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A survey of the main behavioural and natatorial issues observed in non-genetically selected dog breeds trained for water rescue activities

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Abstract: In this survey, we collected information on non-genetically selected pure breed dogs trained for water rescue considering the issues highlighted by the instructors of the Italian School of Water Rescue Dogs (S.I.C.S.) in Italy over a one-year period. A questionnaire was developed and emailed to thirteen S.I.C.S. sections asking for information on the number of certificates and services carried out in one year, the pure breed dogs used, and the main problems detected in each breed. Only six questionnaires were received and processed. The results revealed that a total of 82 (14.0 as average value) dog-human dyads with certificates with a total number of 157 (26.17 as average value) services recorded in one summer. All sections reported certified dogs from three genetically selected breeds (Newfoundland, Labrador, and Golden Retriever), mixed-breed dogs, and other pure-breed dogs, such as Bernese Mountain Dog, Doberman, Pitbull, German Shepherd, and American Staffordshire Terrier dogs. The main problems highlighted in non-genetically selected pure breed dogs were natatorial, linked to an incorrect set-up or to a lack of tail and/or undercoat. To solve these problems, neoprene underwear and/or floating harnesses were used, and the instructors tried to improve the swimming attitude.

Key Words: dog; breed; water rescue; questionnaire.

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Introduction

The dog is able to develop an attachment bond towards the human being, proven by numerous research (Carlone et al., 2019; Riggio et al., 2021 a, b, c; Mariti et al., 2013 a, b; Mariti et al., 2014; Mariti et al., 2017; Mariti et al., 2018; Mariti et al., 2020) and is used in many sports and assistance activities.

Water rescue training is a type of educational activity aimed at creating human-dog dyads specialized in rescuing people who are drowning (Merola et al., 2013). The Italian School of Water Rescue Dogs (S.I.C.S.) is the largest national organization of civil protection dedicated to the training of dogs and their handlers for water rescue (http://www.scuolacanisalvataggio.it/la-scuola/). The school organizes courses for handlers and awards a qualification certificate (the S.I.C.S. Water Rescue Certificate®) that allows the qualified dog-human dyads to act on all Italian beaches as civil protection operators. As reported by Scandurra et al. (2016), the entire training consists of two consecutive stages: the first stage lasts approximately one year and includes obedience training on land, involving positive reinforcement. The second stage consists of water rescue simulations and specific water exercises. The certificate is valid for 12 months, after which a renewal test is necessary.

Some breeds of dogs have a built-in instinct to rescue people, of which the best known is the Terranova (Newfoundland) followed by retrievers (Labradors and Golden Retrievers), however all dog breeds can be trained providing they weigh over 30 kg (a minimum medium size i.e. 25-30 kg is accepted). In addition to the weight, the predisposition to rescue, the temperament (a good rescue dog must not be aggressive to people or to other dogs) and confidence in the water

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(which is a good starting point, but not essential as dogs can always learn to swim) are important elements to consider (http://www.scuolacanisalvataggio.it/la-scuola/).

In this survey we collected information over a one-year period on the breeds and on the total number of dogs trained for water rescue. The main behavioural and natatorial issues observed in dogs breeds not genetically selected for water rescue activities and the solutions adopted to overcome them were evaluated.

Material and methods

A questionnaire was developed by the Genetic Unit of the Department of Veterinary Sciences (University of Pisa) and emailed to thirteen sections of the Italian School of Water Rescue Dogs (S.I.C.S.), asking participants to indicate the breeds used and the problems encountered in training dogs for water rescue over a one-year period. The questionnaire consisted of eight questions asking for information on the S.I.C.S. section, including the region where they were located, how many years they had been operating in the area, the total number of patented dogs, and the number of services and rescues carried out in one year. In addition, questions were included on the breeds used and on the main problems detected in non-genetically selected breeds and how these were overcome.

Results and discussion

Information on the SICS sections and general questions

Only six questionnaires, homogeneously located throughout Italy, were received and processed. All sections had been operational for more than two years (11.5 years on average, ranging from 2 to 26 years). A total of 82 dogs had been patented in one year (14.0 average value per section) with a total of 157 services recorded in one summer equal to (26.17 as the average value per section) including seven overall rescues. Table 1 shows the breeds used in one year for each section. All the sections used dogs of the three genetically selected breeds (Newfoundland, Labrador, and Golden Retriever). In addition, mixed-breed dogs and/or other breeds were also patented (5 sections out of 6), including the Bernese Mountain Dog, Doberman, Pitbull, and German Shepherd. Section SICS n° 6 considered several different breeds.

Table 1. Dog breeds trained in each S.I.C.S. Section.

Breed	S.I.C.S. Section					
	N° 1	N° 2	N° 3	N° 4	N° 5	N° 6
Newfoundland	X	X	X	X	X	X
Labrador retriever	X	X	X	X	X	X
Golden retriever	X	X	X	X	X	X
American Staffordshire Terrier						X
Border Collie			X	X		
Bernese Mountain Dog	X					X
Czechoslovakian Wolfdog				X		
Leonberger	X		X			X

Dobermann					X
Belgian Malenois					X
German Shepherd	X	X	X		X
Pitbull					X
Mixed breeds	X	X	X	X	X

Information on behavioural problems reported in non-genetically selected dog breeds

Information was provided on 43 non-genetically selected dog breeds, and the problems encountered were classified into behavioural problems (Table 2) and natatorial problems (Table 3). Out of 43 dogs, 53.49% (23/43) did not present behavioural problems, while 74.42% (32/43) presented natatorial problems. Aggressivity was reported in only two dogs (4.65%), specifically in one German Shepherd (1 out of 6 considered) and in one Dobermann (1 out of 7 considered).

A central aspect of the training program is to strengthen the dog-owner bond whilst at the same time engendering a strong positive attitude in the dogs towards strangers (Marola et al., 2013), thus dogs that are overly aggressive are excluded. As is well known, aggressiveness is not related to a specific breed, although certainly dogs who are predisposed to defence and discipline-based biting, seem to be predisposed to aggression, and there are no differences between pure-breed dogs and mixed-breed dogs (Cecchi et al., 2022). Dogs can manifest many undesirable behaviours (Giuliotti et al., 2020) but most can be solved through training (Arhant et al., 2010).

Concerning Dobermanns, two fearful dogs with low sociability were also reported. Cases of indocility were reported in American Staffordshire Terriers (4/6), Leonbergers (3/3), and Pitbulls (7/7).

Table 2. Main behavioural problems reported in non-genetically selected dog breeds.

Breed	n°	Aggressivity toward humans or animals	Fearfulness/ or low sociability	Dog/handler relationship problems	No problems
American Staffordshire Terrier	6			4	2
Border Collie	2				2
Bernese Mountain Dog	10		1		9
Czechoslovakian Wolfdog	1				1
Doberman	7	1	2		4
Leonberger	3			3	
Belgian Malinois	1		1		
German Shepherd	6	1			5
Pitbull	7			7	

The lack of an undercoat (18/43) the incorrect swimming attitude (12/43) and lack of tail (3/43) were the natatorial problems observed (Table 3). As is well known, a dense coat and an under-coat, which are typical of the Newfoundland, are important for buoyancy and insulation of the skin from the outside. The tail is also important in swimming, as it acts as a rudder and therefore it must be strong and wide at the base (Standard N° 50/06.11.1996; ENCI 2022).

These problems were not observed in all breeds; in particular, none of the six German Shepherd presented natatorial problems. By contrast, most of the Bernese Mountain breeds (9/10) and three

Dobermans (3/7) presented an incorrect swimming attitude, while the lack of tailor/and undercoat caused problems in American Staffordshire Terriers (6/6), Dobermans (7/7) and Pitbulls (7/7).

Table 3. Main natatorial problems reported in non-genetically selected dog breeds.

Breed	n°	No Tail	No Undercoat	Incorrect swimming attitude	No problems
American Staffordshire Terrier	6		6		
Border Collie	1				1
Bernese Mountain Dog	10			9	1
Czechoslovakian Wolfdog	1				1
Doberman	7	3	7	3	
Leonberger	3		2		1
Belgian Malinois	1				1
German Shepherd	6				6
Pitbull	7		7		

Conclusions

Our survey highlights that all breeds can be considered suitable for water rescue activities although some dogs need corrective actions. In fact, the main problems highlighted were natatorial, linked to an incorrect set-up or to the lack of a tail and/or undercoat. To compensate for the lack of undercoat, neoprene underwear is used, and with the dogs without a tail, the instructors work on the correct swimming attitude. To improve the swimming attitude, floating harnesses are also used. Behavioural problems can be present, in which case training is the best method to eliminate minor undesirable behaviours. Dogs that exhibit overly aggressive behaviours did not obtain a certificate. The breeds that are naturally predisposed to water rescue activity are still the best breeds to consider and also require the least corrective actions compared to non-genetically selected breeds.

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Un'indagine sulle principali problematiche comportamentali e natatorie osservate in razze canine, non selezionate geneticamente, addestrate per attività di soccorso in acqua

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Sintesi

In questa indagine, abbiamo raccolto informazioni su cani di razza pura non geneticamente selezionati, addestrati per il soccorso in acqua, considerando le problematiche evidenziate dagli istruttori della Scuola Italiana Cani da Soccorso in Acqua (S.I.C.S.) in Italia nell'arco di un anno. Un questionario è stato sviluppato e inviato via e-mail a tredici sezioni S.I.C.S. per avere informazioni sul numero di certificati e servizi svolti in un anno, sui cani di razza pura utilizzati e sui principali problemi riscontrati in ciascuna razza. Sono stati ricevuti ed elaborati sei questionari. I risultati hanno rivelato un totale di 82 (14,0 come valore medio) diadi cane-uomo con certificati, con un numero totale di 157 (26,17 come valore medio) servizi registrati in un'estate. Tutte le sezioni riportavano cani certificati di tre razze geneticamente selezionate (Terranova, Labrador e Golden Retriever), cani di razza mista e altri cani di razza pura, come Bovaro del Bernese, Doberman, Pitbull, Pastore Tedesco e American Staffordshire Terrier.

I principali problemi evidenziati nei cani di razza pura non geneticamente selezionati erano natatoriali, legati ad un assetto scorretto o alla mancanza di coda e/o sottopelo. Per risolvere questi problemi è stata utilizzata un'attrezzatura in neoprene e/o imbracature galleggianti e gli istruttori hanno cercato di migliorare l'attitudine al nuoto.