 occupied holes, 1982 20 occupied holes only (ŠIFTA in MRKÁČEK 2000)

Předlánc – 80 pairs in 1914 (KNESCHE & SCHUBERT in VONDRÁČEK & ŠUTERA 1992)

Raspenava – sandpit – small colony in 1985 and 1986, sandpit filled with a garbage in 1987 (A. TOMAN in VONDRÁČEK & ŠUTERA 1992)

Větrov – 10 pairs in 1914 (KNESCHE & SCHUBERT in VONDRÁČEK & ŠUTERA 1992)

#### **district Litoměřice**

other localities not confirmed during the monitoring:

Doksany (river Ohře) – river bank – two colonies about 50 pairs up to 1959 (FLASAR & FLASAROVÁ in VONDRÁČEK & ŠUTERA 1992)

Hrdla – breeding in 1950s (BITTER 1955); 5-15 pairs in 1972-1975 (J. KOSTKAN in VONDRÁČEK & ŠUTERA 1992)

Křesín – sandpit close to the river Ohře – 30 pairs in 1981 (M. MORAVEC in VONDRÁČEK & ŠUTERA 1992)

Křešice and Libotenice – breeding in 30th years of the 20th Century (STEINBACH 1937)

Libochovany – breeding in 1930s (STEPHAN in VONDRÁČEK & ŠUTERA 1992); breeding (BERANOVÁ et al. 1999)

Lovosice – colony up to 1935 (ZÖRNER 1938)

Lovosice (train station Lovosice-město) – clayey slope – 40 pairs in 1951-1961 (J. VONDRÁČEK in VONDRÁČEK & ŠUTERA 1992)

Nové Kopisty – breeding colony in late 19th Century (ANKERT 1896)

Terežín – breeding in fort walls in late 19<sup>th</sup> century (ANKERT 1896), and on the turn of 19<sup>th</sup> and 20<sup>th</sup> century (PEITER 1910)

Trávčice – sandpit – 50 to 80 pairs in 1972-1975 (J. KOSTKAN in VONDRÁČEK & ŠUTERA 1992); 60 pairs (VONDRÁČEK & ŠUTERA 1992)

- Velké Žernoseky – breeding in early 20<sup>th</sup> century (POHATSCHKA 1935); breeding (BERANOVÁ et al. 1999)  
 Velké Žernoseky – in 1963 occupied colony close to the football playground (VONDRÁČEK & ŠUTERA 1992)  
 Velké Žernoseky – 3 pairs in the connecting channel of the Velké Žernoseky sandpit in 1963 (VONDRÁČEK & ŠUTERA 1992)  
 Vražkov – sandpit – 70 pairs in 1990 (VONDRÁČEK & ŠUTERA 1992)

#### **district Litvínov**

- Dobříň – gravelsandpit, 155 m a.s.l., 50.26N, 14.19E; 1500 holes (1999), 940 holes (2002), 678 holes (2004), **1342 holes** (2005)  
 Předonín – erosion furrow, 169 m a.s.l., 50.26N, 14.20E; 88 holes (2002), unoccupied (2003), no bank available (2004-2005)  
 Předonín – sandpit, 169 m a.s.l., 50.26N, 14.20E; 80 holes (1999), 418 holes (2002), 309 holes (2003), 341 holes (2004)  
 Račíněves – sandpit, 227 m a.s.l., 50.22N, 14.14E; 736 holes (2002), 132 holes (2003), 854 holes (2004), 323 holes (2005)  
 Straškov – sandpit, 205 m a.s.l., 50.21N, 14.14E; 339 holes (2002), 458 holes (2003), 314 holes (2004), 143 holes (2005), note: 15 pairs in two colonies (35 and 20 holes) in 1990 (VONDRÁČEK & ŠUTERA 1992)

#### **district Louny**

- Břežany – sandpit, 223 m a.s.l., 50.21N, 13.27E; 20 holes (1999), note: 2 colonies with 200 holes (PLETICHA 1982)  
 Dětaň – kaolin pit, 294 m a.s.l., 50.11N, 13.18E; 10 holes (1999)  
 Chotěbudice – sandpit, 294 m a.s.l., 50.16N, 13.21E; 500 holes (1999), 280 holes (2002), 89 holes (2003)  
 Lišany – gravelsandpit, 194 m a.s.l., 50.21N, 13.38E; 181 holes (2004)  
 Měcholupy – sandpit, 253 m a.s.l., 50.15N, 13.38E; 7 holes (1997)  
 Nečichy (pod vrchem Červeňákem u Loun) – sandpit, 224 m a.s.l., 50.23N, 13.48E; 25 holes (2002), 52 holes (2004), note: 160 holes in 1978, occupied in 1979 (TICHÝ 1980), occupied in 1986 (TICHÝ et al. 1988 in VONDRÁČEK & ŠUTERA 1992)  
 Břežany-Soběsuky – sandpit, 265 m a.s.l., 50.21N, 13.26E; 150 holes (1999)  
 Stekník – slope, 205 m a.s.l., 50.19N, 13.37E; 2 holes (2004), note: referred as abandoned in TICHÝ & PLETICHA (1982)  
 Tvršice – claypit, 198 m a.s.l., 50.21N, 13.36E; 33 holes (1999), 11 unoccupied holes (2004)  
 Velká Černoc – sandpit, 338 m a.s.l., 50.13N, 13.35E; 20 holes (1999), 100 holes (2003), 137 holes (2004)

#### **other localities not confirmed during the monitoring:**

- Čeradice – occupied in 1986 (TICHÝ et al. 1988 in VONDRÁČEK & ŠUTERA 1992)  
 Černčice – trench with the depth about 60 cm – breeding on the turn of millenium (TICHÝ in litt.)  
 Černčice-Obora – sandpit – 70 pairs in 1974-1975, recultivated in 1977 (TICHÝ 1980)  
 Červený Hrádek – "former colony" (TICHÝ & PLETICHA 1982)  
 Lenešice (river Ohře) – river bank – occupied in 19th century (FRIČ 1872)  
 Lenešice (poultry farm) – sandpit – 35 pairs in 1975, recultivated in 1976 (TICHÝ 1980)  
 Lenešice – occupied in 1986 (TICHÝ et al. 1988 in VONDRÁČEK & ŠUTERA 1992)  
 Louny (river Ohře) – river bank – occupied in 19<sup>th</sup> century (FEYGEL 1885 in VONDRÁČEK & ŠUTERA 1992)  
 Nepomyšl – caoline pit – 8-10 pairs in 1988 (VONDRÁČEK 1989 in VONDRÁČEK & ŠUTERA 1992)  
 Obora (river Ohře) – river bank – occupied up to the regulation of riverbanks (TICHÝ 1979)  
 Stránky – occupied in early 80th years (PLETICHA 1982)  
 Stroupeč u Žatce – occupied in 1931 (NÄHRING 1932); occupied in 1984 (PLETICHA 1984)  
 Veltěže – sandpit – 10-15 pairs in 1967-1972, later filled with a garbage (TICHÝ 1980)  
 Veltěže (by a cementery) – sandpit – 15-20 pairs in 1977-1979 (TICHÝ 1980)  
 Žatec – "former colony" (TICHÝ & PLETICHA 1982)

#### **district Mělník**

- Hostín – gravelsandpit, 284 m a.s.l., 50.18N, 14.23E; no bank available (1992-1994), occupied (1998), 35 holes (1999), 50 holes (2000), 500 holes (2003), 650 holes (2004)

Konětopy – gravelsandpit, 181 m a.s.l., 50.16N, 14.39E; 100 holes (1999)  
 Ledčice – sandpit, 238 m a.s.l., 50.20N, 14.18E; **1474 holes** (2002), 359 holes (2003), 1056 holes (2004)  
 Nelahozeves – sandpit, 235 m a.s.l., 50.15N, 14.18E; no bank available (1992-1995), 500 holes (2003)  
 Nová Ves – gravelsandpit, 185 m a.s.l., 50.20N, 14.17E; occupied (2002), 720 holes (2003), **1524 holes** (2005)  
 Vliněves 1 – gravelsandpit, 164 m a.s.l., 50.22N, 14.26E; 50 holes (1999), 15 holes (2000), no bank available (2001-2005)  
 Vliněves 2 – heap of sand, 164 m a.s.l., 50.22N, 14.26E; 5 holes (1999), no bank available (2000-2005)  
 Vojkovice – heap of sand, 163 m a.s.l., 50.17N, 14.22E; 25 holes (1997), no bank available (1999-2005)

#### **district Mladá Boleslav**

Bakov nad Jizerou (Veselá) – sandpit, 223 m a.s.l., 50.29N, 14.57E; 2 holes (1999)  
 Obruby – sandpit, 255 m a.s.l., 50.28N, 15.06E; 400 holes (1999), 270 holes (2000), 650 holes (2001), note: 300 partially-occupied holes in 1992 (MRKÁČEK 2000)  
 Sojovice – sandpit, 180 m a.s.l., 50.14N, 14.46E; 250 holes (1999), 202 holes (2005)  
 Vlčava – sandpit, 205 m a.s.l., 50.16N, 14.58E; occupied (1995-1999), 500 holes (2000), occupied (2001-2003), 195 holes (2004)

other localities not confirmed during the monitoring:

Čížovky u Domousnic – sandpit – large colony (KVEREK 2004)  
 Kamenice – gravelsandpit – breeding since 1974; 90 occupied holes in 1978 (ŠIFTA & PELC in MRKÁČEK 2000); 350-400 holes in 1981 (BROULÍK in MRKÁČEK 2000); just 50 holes in 1984; 120 holes in 1982 in a new gravelsandpit nearby (ŠIFTA in MRKÁČEK 2000)  
 Mnichovo Hradiště (vicinity) – more abundant than barn swallow or house martin in 1925-1929, but this was not valid in 1990s (MRKÁČEK 2000)  
 Přepěře – heap of scoria – breeding in 1992 (MEDEK in MRKÁČEK 2000), 40 holes in 1995 (BROULÍK in MRKÁČEK 1992)  
 Přepěře (river Jizera) – river bank – 5-10 pairs temporarily in 1982 (ŠIFTA in MRKÁČEK 2000)  
 Žantov – sandpit – 104 holes in 1986 (PRŮCHOVÁ 1988)

#### **district Most**

Čepirohy (Hrabák) – brown coal open-cast mine, 293 m a.s.l., 50.29N, 13.34E; occupied (1995), 136 holes (1996)  
 Most (Ležáky) – brown coal open-cast mine, 233 m a.s.l., 50.30N, 13.38E; 100 holes (1998), note: occupied in 1995 (WEISSOVÁ in HENEKBERG 2006)

other localities not confirmed during the monitoring:

Havraň and Konobřez – probably breeding (J. ČERNÝ in VONDRÁČEK & ŠUTERA 1992)  
 Most and Vršany – two colonies in 1930s (GEPPERT in VONDRÁČEK & ŠUTERA 1992)  
 Vršany – open-cast brown coal mine – breeding in 2002 (CTIBOROVÁ 2003)  
 Pařidla – colony in 1970s (BÁRTA in VONDRÁČEK & ŠUTERA 1992)

#### **district Náchod**

Josefov – heap of crushed stone, 272 m a.s.l., 50.20N, 14.56E; no bank available (1992-2005), note: 190 holes (1990)

other localities not confirmed during the monitoring:

Česká Skalice – heap of soil – 14 pairs in 1980 and 1981 (KRECBACH 1983)

#### **district Nový Jičín**

Blahutovice – claypit, 293 m a.s.l., 49.35N, 17.53E; 70 holes (2004)  
 Kunín – claypit, 254 m a.s.l., 49.38N, 17.58E; 21 holes (2003)

other localities not confirmed during the monitoring:

Jistebník to Ostrava (river Odra) – riverbank – numerous colonies in 60th years (VELECKÝ in HUDEC et al. 1966)

#### **district Nymburk**

Doubrava – sandpit, 179 m a.s.l., 50.10N, 14.58E; occupied (2003), 30 holes (2004)  
 Loučeň – sandpit, 195 m a.s.l., 50.17N, 15.01E; occupied (1992-1998), 106 holes (1999), 150 holes (2000)



Sadská – sandpit, 185 m a.s.l., 50.08N, 14.59E; occupied (1996-1999), 20 holes (2000)

Straky – sandpit, 196 m a.s.l., 50.14N, 14.58E; 10 holes (2005)

#### **district Olomouc**

other localities not confirmed during the monitoring:

Olomouc – ashdump – 200 pairs in 1987-1992 (BOSÁK 1992)

#### **district Opava**

Bohuslavice – sandpit, 239 m a.s.l., 49.56N, 18.10E; 100 holes (1999)

Oldřišov – sandpit, 283 m a.s.l., 50.00N, 17.58E; 150 holes (1999)

Skrochovice – sandpit, 283 m a.s.l., 50.00N, 17.47E; occupied (1992-1997), 19 holes (1998), 55 holes (1999), 46 holes (2000), 32 holes (2001), 33 holes (2002), 15 holes (2003), no bank available (2004-2005)

other localities not confirmed during the monitoring:

Opava (river Opava) – riverbank – breeding colonies in late 19<sup>th</sup> century (RZEHAČ 1893 in HUDEC et al. 1966)

Opava-Palhanecská bašta – sandpit – numerous holes up to 1848, when disappeared due to sandpit recultivation (URBAN 1868 in HUDEC et al. 1966)

#### **district Ostrava**

Polanka nad Odrou (river Odra) – river bank, 230 m a.s.l., 49.47N, 18.11E; 30 holes (1999), 20 holes (2000), 70 holes (2001), 30 holes (2002)

other localities not confirmed during the monitoring:

Ostrava-Lhotka (river Odra) – riverbank – small colony (VELECKÝ in HUDEC et al. 1966)

Ostrava-Přívov (river Odra) – riverbank – 30 pairs in 1958 (VELECKÝ in HUDEC et al. 1966)

Ostrava-Vítkovice (river Odra) – riverbank – colony in 1850s (SCHWAB 1854 in HUDEC et al. 1966)

Ostrava-Výškovice (river Odra) – riverbank – numerous colonies every year (HOLLINGER 1948 in HUDEC 1966)

Ostrava-Zábřeh – sandpit – 200 holes in 20<sup>th</sup> years reported as a largest colony in the Ostrava region (MIKLÍK 1926-9 in HUDEC et al. 1966); breeding continued at least up to early 1960s; 60 pairs in 1961 (VELECKÝ in HUDEC et al. 1966)

Petřkovice – riverbank – breeding in 20<sup>th</sup> years of the 20<sup>th</sup> century (MIKLÍK 1926-9 in HUDEC et al. 1966); "larger colony" (Anonymus 1934); larger colony in 1933; 20 pairs in 1954 (HUDEC et al. 1966)

Petřkovice – sandpit – large colony up to 1939 (VELECKÝ in HUDEC et al. 1966)

Stará Bělá (Polanecký forest) – sandpit – 2 large colonies in 1959 (SVOBODA in HUDEC et al. 1966)

Studénka nad Odrou to Polanka nad Odrou (river Odra) – riverbank – colony in 1920s (MIKLÍK 1926-9 in HUDEC et al. 1966); numerous holes in 1948, no colony in 1949 (SVOBODA in HUDEC et al. 1966); few holes in 1963 (KONDĚLKA in HUDEC et al. 1966)

#### **district Pardubice**

Blato u Mikulovic – claypit, 239 m a.s.l., 49.59N, 15.46E; 45 holes (2000), 19 holes (2001), 7 holes (2003), no bank available (2005), note: ~50 holes in 2000 (LEMBERK 2001)

Bukovina nad Labem – ashdump, 250 m a.s.l., 50.07N, 15.49E; 180 holes (1999), 233 holes (2000), 360 holes (2001), 400 holes (2002), 310 holes (2003), 65 holes (2004), no bank available (2005), note: nesting in ashdumps in the vicinity of Bukovina and Opatovice in 1985-1996 confirmed by ČESÁK in HENEBERG (2006)

Čepí – claypit, 247 m a.s.l., 49.59N, 15.43E; 46 holes (2000), 56 holes (2003), 34 holes (2005)

Dříteč – ashdump, 225 m a.s.l., 50.06N, 15.49E; 216 holes (2003), 22 holes (2005), note: occupied in late 70<sup>th</sup> years (PRŮCHOVÁ 1980)

Chýšť – sandpit, 256 m a.s.l., 50.08N, 14.32E; 2 holes (2000), note: 80 holes in 1979 (PRŮCHOVÁ 1980)

Mělice – sandpit, 213 m a.s.l., 50.02N, 15.37E; 120 holes (1997), 8 holes (1998), 78 holes (2000), 2 holes (2001), 15 holes (2003), no bank available (2005), note: in two sandpits between Mělice and Lohenice 240 and 130 holes in 1979 (PRŮCHOVÁ 1980)

Neratov – sandpit, 231 m a.s.l., 50.05N, 15.39E; occupied (1992-1994), 12 holes (1995), unoccupied (1996-1997), 10 holes (1998), 10 holes (1999), 44 holes (2000), 50 holes (2001), unoccupied (2003)

Opatovice nad Labem – sandpit, 225 m a.s.l., 50.08N, 15.48E; 42 holes (2000)

- Ostřešany – sandpit, 231 m a.s.l., 50.00N, 15.49E; 120 holes (1997), 427 holes (1998), 209 holes (1999), 45 holes (2000), 206 holes (2001), 78 holes (2002), 45 holes (2003), 178 holes (2005)
- Pohřebačka – sandpit, 226 m a.s.l., 50.10N, 15.47E; unoccupied (1992-2000), no bank available (2001-2005)
- Rohovládova Bělá – sandpit, 265 m a.s.l., 50.06N, 15.36E; 18 holes (1997), 15 holes (1998), 15 holes (1999), 15 holes (2000), note: 30 holes in 1979 (PRŮCHOVÁ 1980)
- Rosice nad Labem – ashdump, 216 m a.s.l., 50.03N, 15.44E; 39 holes (2000), 397 holes (2003), 88 holes (2005)
- Slepotice – sandpit, 248 m a.s.l., 49.59N, 15.58E; 169 holes (2000), 207 holes (2002), 217 holes (2003), 173 holes (2004), 182 holes (2005), note: "numerous colony" in 1968 (NEVEČERÁL in LEMBERK 2001)
- Staré Ždánice (břeh u Lázní Bohdaneč) – sandpit, 220 m a.s.l., 50.06N, 15.44E; occupied (1995-1996), 120 holes (1997), 250 holes (1998), 200 holes (1999), 340 holes (2000), unoccupied (2001-2003), note: 3 colonies with 72, 60 and 137 holes in 1979 (PRŮCHOVÁ 1980); occupied in 1986-1987 (PRŮCHOVÁ 1988)
- Staré Ždánice (nová) – sandpit, 220 m a.s.l., 50.07N, 15.44E; 168 holes (2005)
- Turov – gravelsandpit, 248 m a.s.l., 49.59N, 16.00E; 32 holes (2002), unoccupied (2003)
- Veská – sandpit, 230 m a.s.l., 50.02N, 15.51E; 4 holes (1999), 11 holes (2000), no bank available (2001-2005)

other localities not confirmed during the monitoring:

- Bělešovice u Moravan – sandpit – 6 pairs in 1929 (MUSÍLEK 1946)
- Břehy u Přelouče – sandpit – 200 holes in 1979 (PRŮCHOVÁ 1980)
- Býšť-Bělečko – two sandpits – 27 and 60 holes in 1979 (PRŮCHOVÁ 1980)
- Hostovice – sandpit – 220 holes in 1979 (PRŮCHOVÁ 1980)
- Jankovice (village district Jankovice) – stream bank – colony since 1886; 12 holes/10 pairs in the eroded bank of a stream close to the mill in 1888 (LITOŠICKÝ 1888), destroyed in 1892 due to extreme floods (KNĚŽOUREK 1912)
- Jankovice (village district Seník) – clayey-sandy bank of the hollow way – 90 holes/60 pairs in 1888 (LITOŠICKÝ 1888), destroyed in 1892 due to extreme floods (KNĚŽOUREK 1912)
- Kostěnice (scrapheap) – heaps of scoria – 84 holes in 1979 (PRŮCHOVÁ 1980)
- Kunětická hora (Němčice) – breeding (PRŮCHOVÁ 1980)
- Kyselova skála – sandstone rock – 50 pairs in 1914 (MUSÍLEK 1946)
- Pardubice (building ground of the housing estate Dubina) – trenches – 184 holes in 1979 (PRŮCHOVÁ 1980)
- Slepotice – heap of sand – ~30-50 holes in 1995-1997 (LEMBERK 2001)
- Týništko – sandpit – breeding in 30th years (ADÁMEK 1939)
- Valy u Přelouče – sandpit – 460 holes in 1979 (PRŮCHOVÁ 1980)
- Voleč-Zeravice – sandpit – 60 holes partly destroyed by the rainstorm (PRŮCHOVÁ 1980)
- Zdechovice – few pairs in 1890 (MUSÍLEK 1946)
- Bělohávek (1885) noticed colonies in banks of river Labe close to Rosice, Kuněnice and "Pod Bažantnicí" and the other colonies in banks of river Chrudimka close to "Vinice"; their exact localization is unknown
- MUSÍLEK (1946) reported colonies by Pelechov (3 pairs in a hollow way close to Pelechov in 1890), "few pairs" in Zdechovice (1890), "few pairs" in Lhotka (1890), in riverbanks of Labe close to Opočínko in a "very high" numbers up to the regulation of Labe in 1908; similar colony in riverbanks of Labe close to Rosice present up to the Labe regulation, and another colonies in in Labe banks close to the swimming pools in Pardubice and on the way from Pardubice to Kuněnice, "few pairs" in a slope close to Ředický fishpond, "few pairs" in riverbanks of Chrudimka close to Nemošice (locality Jindřich), 10 pairs on Kunětická hora in 1913, 6 pairs in a sandpit close to Poběžovice, in 1920 was present a colony in a slope close to Živanice, since 1929 in a sandpit close to Bělešovice, 30 pairs in a sandpit close to Libišany, "few pairs" in a slope of a former pond Rozkoš close to Bohdaneč, 6 pairs in a sandpit in Opočínko, 50 pairs in a claypit Drozdice in 1938

**district Písek**

- Dobev – sandpit, 385 m a.s.l., 49.18N, 14.03E; occupied (1996), note: 25 holes in 1983 (BUREŠ et al. 1995)
- Heřmaň – sandpit, 380 m a.s.l., 49.14N, 14.09E; occupied (1995-1996), 17 holes (1997), 18 holes (1998), 14 holes (1999), note: occupied in early 90th years (BUREŠ et al. 1995)

- Krsice – sandpit, 430 m a.s.l., 49.28N, 14.04E; 14 holes (1997), 10 holes (1998 holes), 9 holes (1999), unoccupied (2000-2002)
- Myslín – slope, 450 m a.s.l., 49.32N, 14.01E; occupied (1995), 50 holes (1996), 15 holes (1997), 10 holes (1998), 10 holes (1999)
- Skály u Protivína – sandpit, 382 m a.s.l., 49.13N, 14.11E; occupied (1992-1995), 47 holes (1996), 37 holes (1997), 37 holes (1998), 37 holes (1999), 14 holes (2000), 14 holes (2001), no bank available (2002 and later), note: 600 occupied holes in 1983, 590 occupied holes in 1986 (both in BUREŠ et al. 1995)
- Stehlovice – sandpit, 525 m a.s.l., 49.23N, 14.19E; occupied (1997), unoccupied (1998), no bank available (1999-2005)
- Těšínov – gravelpit, 480 m a.s.l., 49.12N, 14.18E; 4 holes (1995), unoccupied (1996-1997), 4 holes (1998), unoccupied (1999-2001)
- Těšínov (svah u štěrkovny) – slope, 481 m a.s.l., 49.12N, 14.17E; 5 holes (1999), unoccupied (2000), no bank available (2001-2005)

other localities not confirmed during the monitoring:

- Písek – heap of crushed stone – 50 holes in 1982 (BUREŠ et al. 1995)
- Putim – occupied till 80th years (BUREŠ et al. 1995)
- Putimská Vysoká u Pisku – heap of top soil – 45 holes dugged at 02.May 1982 (BUREŠ et al. 1995)
- Velké Nepodřice – sandpit – occupied in early 90th years (BUREŠ et al. 1995)
- small colonies in basins of river Otava and river Blanice in the 19th century (KNĚŽOUREK 1885 in BUREŠ et al. 1995)
- colonies around Zvíkov, Kestřany, Dobeš, and Tálín in the 19th century (KNĚŽOUREK 1885 in BUREŠ et al. 1995)
- Podolsko below the Orlick castle (under the level of today's Orlick water dam) in 1874 (KNĚŽOUREK 1885 in BUREŠ et al. 1995)

**district Plzeň-jih**

- Čepinec (referred as well as Osobovy or Žinkovy) – sandpit, 470 m a.s.l., 49.28N, 13.29E; 84 holes (2000), 80 holes (2001), 40 holes (2002), 40 holes (2003), 7 holes (2004), 50 holes (2005), note: ~100 partially occupied holes in 1992 (RC in Těšál 1993)
- Dvorec – heap of scoria, 435 m a.s.l., 49.30N, 13.36E; 50 holes (1997), occupied (1998-2000), 2 holes (2001), no bank available (2002-2005), note: occupied in 1991 (Suchan in Rucký in litt.)
- Dvorec – trench for the house foundation, 435 m a.s.l., 49.30N, 13.36E; 1 hole (1992), no bank available (1993-2005)
- Chlumčany – kaolin mine, 388 m a.s.l., 49.37N, 13.16E; occupied (1992), no bank available (2002-2005)
- Nepomuk (nad Špitálským rybníkem) – slope, 440 m a.s.l., 49.29N, 13.35E; occupied (1999-2000), 42 holes (2001), 20 holes (2002), 10 holes (2003), no bank available (2004-2005)
- Stod – claypit, 375 m a.s.l., 49.39N, 13.09E; 7 holes (1999), 8 holes (2000), no bank available (2001-2005)
- Újezd u Kasejovic (u ZD) – sandpit, 514 m a.s.l., 49.28N, 13.44E; 10 holes (2004)
- Vojovice – sandpit, 462 m a.s.l., 49.28N, 13.30E; occupied (1998-1999), no bank available (2003-2005)
- Vrčeň – sandpit, 440 m a.s.l., 49.30N, 13.37E; 17 holes (2001), 6 holes (2002), unoccupied (2003-2004)

other localities not confirmed during the monitoring:

- Snopoušovy – sandpit – 1 pair and a hole 12.07.1992 and 24.07.1992 (LA in Těšál 1993)
- Žinkovy (sports facility) – slope – 4 ex. and holes 03.07.1992 (SKR in Těšál 1993)
- Žinkovy (collapsed slope) – slope – 23 pairs 09.07.1992 (RC & J.Tolar in Těšál 1993)

**district Plzeň-město**

other localities not confirmed during the monitoring:

- Bukovec – sandpit – 20 pairs in 1992 (BK in Těšál 1993)

**district Plzeň-sever**

- Kaznějov – slope, 468 m a.s.l., 49.53N, 13.20E; 2 holes (1999)

other localities not confirmed during the monitoring:

- Sulkov (colony near the scrapheap) – 78 occupied holes in 1992 (LA in Těšál 1993), occupied in 1990 and 1993 (Lang in Heneberg 2006), "few pairs" in 1978 (E.Krejčík in Šedo 1980)

**district Praha-město**

Praha-Komořany – sandpit, 216 m a.s.l., 49.59N, 14.24E; 40 holes (1997), 58 holes (1998), 60 holes (1999), few unoccupied holes (2000-2002), 7 unoccupied holes (2003)

Praha-Lipence – heap of top soil, 210 m a.s.l., 49.57N, 14.21E; 150 holes (1998), no bank available (1999-2005)

Praha-Lipence – sandpit, 210 m a.s.l., 49.57N, 14.21E; 500 holes (1998), 150 holes (1999), 200 holes (2000), 226 holes (2001), no bank available (2002-2005)

Praha-Lysolaje – sandpit, 273 m a.s.l., 50.07N, 14.22E; 50 holes (1999)

other localities not confirmed during the monitoring:

Praha-Kobylysy and Praha-Kyje – occupied in 30th years (Rozum 1935), unoccupied in 40th years (Wahl 1944)

Praha-Libeň – slope – colony occurred during the new bridge construction in 1926; destructed by finishing of the bridge construction in 1927 (Vonka 1927-28)

Praha-Modřany – sandpit – occupied up to 1939 (Wahl 1944)

Praha-Modřany – river bank – few scattered pairs southern of the town district in 30th or 40th years (Wahl 1944)

Praha-Radotín (PR Staňkovka) – sandpit close to the PR – breeding (Správa CHKO Český kras 2001)

Praha-Troja (ZOO) – slope – occupied up to 1941 when the bank was mined out (Wahl 1944)

**district Praha-západ**

Libčice nad Vltavou-Chýnov – gravelsandpit, 207 m a.s.l., 50.11N, 14.21E; 250 holes (1999), occupied (2000), 109 holes (2004), 2 unoccupied holes (2005)

**district Prachatice**

Drahonice – openings in the concrete panels damming a village square pond, 468 m a.s.l., 49.12N, 14.04E; 5 pairs (1998), 3 pairs (1999), occupied (2000), 12 pairs (2001), occupied (2002-2003)

Malovičky – sandpit, 436 m a.s.l., 49.06N, 14.14E; occupied (1996), 59 holes (1997), 34 unoccupied holes (1998), 41 unoccupied holes (1999), 35 unoccupied holes (2000), 30 unoccupied holes (2001)

**district Prostějov**

Držovice – claypit, 250 m a.s.l., 49.29N, 17.08E; 12 holes (1999)

Ondratice – sandpit, 271 m a.s.l., 41.21N, 17.04E; occupied (1999-2001), 55 holes (2002)

Želeč – sandpit, 241 m a.s.l., 49.21N, 17.04E; 170 holes (1999)

**district Přerov**

Bezuchov – sandpit, 270 m a.s.l., 49.27N, 17.37E; 18 holes (1992), 60 holes (1993), 120 holes (1994), 100 holes (1995), occupied (2002), occupied (2003), 20 holes (2004), 50 holes (2005), recultivation in progress after the breeding season 2005 caused unavailability of this bank for any further nesting of sand martins, note: 37 holes/25 pairs in 1991 (Šírek & Pohanka 1992)

Hranice – openings in concrete panels surrounding sand depony, 250 m a.s.l., 49.33N, 17.46E; 28 holes (1993), 20 holes (1994), 10 holes (1995)

Hranice – sandpit, 239 m a.s.l., 49.32N, 17.41E; 50 holes (1995)

Hustopeče nad Bečvou – gravelpit, 270 m a.s.l., 49.31N, 17.52E; 11 holes (1999), 21 holes (2000)

Hustopeče nad Bečvou (Nemětics) – bank of the fishpond, 272 m a.s.l., 49.30N, 17.50E; fishpond constructed in 2004/05, 20 holes (2005)

Jezernice (Wienerberger) – claypit, 270 m a.s.l., 49.33N, 17.38E; few pairs (2005)

Kojetín – heap of scoria, 200 m a.s.l., 49.21N, 17.18E; 6 holes (1992), 12 holes (1993), 5 holes (1994), 120 holes (1995)

Kojetín (TS) – heap of sand, 200 m a.s.l., 49.21N, 17.18E; 20 holes (1992), 35 holes (1993), 6 holes (1994)

Lipník nad Bečvou – heap of scoria, 230 m a.s.l., 49.31N, 17.35E, 12 holes (1993), no bank available (1994)

Lobodice (Zástudánčí, river Morava) – riverbank, 198 m a.s.l., 49.24N, 17.19E; occurred in 1991/92, 130 holes (1992), 600 holes (1993), 250 holes (1994), 60 holes (1995), note: breeding (Anonymus 2005)

Oldřichov – gravelsandpit, 220 m a.s.l., 49.29N, 17.32E; breeding (2005)

- Osek nad Bečvou (gravelsandpit Oldřichov) – gravelsandpit, 225 m a.s.l., 49.30N, 17.32E; no bank available (1992-2004), 28 holes (2005)
- Osek nad Bečvou (Jadran) -sandpit, 225 m a.s.l., 49.30N, 17.32E; 20-30 holes (1996)
- Osek nad Bečvou (Splav) – riverbank, 225 m a.s.l., 49.31N, 17.32E; 23 holes (1992), 20 holes (1993), unoccupied (1994-1995)
- Osek nad Bečvou – riverbank (left bank of river Bečva cutted off during floods in 1997), 220 m a.s.l., 49.30N, 17.31E; breeding (2005)
- Podhůra – openings in concrete panels surrounding crushed stone and sand, 240 m a.s.l., 49.30N, 17.36E; 12 pairs (1992), 12 pairs (1993), 20 pairs (1994), 10 pairs (1995)
- Prerov (Ekoagrostav) – heap of sand, 210 m a.s.l., 49.27N, 17.27E; no bank available (1992-2004), 96 holes (2005)
- Prerov (odkaliště) – ashdump, 210 m a.s.l., 49.27N, 17.27E; 170 holes (1993)
- Prerov (popilkoviště) – ashdump, 210 m a.s.l., 49.27N, 17.27E; 360 holes (1992), 150 holes (1993), 150 holes (1994), 100 holes (1995), 120 holes (2003), occupied (2004), occupied (2005), note: 300 holes/150 pairs in 1991 (Šírek & Pohanka 1992)
- Prerov (popilkoviště II.) – ashdump, 210 m a.s.l., 49.27N, 17.27E; ashdump mined since February 2004, 500 holes (2004), 683 holes (2005)
- Prerov (recycling factory in Dluhonická street close to the Precheza Co.) – heaps of sand and top soil, 210 m a.s.l., 49.27N, 17.27E; 10 ex. observed above an unaccessible area (1999)
- Prerov (ashdump of Precheza by ČOV Henčlov) – gypsum deposit, 210 m a.s.l., 49.27N, 17.27E; 300 holes (1994), 150 holes (1998)
- Rokytnice (sandpit Dolek u Žeravic) – sandpit, 250 m a.s.l., 49.29N, 17.24E; 750 holes (1992), unoccupied (1993-1995), occupied (1996-2002), 616 holes (2003), 80 holes (2004), 350 holes (2005), note: 650 holes/300 pairs in 1991 (Šírek & Pohanka 1992)
- Tovačov (gravelsandpit Donbas) – gravelsandpit, 198 m a.s.l., 49.25N, 17.19E; 20 holes (1992), 15 holes (1995), 20 pairs (2005), note: 40 holes/30 pairs in 1991 (Šírek & Pohanka 1992)
- Tovačov (sandpit Troubky) – sandpit, 193 m a.s.l., 49.26N, 17.20E; 500 holes (1993), 350 holes (1994), **1100 holes** (1995), 318 holes (1999), 193 holes (2000), 70 holes (2003), 18 holes (2004), 48 holes but only 8 holes were occupied (2005), note: 350 holes/200 pairs in 1991 (Šírek & Pohanka 1992)
- Týn nad Bečvou – riverbank (right bank of river Bečva cutted off during floods in 1997), 230 m a.s.l., 49.31N, 17.39E; breeding (2005)
- Uhřčice – gravelsandpit, 198 m a.s.l., 49.22N, 17.17E; 20 holes (1992), 12 holes (1993), 8 holes (1994), 6 holes (1995), no bank available (1996-2005), note: 15-35 pairs in 70th and 80th years up to 1988; than filled up with the garbage and overgrown by shrubs (Šírek & Pohanka 1992)
- Žeravice ("za letištěm", Malá Lipová) – sandpit, 270 m a.s.l., 49.29N, 17.24E; 300 holes (1992), **1400 holes** (1993), 120 holes (1994), 60 holes (1995), occupied (2003-2004), 50 unoccupied holes (2005), note: 330 holes/200 pairs in 1991 (Šírek & Pohanka 1992)
- Žeravice (skládku – pískovna TKO) – sandpit, 245 m a.s.l., 49.29N, 17.24E; no bank available (1992), occupied (2003-2004), 50 unoccupied holes (2005), note: 200 holes/100 pairs in 1991 (Šírek & Pohanka 1992)
- other localities not confirmed during the monitoring:
- Donbas (Tovačov) – openings in concrete panels surrounding the heaps of sand – 50 pairs in 1991 (Šírek & Pohanka 1992)
- Grymov (river Bečva) – riverbank – 10-30 pairs up to 1988, when the river was regulated (Šírek & Pohanka 1992)
- Kojetín (farm Křížilky) – openings in walls of the farrowing house – unsuccessful nesting of 2 pairs in 1990 (the clutch left and the nest was subsequently occupied by a sparrow) (Šírek & Pohanka 1992)
- Kojetín (Popůvky) – claypit – 10 pairs in 80th years, 5 pairs in 1989, unoccupied since 1990 (filled up with a garbage; hardening of a bank) (Šírek & Pohanka 1992)
- Kozlovice – sandpit – 45 holes/15 pairs in 1991 (Šírek & Pohanka 1992)
- Lipník nad Bečvou – heap of crushed stone (size of grains 7 mm) – 18 holes/10 pairs in 1991 (Šírek & Pohanka 1992)
- Lipník nad Bečvou – sandpit – 15 pairs in 1989-1990; no bank available since 1991 due to the bank collapse, vegetation overgrown and soil hardening (Šírek & Pohanka 1992)
- Lipník nad Bečvou – openings in concrete panels surrounding the heap of crushed stone (size of grains 7 mm) – 10 pairs in 1991 (Šírek & Pohanka 1992)
- Lipník nad Bečvou (Oldřichov) – sandpit – breeding (Anonymus 2003)

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Prosenice – claypit – 100 pairs in 70th and 80th years, but the claypit was filled with the ash and overgrown by the vegetation in late 80th years (Šírek & Pohanka 1992); no bank available during the monitoring (1992-2005)

Předmostí u Přerova – slope close to the sandpit – 5-10 pairs at the end of 80th years (Šírek & Pohanka 1992)

Přerov (river Bečva) – riverbank – 15 pairs in 1990; breeding unsuccessful (Šírek & Pohanka 1992)

Přerov (Předmostí – složiště materiálu) – openings in concrete panels surrounding the crushed sandstone - 15 pairs in 1991 (Šírek & Pohanka 1992); no bank available (1992-2005)

Přerov (Žebračka) – sandpit – 25 pairs at the turn of 70th and 80th years, than abandoned (Šírek & Pohanka 1992)

Skalička-Milotice (river Bečva) – riverbank – breeding (Kolářová 2001)

Troubky, SPR Zástudánčí (river Morava) – riverbank – 200 holes/120 pairs in 1991 (Šírek & Pohanka 1992)

Uhřčice – riverbank – 10 holes/8 pairs in 1991 (Šírek & Pohanka 1992)

Uhřčice – slope – 5 to 7 pairs in 1979-1985; later abandoned due to hardening of the soil and collapse of the bank (Šírek & Pohanka 1992)

#### **district Příbram**

Bezděkov pod Třemšínem – sandy top of the stone quarry, 550 m a.s.l., 49.35N, 13.53E; 23 holes (2001), occupied (2003), no bank available (2004-2005)

Pičínský mlýn-Kardavec (river Litavka) – river bank, 472 m a.s.l., 49.43N, 14.00E; occupied (1998), 250 holes (1999), occupied (2000), 229 holes (2001), occupied (2002), 3 holes (2003), 156 holes (2004), 107 holes (2005)

Pňovice – sandpit, 510 m a.s.l., 49.35N, 13.54E; occupied (1997), 511 holes (1998), 100 holes (1999), 68 holes (2000), 9 unoccupied holes (2001), 4 unoccupied holes (2002), 36 holes (2004)

other localities not confirmed during the monitoring:

Tisová – trench – 20 pairs in 1989 (Pykal in litt.)

#### **district Rakovník**

Nesuchyně – sandpit, 370 m a.s.l., 50.10N, 13.40E; 50 holes (1999), 260 holes (2001), 172 holes (2002), 119 holes (2003), 96 holes (2004)

Rakovník – sandpit, 322 m a.s.l., 50.06N, 13.44E; 50 holes (1999)

#### **district Rychnov nad Kněžnou**

Lípa nad Orlicí – heap of sand, 252 m a.s.l., 50.09N, 16.07E; no bank available (1992-2002), 5 holes (2003), no bank available (2004-2005)

Lípa nad Orlicí – sandpit, 252 m a.s.l., 50.09N, 16.07E; occupied (2002), 87 holes (2003), 102 holes (2004), 58 holes (2005)

Petrovice (left bank of river Orlice) – river bank, 243 m a.s.l., 50.10N, 16.02E; 30 holes (2002), 6 holes (2003), unoccupied (2004)

Světlá – sandpit, 264 m a.s.l., 50.07N, 16.05E; unoccupied (2004), 15 holes (2005)

other localities not confirmed during the monitoring:

Blešno-Týniště nad Orlicí (PP Orlice, river Orlice) – riverbank – breeding (Šindler 2003)

#### **district Semily**

other localities not confirmed during the monitoring:

Hrubý Rohozec – 10 pairs in the eroded bank of river Jizera in 70th years (Pojkar 1973 in Mrkáček 2000)

Tatobity – sandpit – 25 occupied holes in 1990 (one other hole occupied by the great tit), unoccupied in 1999 (Mrkáček 2000)

Turnov (Aerehrental claypit) – hundreds of pairs when non-mechanized mining used (Pojkar 1973 in Mrkáček 2000)

#### **district Sokolov**

Krásno – decanting tank of the uranium mine, 688 m a.s.l., 50.07N, 16.46E; 106 holes (2002), 65 unoccupied holes (2003), 56 holes (2005)

Sokolov (sandpit Erika) – sandpit, 420 m a.s.l., 50.12N, 12.36E; 142 holes (2002), 134 unoccupied holes (2003), 35 unoccupied holes (2005)

Sokolov (sandpit Erika II.) – sandpit, 420 m a.s.l., 50.12N, 12.36E; 10 unoccupied holes (2003)

Tisová u Sokolova (open-cast mine Silvestr) – spoil bank of the brown-coal open-cast mine Silvestr, 410 m a.s.l., 50.09N, 12.37E; 205 holes (2002), 452 holes (2003), 305 holes (2004), 112 holes (2005)

#### **district Strakonice**

Blatná – creek bank, 440 m a.s.l., 49.25N, 13.53E; no bank available (1992-2002), 10 holes (2003)  
Blatná – heap of top soil, 440 m a.s.l., 49.25N, 13.53E; no bank available (1992-2001), 10 holes (2002), no bank available (2003-2005)

Blatná – openings in chinks between stones in a stone bridge, 440 m a.s.l., 49.25N, 13.53E; 10 pairs (2003), 50 pairs (2004)

Blatná (mrazírny) – quarry, 440 m a.s.l., 49.25N, 13.53E; at least 10 sand martins observed (2005)

Buzice – sandpit, 432 m a.s.l., 49.25N, 13.56E; 45 holes (1999)

Černěves u Vodňan – sandpit, 410 m a.s.l., 49.06N, 14.14E; 123 holes (1996), 55 holes (1997), 30 holes (1998), 21 holes (1999), unoccupied (2000-2001), no bank available (2002-2005)

Radčice – sandpit, 420 m a.s.l., 49.10N, 14.11E; occupied (1995), no bank available (1996-2005), note: nesting of sand martins in 90th years noted in Kloubec & Klimeš (1995)

Radomilice – sandpit, 405 m a.s.l., 49.07N, 14.14E; 46 holes (1996), 57 holes (1997), 283 holes (1999), 304 holes (2000), 135 holes (2001), 20 holes (2002), unoccupied (2003-2004), no bank available (2005)

Radomilice – trench, 405 m a.s.l., 49.07N, 14.14E; no bank available (1992-1998), 29 holes (1999), no bank available (2000-2005)

Strakonice (pískovna) – sandpit, 393 m a.s.l., 49.15N, 13.52E; occupied (1992-1996), 797 holes (1997), 889 holes (1999), 850 holes (2000), 357 holes (2001), 338 holes (2002), 662 holes (2003), **1004 holes** (2004), 792 holes (2005), note: ~1000 holes in 1985-1989 (Pykal et al. 1990)

Strakonice (skládká) – sandpit, 393 m a.s.l., 49.14N, 13.51E; 283 holes (1999), 180 holes (2000), 150 holes (2001), 54 holes (2002), 35 unoccupied holes (2003), unoccupied (2004)

Škvořetice – sandpit, 455 m a.s.l., 49.24N, 13.56E; 7 holes (1996), unoccupied (1997-1998)

other localities not confirmed during the monitoring:

Blatná – trench – 40 pairs in 1988 (Pykal in litt.)

Čejetice – 10 pairs in 1986 (Edelmann in the Register of phaunistical records of members of the Southbohemian Ornithological Club, Southbohemian museum, České Budějovice)

Katovice – heap of scoria – occupied in 1988 and 1989 (Pykal in litt.)

Leskovice – silagepit – 25 pairs in 1987 and 1988 (Pykal in litt.)

Málkov Lnářský u Blatné – sandpit – permanently occupied till 1972 when the bank was destroyed (Vaněček 1975)

Málkov Lnářský u Blatné (close to the road to Svěradice) – sandpit – first breeding in 1968, occupied till 1974 (Vaněček 1975)

Strakonice – slope above the railway to České Budějovice – numerous holes each year; unoccupied in 1975 and later (Vaněček 1975)

Tchořovice – heap of soil – 7 pairs in 1984 (Pykal in litt.)

Vitice – sandpit – traditionally occupied locality (Kloubec & Klimeš 1995)

Vodňany – sandpit – traditionally occupied locality; unoccupied since 90th years (Kloubec & Klimeš 1995)

#### **district Svitavy**

Horky – sandpit, 337 m a.s.l., 49.54N, 16.14E; no bank available (1992-1997), occupied (1998), 224 holes (1999), 255 holes (2000), 171 holes (2001), 127 holes (2002), 128 holes (2003), 2 holes (2004), 1 hole (2005)

Svitavy – sandpit, 430 m a.s.l., 49.45N, 16.28E; occupied (1992-2000), 23 holes (2001), unoccupied (2002), 5 holes (2003), 3 holes (2004), unoccupied (2005)

Vendolí – sandpit, 480 m a.s.l., 49.44N, 16.23E; no bank available (2002-2005)

#### **district Šumperk**

Bohuslavice-Hosena (heap in the sandpit) – heap of sand, 258 m a.s.l., 49.50N, 16.57E; no bank available (1992-2003), occupied (2004-2005)

other localities not confirmed during the monitoring:

Leština – breeding in 1960 and 1961 (Holínek & Šťastný 1969)

Postřelmov (river Morava) – riverbank – few pairs in 50th years (Holínek & Šťastný 1969)

Rájec (river Moravská Sázava) – riverbank – 12-15 pairs breeding up to 1961 (Neoral in Holínek & Šťastný 1969)

Šumperk (river Desná) – river bank – breeding in 1966 (Tuša 1988); few pairs breeding in 1968, only one of them successfully (Souček in Holínek & Šťastný 1969)

#### **district Tábor**

Borkovice – sandpit, 419 m a.s.l., 49.13N, 14.40E; occupied (1996), 27 holes (1997), 25 holes (1998), 5 unoccupied holes (1999-2003)

Klenovice – openings between stones in a sidewall of a stone bridge below the railway track, 401 m a.s.l., 49.16N, 14.42E; occupied (1992-1997), 40 pairs (1998-2001), 6 pairs (2002), unoccupied (2003), unoccupied (2005), note: occupied in 1967 (Trpák 1967)

Klenovice (skládka TKO) – heap of top soil, 418 m a.s.l., 49.17N, 14.47E; no bank available (1992-1999), 12 holes (2000), no bank available (2001-2005)

Klenovice (skládka TKO) – heap of sieved crushed bricks, 418 m a.s.l., 49.17N, 14.47E; no bank available (1992-1999), 17 holes (2000), no bank available (2001-2005)

Klenovice (skládka TKO) – heap of crushed concrete, 418 m a.s.l., 49.17N, 14.47E; no bank available (1992-1999), 6 holes (2000), no bank available (2001-2005)

Klenovice (skládka TKO) – heap of crushed concrete, 418 m a.s.l., 49.17N, 14.47E; no bank available (1992-1999), 5 holes (2000), no bank available (2001-2005)

Klenovice (skládka TKO) – heap of top soil, 418 m a.s.l., 49.17N, 14.47E; no bank available (1992-2000), 21 holes (2001), no bank available (2002-2005)

Klenovice (skládka TKO) – heap of top soil and bricks, 418 m a.s.l., 49.17N, 14.47E; no bank available (1992-2000), 39 holes (2001), no bank available (2002-2005)

Klenovice (skládka TKO) – heap of crushed concrete, 418 m a.s.l., 49.17N, 14.47E; no bank available (1992-2000), 6 holes (2001), no bank available (2002-2005)

Klenovice (skládka TKO) – heap of crushed ceramics, 418 m a.s.l., 49.17N, 14.47E; no bank available (1992-2000), 16 holes (2001), no bank available (2002-2005)

Klenovice (skládka TKO) – heap of top soil, 418 m a.s.l., 49.17N, 14.47E; no bank available (1992-2001), 7 holes (2002), no bank available (2003-2005)

Klenovice (skládka TKO) – heap of crushed concrete, 418 m a.s.l., 49.17N, 14.47E; no bank available (1992-2001), 130 holes (2002), no bank available (2003-2005)

Lžín – sandpit, 440 m a.s.l., 49.14N, 14.46E; 300 holes (1995), 354 holes (1996), 537 holes (1997), 291 holes (1998), 294 holes (1999), 556 holes (2000), 326 holes (2001), 174 holes (2002), 323 holes (2003), 82 holes (2004), 87 holes (2005)

Lžín – heap of top soil, 440 m a.s.l., 49.14N, 14.46E; no bank available (1992-1998), 18 holes (1999), 12 holes (2000), 12 holes (2001), 14 holes (2002), no bank available (2003-2005)

Malšice (Slapy quarry) – heap of crushed stone, 502 m a.s.l., 49.21N, 14.34E; occupied (1995-1996), unoccupied (1997)

Planá nad Lužnicí (Hůrka) – sandpit, 395 m a.s.l., 49.19N, 14.42E; no bank available (1992-1993), unoccupied (1994), 109 holes (2000), 45 holes (2001), occupied (2002), 102 holes (2003), 331 holes (2004), 368 holes (2005)

Skalice – sandpit, 400 m a.s.l., 49.18N, 14.42E; 31 holes (1997), 3 holes (1998), 3 holes (1999), 2 holes (2000), 1 hole (2001), unoccupied (2002-2005)

Vlkov u Veselí nad Lužnicí – sandpit, 413 m a.s.l., 49.10N, 14.43E; 5 holes (1993), 2 holes (1994), 21 holes (1995), 75 holes (1996), unoccupied (1997-1998), 45 holes (1999), 3 unoccupied holes (2000-2001), no bank available (2002-2005)

Vlkov u Veselí nad Lužnicí – gravelsandpit, 412 m a.s.l., 49.09N, 14.42E; occupied (1992-1995), 151 holes (1996), unoccupied (1997-1998), 44 holes (1999), 19 holes (2000), 20 holes (2001), 42 holes (2002), 36 holes (2003), 226 holes (2004), 92 holes (2005)

Žižov – sandpit, 413 holes, 49.12N, 14.41E; 17 holes (1997), unoccupied (1998-1999)

#### **other localities not confirmed during the monitoring:**

Borkovice – heap of peat – 250 holes in 1979 (Kotlaba 1980)

Roudná – sandpit – occupied in 1967 (Trpák 1967)

Soběslav – few colonies in the vicinity in late 40th years, all of the disappeared up to 1967 (Trpák 1967)

Soběslav – heap of sand – 50 pairs in 1984 (Háček in the Register of phauinistical records of members of the Southbohemian Ornithological Club, Southbohemian museum, České Budějovice)



### **district Teplice**

Braňany – sandpit, 240 m a.s.l., 50.33N, 13.42E; 857 holes (1995), 40 holes (1996), 300 holes (1999), note: occurrence of the hybrid between *R. riparia* and *H. rustica* in this sandpit reported in Heneberg (1997a)

open-cast mine Maxim Gorkij, 3rd mine level – browncoal open-cast mine, 214 m a.s.l., 50.35N, 13.43E; 335 holes (1996)

other localities not confirmed during the monitoring:

Bílina – openings in concrete panels of the path in an open-cast mine – occupied in 1995 (Horák in verb.)

Duchcov – breeding in 30th years (Bugent in Vondráček & Šutera 1992)

Hudcov and Lahošť – two colonies in 90th years of the 19th Century (Eder in Vondráček & Šutera 1992)

Liptice u Duchcova – 70 pairs in 70th years (Flasar & Flasarová in Vondráček & Šutera 1992)

Unčín – claypit – breeding in 20th years in 20th Century (Hiersche in Vondráček & Šutera 1992)

### **district Třebíč**

Třebíč – sandpit, 364 m a.s.l., 49.13N, 15.53E; 3 holes (1999)

other localities not confirmed during the monitoring:

Třebíč (Hájek) – 32 holes with 21 pairs in 1984 (Folk & Kožená 1984-85, 1987)

Třebíč (Lorentzovy sady) – "sandy entrance to the park area" – 3 pairs in 50th years (P.Šilhavý in Folk & Kožená 1987)

road fork of the state road Třebíč-Brno with the district road to Hostákov – sandy bank – 7 pairs in 50th years (P.Šilhavý in Folk & Kožená 1987)

river Oslava (Zelená tůň) – river bank – breeding in the first half of the 20th Century (Zdobnitzky 1943)

### **district Uherské Hradiště**

Boršice u Buchlovic – sandpit, 220 m a.s.l., 49.03N, 17.22E; 590 holes (1999), unoccupied (2004)

Boršice u Buchlovic – gravelsandpit, 212 m a.s.l., 49.03N, 17.22E; 328 holes (1999), no bank available (2004-2005)

Nedakonice (river Morava) – river bank, 178 m a.s.l., 49.01N, 17.23E; occupied (1999), unoccupied (2000)

Polešovice – sandpit, 223 m a.s.l., 49.01N, 17.21E; occurred in 1998/99, unoccupied (1999), 500 holes (2000), 65 holes (2003), 271 holes (2004)

other localities not confirmed during the monitoring:

Jalubí – sandpit – breeding in 1987 (Pevný in Martiško et al. 1997)

Slavkovský les (area of the Stannum company) – occupied in 80th years; 650 m n.m. (Plachý 1987) (one of highest-located localities in the Czech Rep.)

Šámy u Slavkova – sedimentation pit of the sugar factory – 1 pair in 1986 (Navrátil in Heneberg 2006)

Zlechov – sandpit – 50 holes in 1984 (Kurdíková in Martiško et al. 1997)

### **district Ústí nad Labem**

Ústí nad Labem (Přístavní street) – openings in the stone railroad dyke, 210 m a.s.l., 50.39N, 14.02E; 2 pairs (2004), note: breeding in 80th years of the 19th Century (Hauptvogel 1887 in Vondráček & Šutera 1992)

other localities not confirmed during the monitoring:

no breeding of sand martins observed between 1936 and 1983 (Vondráček & Šutera 1992)

Bukov – claypit – breeding in 1930 (Stephan 1930 in Vondráček in Šutera 1992)

Dolní Zálezly – drainage pipes in a railroad dyke – breeding in 30th years of the 20th Century (Porsch 1936)

Dolní Zálezly – breeding (Beranová et al. 1999)

between Chabařovice and Hrbovice (Bílý potok close to Viklice) – stream bank – breeding in 20th years of the 20th Century (Hiersche 1928)

Kozí vrch (river Labe) – river bank – breeding colony present up to 1876 (Hauptvogel 1924)

between Valtířov and Velké Březno – river bank – breeding colony present in year 1883-1884; discontinued after the flood in 80th years of the 19th Century (Hauptvogel 1887 in Vondráček & Šutera 1992)

Krásné Březno – claypit – breeding in 80th years of the 19th Century (Hauptvogel 1887 in Vondráček & Šutera 1992), breeding in 1924 (Hauptvogel 1924)

Libouchec – breeding in 20th years of the 20th Century (Michel 1929 in Vondráček & Šutera 1992)

Malé Březno – breeding in 80th years of the 19th Century (Hauptvogel 1887 in Vondráček & Šutera 1992), breeding in 1924 (Hauptvogel 1924), breeding in 20th years in the 20th Century (Michel 1929 in Vondráček & Šutera 1992)

Novosedlice – breeding in 80th years of the 19th Century (Hauptvogel 1887 in Vondráček & Šutera 1992) between Neštěmice and Povrly – breeding in 80th years of the 19th Century (Hauptvogel 1887 in Vondráček & Šutera 1992)

between Povrly and Roztoky – railway dyke – breeding in early 30th years of the 20th Century (Hein 1932)

sandpit Povrly – breeding in 1924 (Hauptvogel 1924)

Trmice – claypit – breeding in 1931 (Stephan 1931 in Vondráček & Šutera 1992)

Zálezly – breeding in 80th years of the 19th Century (Hauptvogel 1887 in Vondráček & Šutera 1992)

sandpit between Církvice and Sebužín – breeding in 80th years of the 19th Century (Hauptvogel 1887 in Vondráček & Šutera 1992)

Sebužín – sandpit – breeding colony present up to 1936 (Zörner 1937 in Vondráček & Šutera 1992)

Valtířov – sandpit – 36 pairs in 1991 (Beranová et al. 1999)

Velké Březno – breeding in 80th years of the 19th Century (Hauptvogel 1887 in Vondráček & Šutera 1992), breeding in 1924 (Hauptvogel 1924), breeding in 20th years in the 20th Century (Michel 1929 in Vondráček & Šutera 1992)

Valtířov – sandpit – mining re-established in 1983 and in 1983 colony of 43 holes was present; since that time regularly occupied (25-80 holes) up to at least 1990 (Vondráček & Šutera 1992)

#### **district Ústí nad Orlicí**

Běstovice I – sandpit, 290 m a.s.l., 50.01N, 16.13E; occupied (2001), 132 holes (2002), 32 unoccupied holes (2003-2004), unoccupied (2005)

Běstovice II – sandpit, 297 m a.s.l., 50.01N, 16.13E; 44 holes (2004), no bank available (2005)

Běstovice III – sandpit, 290 m a.s.l., 50.01N, 16.13E; 217 holes (1999), occupied (2000), 65 holes (2001), 24 holes (2002), 142 holes (2003), 472 holes (2004), 247 holes (2005)

Smetana (písník Růžovec) – gravelsandpit, 273 m a.s.l., 50.03N, 16.10E; 169 holes (1999), occupied (2000), 289 holes (2001), 235 holes (2002), 388 holes (2003), 199 holes (2004), 238 holes (2005)

other localities not confirmed during the monitoring:

Zámorsk – sandpit – breeding in 30th years (Adámek 1939)

#### **district Vsetín**

other localities not confirmed during the monitoring:

Chorně – sandpit – irregularly breeding of up to 5 pairs (Dvorská et al. 2001)

#### **district Vyškov**

Bučovice – slope, 230 m a.s.l., 49.09N, 17.01E; 8 holes (1999)

Ivanovice na Hané – claypit, 214 m a.s.l., 49.18N, 17.05E; 6 holes (1996)

other localities not confirmed during the monitoring:

Němčany – frost wedge – 21 holes in 1988 (Chytil & Buchtová in Martiško et al. 1997)

Radslavice-Hradisko – sandpit – 18 holes in 1989 (Reiter in Martiško et al. 1997)

#### **district Znojmo**

Božice – sandpit, 195 m a.s.l., 48.49N, 16.15E; 683 holes (1999), 757 holes (2000), **1271 holes** (2002), 1130 holes (2003), 710 holes (2004), 612 holes (2005), note: 800-1000 pairs in 1987, 350-400 pairs in 1992 (Martiško & Rejmanová in Martiško et al. 1997)

Božice (sandpit Martincova) – sandpit, 225 m a.s.l., 48.50N, 16.17E; occupied (2001-2002), 30 pairs (2003), 30 pairs (2004), 50 pairs (2005)

Braníšovice – heap of crushed stone, 194 m a.s.l., 48.58N, 16.26E; no bank available (1992-1997), 204 holes (2000), 94 holes (2001), 21 unoccupied holes (2004), 11 unoccupied holes (2005)

Dyje – claypit, 258 m a.s.l., 48.51N, 16.07E; 13 pairs (2001), 20 pairs (2002), 70 pairs (2003), 135 pairs (2004), 50 pairs (2005)

Hevlín (u ČOV) – sandpit, 185 m a.s.l., 48.46N, 16.23E; 11 pairs (2001), 10 pairs (2002), 20 pairs (2004), unoccupied (2005)

Hodonice – sandpit, 220 m a.s.l., 48.50N, 16.11E; occupied (1992-1997), 601 holes (1998), 620 holes (1999), occupied (2000), 488 holes (2003), **1208 holes** (2004), 489 holes (2005), note: 600-800 pairs in 1987, min 200 pairs in 1994 (Slechan, Martiško & Rejmanová in Martiško et al. 1997)

- Krhovice – sandpit, 204 m a.s.l., 48.48N, 16.10E; occupied (2002)
- Křepice – sandpit, 336 m a.s.l., 48.59N, 16.07E; 138 holes (1999), 224 holes (2000), 5 holes (2001), 3 holes (2002), unoccupied (2003), 4 holes (2004), unoccupied (2005), note: 50 holes in 1984 (Tomašík in Martiško et al. 1997)
- Míroslav (Paseka) – sandpit, 260 m a.s.l., 48.57N, 16.20E; 10 pairs (2004), 10 pairs (2005)
- Míroslav (sandpit in fields eastern from the city) – sandpit, 260 m a.s.l., 48.57N, 16.20E; occupied (2001), 53 holes (2002)
- Míroslav (skládká Štěpánov) – sandpit, 250 m a.s.l., 48.57N, 16.20E; occupied (1992-1997), 2500 holes (1998), **2500 holes** (1999), 550 holes (2000), 395 holes (2002), 460 holes (2003), 455 holes (2004), 254 holes with low occupancy rate (2005), note: min. 300-400 pairs in 1994 (Martiško & Rejmanová in Martiško et al. 1997)
- Olekovice (Olekovické vřesoviště) – sandpit, 249 m a.s.l., 48.54N, 16.15E; unoccupied (1999), unoccupied (2002-2003), 50 pairs (2004), 30 pairs (2005), note: 500 holes in 1984 (Tomašík in Martiško et al. 1997), 150-200 pairs in 1994 (Martiško & Rejmanová in Martiško et al. 1997)
- Rybníky – sandpit, 242 m a.s.l., 49.02N, 16.17E; 400 holes (1999), 550 holes (2000), 527 holes (2001), 286 holes (2002), 121 holes (2003), 338 holes (2004), 442 holes (2005), note: 100-150 holes in 1984 (Tomašík in Martiško et al. 1997)
- Suchohrdly u Míroslavi – sandpit, 230 m a.s.l., 48.57N, 16.21E; 176 holes (1999), 670 holes (2002), 706 holes (2003), 491 holes (2004), 961 holes/90 pairs (2005)
- Suchohrdly u Znojma – sandpit, 290 m a.s.l., 48.52N, 16.06E; 26 holes (1999), 451 holes (2004)
- Šatov (claypit in a village) – claypit, 248 m a.s.l., 48.47N, 16.01E; 11 unoccupied holes (2003)
- Šatov-Chvalovice – sandpit, 248 m a.s.l., 48.47N, 16.03E; 52 holes (1999), 21 unoccupied holes (2003), 5 unoccupied holes (2004), note: 150 holes in 1984 (Tomašík in Martiško et al. 1997)
- Tasovice – sandpit, 236 m a.s.l., 48.50N, 16.09E; occupied (1994-1996), 700 holes (1997), 320 holes (1998), 270 holes (1999), no bank available (2003-2005), note: min. 500 holes in 1984 (Tomašík in Martiško et al. 1997), 300-400 pairs in 1987, 300-400 pairs in 1994 (Martiško & Rejmanová in Martiško et al. 1997)
- Tasovice 2 (new mining) – sandpit, 236 m a.s.l., 48.51N, 16.08E; no bank available (1992-1999), 278 holes (2003), 202 holes (2004), 364 holes (2005)
- Troskotovice – sandpit, 215 m a.s.l., 48.55N, 16.25E; 140 holes (1998), 150 holes (1999), 103 holes (2000), 56 holes (2001), 144 holes (2002), 46 holes (2003), 28 holes (2004), 15 holes (2005), note: unoccupied in 1987 (Martiško & Rejmanová in Martiško et al. 1997)
- Únanov – heap of sand, 300 m a.s.l., 48.53N, 16.03E; occupied (1995), no bank available (1996-2005)
- Únanov – heap of kaolin schlick (the too fine fraction of kaolin), 305 m a.s.l., 48.53N, 16.03E; 62 holes (1998), 12 holes (1999), 66 holes (2000), no bank available (2002-2005)
- Únanov 2 – sandpit, 299 m a.s.l., 48.53N, 16.03E; 4 unoccupied holes (1999-2000), 3 unoccupied holes (2001-2003), no bank available (2004-2005)
- Únanov 3 – sandpit, 295 m a.s.l., 48.53N, 16.04E; 338 holes (1999), 207 holes (2000), 168 holes (2002), 49 unoccupied holes (2003), 13 unoccupied holes (2004), note: 50 holes in 1984 (Tomašík in Martiško et al. 1997)
- Vémyslice – gravelsandpit, 255 m a.s.l., 49.01N, 16.14E; 750 holes (1999), 650 holes (2000), 354 holes (2001), **2530 holes** (2003), 966 holes (2004), 857 holes with low occupancy rate (2005), note: 50 holes in 1984 (Tomašík in Martiško et al. 1997)
- Znojmo (Oblekovice) – sandpit, 208 m a.s.l., 49.50N, 16.05E; 1280 holes (1999), 450 holes (2004), 200 pairs (2005)
- Žerotice – sandpit, 205 m a.s.l., 48.55N, 16.10E; 67 holes (1999), unoccupied (2004), note: 200 holes in 1984 (Tomašík in Martiško et al. 1997)

**other localities not confirmed during the monitoring:**

- Kubšice – sandpit – 50 holes in 1984 (Tomašík in Martiško et al. 1997), 200-250 pairs in 1987, unoccupied in 1992 (Martiško & Rejmanová in Martiško et al. 1997)
- Našiměřice – slope – 400-600 pairs in 1987, 200-250 pairs in 1992, 100-150 pairs in 1994 (Martiško & Rejmanová in Martiško et al. 1997)
- Strachotice – gravelpit – 10 holes in 1984 (Tomašík in Martiško et al. 1997)

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